

**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF INFORMATION TECHNOLOGY  
PERFORMANCE AUDIT REPORT  
MARCH 2018**





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### *To The Fiscal Committee Of The General Court*

We conducted a performance audit of the Department of Information Technology (DoIT) to address the recommendation made to you by the joint Legislative Performance Audit and Oversight Committee. We conducted this audit in accordance with generally accepted government auditing standards. Those standards require we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. The evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The purpose of the audit was to determine whether DoIT efficiently and effectively managed and coordinated technology resources during State fiscal years 2016 and 2017.

*Office of Legislative Budget Assistant*

Office Of Legislative Budget Assistant

March 2018

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**STATE OF NEW HAMPSHIRE  
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**ABBREVIATIONS**

A&E	Approvals And Expenditures
AITP	Agency Information Technology Plan
ASD	Agency Software Division
BFA	Bureau Of Finance And Administration
CIO	Chief Information Officer
COBIT®	Control Objectives For Information And Related Technologies
COOP	Continuity Of Operations Plan
CPU	Central Processing Unit
DAS	Department Of Administrative Services
DBA	Database Administrator
DoIT	Department Of Information Technology
FARS	Financial Allocation Reporting System
GSS	Groupware Support Services
HDS	Help Desk Services
IIA	Institute Of Internal Auditors
IT	Information Technology
IT Council	Information Technology Council
ITIL®	Information Technology Infrastructure Library
ITSG	Information Technology Security Group
LBA	Office Of Legislative Budget Assistant
LIS	Linked Information System
LPAOC	Legislative Performance Audit And Oversight Committee
OIT	Office of Information Technology
ODAR	Oracle Database Action Request
OPLC	Office Of Professional Licensure And Certification
OPS	Operations Division
PAM	Process Assessment Model
PC	Personal Computer
PCD	Project Concept Document
PO	Purchase Order
RFB	Request For Bids
RFP	Request For Proposal
RSS	Regional Support Services
SFY	State Fiscal Year
SLA	Service Level Agreement
SDM	System Development Methodology
SQL	Structured Query Language
SSITP	Statewide Strategic Information Technology Plan
TSS	Technical Support Services Division
WSD	Web Support Division

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**EXECUTIVE SUMMARY**

While the Department of Information Technology (DoIT) provided satisfactory information technology (IT) services to State agencies in State fiscal years (SFY) 2016 and 2017, it struggled with internal issues arising from a lack of certain managerial controls, inefficient service delivery, and inefficient financial practices. Using an abbreviated maturity model, we found DoIT scored at the initial stages of development characterized by performing tasks rather than managing them. Recent management efforts to create a strategic plan, increase collaboration with customer agencies through reconvening the IT Council, and seeking legislative assistance with restructuring the organization were all encouraging signs of DoIT's positive trajectory in terms of maturity. However, despite requirements in statute to create statewide efficiencies, DoIT's internal processes were characterized by fragmented and duplicative systems, insufficient policies and procedures, overly complex financial operations, and a focus on outputs rather than outcomes. Meanwhile, from a customer perspective, the department received high marks for technical support services on our survey of customer agencies. In contrast, opinion regarding project management, financial management and transparency, and application development were lower.

DoIT exhibited characteristics which suggested the organization had grown organically to address challenges in its operating environment without sufficient managerial control, internal collaboration, or planning. The Information Technology Infrastructure Library (ITIL<sup>®</sup>), a compilation of IT industry standards we used to evaluate DoIT, warns against such practices. More robust management characterized by service level requirements which have been negotiated with customers and fulfilled by staff using effective policies, procedures, and performance management, could help avoid such circumstances.

DoIT's financial operations remained relatively unchanged since its creation, despite changing customer and operational needs. We found financial systems, which duplicated the functionality of the State's accounting and budgeting software, were potentially unnecessary. Overly complex cost allocation methods, though designed by DoIT to provide precise cost information, were inefficient and created confusion among customer agencies, making it difficult for agencies to understand what services they were billed for. This complexity, coupled with ineffective billing controls, resulted in a cumulative \$112,000 billing error during the audit period, which persisted for 21 months without detection. We also found DoIT inconsistently complied with procurement and requisition policies, used inefficient procurement processes, and lacked clearly defined contract management roles.

Findings in this report were developed to help DoIT management improve efficiency and effectiveness of operations. Auditing, by nature, is a critical process with the primary aim of improving the operation of an organization and better identify and manage risks. To improve the quality of DoIT's services, our findings drew heavily upon industry standards, including Control Objectives For Information and Related Technologies (COBIT<sup>®</sup>) and the ITIL<sup>®</sup>, and our recommendations were tailored to DoIT's operating environment. Implementing findings from this report should help the organization improve efficiency, set customer's expectations, and continue to maintain high satisfaction levels.

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**RECOMMENDATION SUMMARY**

<b>Observation Number</b>	<b>Page</b>	<b>Legislative Action May Be Required</b>	<b>Recommendations</b>	<b>Agency Response</b>
1	<a href="#">14</a>	No	Improve information technology (IT) planning by: developing policies and procedures ensuring all agencies have a current, complete, and statutorily compliant Agency Information Technology Plan (AITP); integrating and aligning AITPs and the Statewide IT plan with the strategic and budgetary initiatives of the customer agencies; and developing a more efficient AITP process.	Concur
2	<a href="#">16</a>	No	Create formal service level agreements (SLA) which specify baseline services and expectations covering all major Department of Information Technology (DoIT) service areas. Ensure staff are accountable for achieving customer service goals and establish metrics and collect data to evaluate performance.	Concur In Part
3	<a href="#">19</a>	No	Evaluate business needs, identify systems that can best fulfill those needs, and mandate the use of those systems by creating policies and procedures and decommissioning duplicate systems.	Concur
4	<a href="#">21</a>	No	Adopt portfolio management practices in prioritizing and managing development projects. Identify which personnel are needed for maintenance software projects and which positions should become shared positions and assigned to projects according to a priority established at the State level.	Concur

Recommendation Summary

Observation Number	Page	Legislative Action May Be Required	Recommendations	Agency Response
5	<a href="#">23</a>	Yes	<p>Evaluate organizational structure with regards to efficiency and effectiveness in providing customer service. Evaluate the feasibility of developing the following: policies and procedures specifying a central service desk as the single point of contact with customers, policies and procedures specifying customer relationship managers and their roles, and a single service desk for technical support requests.</p> <p>The Legislature may wish to consider revising RSA 21-R to allow DoIT management greater flexibility to reorganize their department to maximize efficiency and effectiveness.</p>	Concur
6	<a href="#">26</a>	No	<p>Improve project management by: ensuring project leaders follow DoIT's system development methodology, ensuring project management principles are followed, effectively monitoring the timeline and budgetary benchmarks of development projects, and developing and implementing policies and procedures to retain all project documents in an accessible location.</p>	Concur
7	<a href="#">28</a>	No	<p>Improve human resource distribution by: evaluating use of direct and shared funded employees and make changes to improve efficiency, curtailing technical support work done by non-technical support staff through training and policies, and evaluating current workload for IT Leads. Additionally, communicate the statutory authority DoIT has over all its staff to customer agencies, and collaborate with these agencies to more efficiently allocate human resources.</p>	Concur
8	<a href="#">32</a>	No	<p>Evaluate Regional Support Services (RSS) ticket workload and use of remote technical support tools to improve efficiency. Evaluate the current RSS organizational structure for efficiency and make changes accordingly.</p>	Concur

Observation Number	Page	Legislative Action May Be Required	Recommendations	Agency Response
9	<a href="#">36</a>	No	Evaluate whether existing help desk software can effectively provide the functions of the DoIT Tech Center software so accurate reports can be generated regarding system availability for improved management oversight. If FootPrints® is incapable of supporting and reporting on system availability metrics, evaluate the best way to gather and accurately report this data.	Concur
10	<a href="#">37</a>	No	Develop a process to identify State-developed software application assets and require storage in a single source code management tool, monitor compliance with policy, and complete efforts to automate source code management processes.	Concur
11	<a href="#">39</a>	No	Collaborate with other agencies to ensure all State websites follow DoIT's e-Government Branding Policy. Additionally, evaluate how efficiently web services are delivered to agencies and make changes as necessary.	Concur
12	<a href="#">40</a>	No	Improve performance measurement efforts by creating a formal, systematic approach to measure customer satisfaction for all major DoIT services and address problems customer agencies are having with DoIT services.	Concur
13	<a href="#">44</a>	No	Simplify cost allocation methodologies by balancing the goal of being precise against the need to be transparent and efficient.	Concur
14	<a href="#">47</a>	No	Improve the effectiveness and efficiency of the billing process by: ensuring all manual entries receive a secondary review, implementing a periodic internal review of invoices, developing policies and procedures to assist agencies on DoIT invoices, reviewing the data collection frequency schedules, assessing the necessity to solicit a computer count verification for 25 different State agencies, and consolidating the data integrity and formatting queries.	Concur

Recommendation Summary

Observation Number	Page	Legislative Action May Be Required	Recommendations	Agency Response
15	<a href="#">50</a>	No	Ensure customer agency funding methods are formalized and kept current.	Concur
16	<a href="#">53</a>	No	Comply with statute and ensure the cost allocation plan reflects current allocation practices and periodically review and revise cost allocation plan to ensure accurate information is provided to those responsible for oversight.	Concur
17	<a href="#">54</a>	No	Analyze use of duplicate financial software applications and inefficient business processes. Any future efforts to revise internal software applications should include an assessment of business processes and requirements.	Concur
18	<a href="#">57</a>	No	Improve the procurement and requisition process by: ensuring all reviews and approvals required by policy are followed, revising IT procurement policy to develop a more risk-based approach, communicating to customer agencies which recommendations are required to receive approval and which are suggestions, developing a systematic approach to ensure IT procurement policy and review timeframes are achieved, clarifying policy on how management will use IT Leads in the requisition process, and identifying items on the approved standards list exempt from additional review and approval.	Concur
19	<a href="#">60</a>	No	Develop formal policies defining: 1) contract management roles between DoIT and customer agencies and 2) a risk-based approach to ensure IT security contract deliverables are executed.	Concur
20	<a href="#">61</a>	No	Develop policies and procedures to ensure DoIT personnel and other costs are properly recorded and reported to the customer agency for all projects likely to exceed \$500,000.	Concur
21	<a href="#">63</a>	No	Establish a current Continuity of Operations Plan and develop a process for updating it on a continuing basis.	Concur

Observation Number	Page	Legislative Action May Be Required	Recommendations	Agency Response
22	<a href="#">64</a>	Yes	Adopt IT policies and procedures binding on other agencies in administrative rules or seek specific legislation exempting DoIT from the <i>Administrative Procedures Act</i> . Regardless of legislative outcome, standardize and centralize policies and procedures.	Concur
23	<a href="#">65</a>	No	Develop policies and procedures to ensure the IT Council complies with the statutory requirements to file statements of financial interest and document non-public sessions.	Concur
24	<a href="#">67</a>	No	Create a corrective action plan to resolve all prior and current audit findings in a timely manner.	Concur

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**BACKGROUND**

The Department of Information Technology (DoIT) was created as a State agency under RSA 21-R in September 2008. According to statute, DoIT was “responsible for managing and coordinating all technology resources in the executive branch of government, developing and implementing strategies to enhance state services, and creating statewide efficiencies through the use of information and other technologies.” Prior to September 2008, DoIT was known as the Office of Information Technology (OIT) and was part of the Office of the Governor from 2003 until 2008. Before 2003, State information technology (IT) resources were primarily decentralized and received limited oversight by the Department of Administrative Services’ Division of Information Technology Management. As of October 2017, DoIT served 37 Executive Branch agencies.

DoIT’s mission was to support the strategic business objectives of State agencies, create and sustain a secure and reliable IT environment, and ensure careful and responsible management of the State’s information technology resources.

**Organizational Structure And Staffing**

DoIT had several organizational components. The Commissioner of DoIT, also known as the State’s Chief Information Officer (CIO), was the head of the agency (see Figure 1). RSA 21-R:5 established four divisions: Agency Software, Operations, Technical Support Services, and Web Support. Other DoIT functions were carried out by additional offices: the Bureau of Finance and Administration, Human Resources, Governance and Strategic Planning, and the IT Security Group. There was also a Deputy Commissioner and a Chief Information Security Officer who reported directly to the CIO; though as of September 2017, both positions were vacant.

***Agency Software Division***

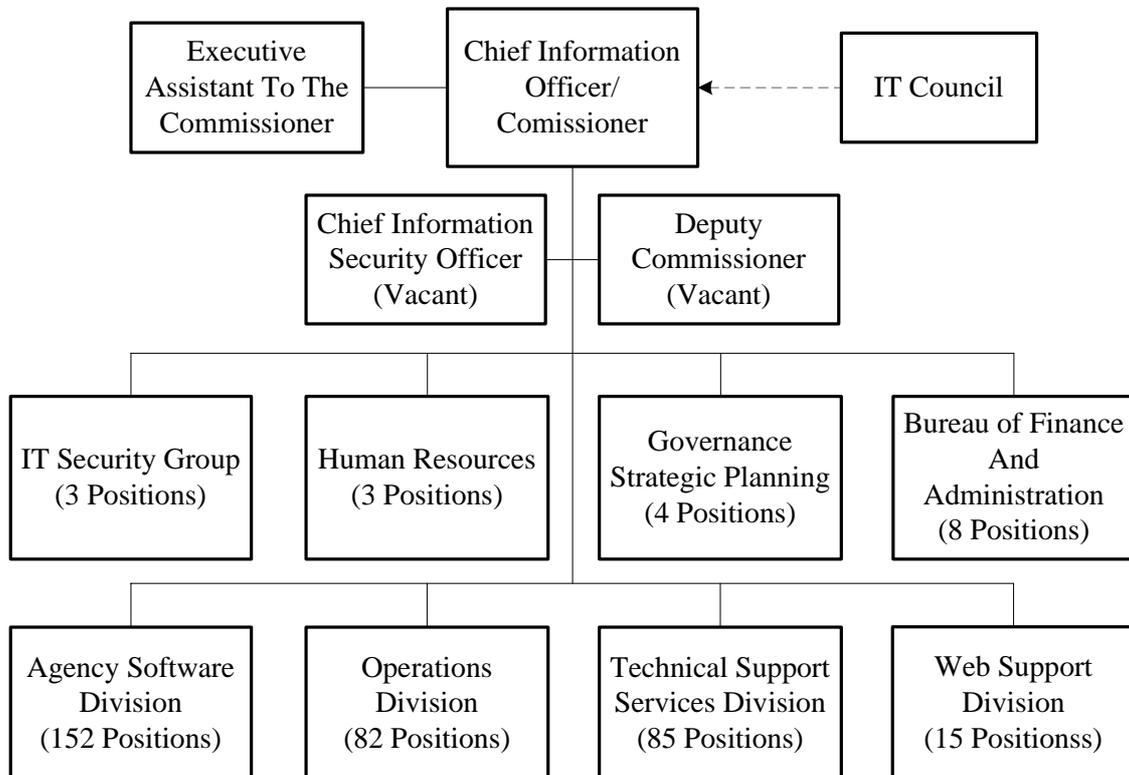
The Agency Software Division (ASD) was the largest division within DoIT, with 152 positions. Many DoIT employees were embedded within other State agencies. ASD worked with leadership in customer agencies to provide IT solutions to improve agency operational efficiency and effectiveness.

***Operations Division***

The Operations Division (OPS) consisted of 82 positions who supported the State’s IT infrastructure. The goal of OPS was to provide a reliable and secure environment for IT resources. The OPS was broken into six teams: network operations, system administration, telecommunications, data center administration, and two database administration teams.

**Figure 1**

**DoIT Organizational Structure As Of September 2017**



Source: LBA analysis of DoIT organizational charts.

***Technical Support Services Division***

The Technical Support Services Division (TSS) consisted of 85 positions who were divided into three sections: Regional Support Services (RSS), Help Desk Services (HDS), and Groupware Support Services (GSS). TSS employees provided support to DoIT customers for all services related to the desktop environment, which included personal computers, laptops, printers, and mobile devices. Staff described TSS as the “face” of DoIT due to its role of directly interacting with customers through its technical support function. TSS also provided software and system updates and security patches for the State, the latter done in collaboration with the IT Security Group.

***Web Support Division***

The Web Support Division (WSD) was the smallest division, with 15 positions. WSD hosted, managed, and supported agency website and web applications and worked with agencies to increase information, services, and resources located on agency websites and implemented

website standards and security controls. The WSD was divided into four teams: web application development, web infrastructure support, web content management, and e-government.

### **Advisory Councils And Oversight**

Statute created the IT Council, an advisory board for the Commissioner. The IT Council had several members, including the Commissioners or designees of the Departments of Administrative Services, Transportation, Health and Human Services, Safety, Revenue Administration, Education, and two other departments appointed by the Governor; two State Representatives; and representatives of municipal government, county government, academia, and the business community. An additional individual was also appointed by the Governor as chairperson of the IT Council. The IT Council was tasked with advising the Commissioner regarding statewide strategic technology plans, outsourcing relationships, computer systems consolidation, implementation of centralized services, IT resource changes, statewide IT policies and standards, IT budget and resource allocation, and security of data shared with the federal government. Prior to its July 2015 meeting, the IT Council had not met since 2012.

In addition to the IT Council, statute established the Joint Legislative Information Technology Oversight Committee. The Committee consisted of six legislators: three Representatives and three Senators. The CIO was required to meet with the Committee quarterly and to report on the status of the State IT plan, DoIT organizational structure, and financial budget tracking used by DoIT. Prior to its June 2017 meeting, the Committee had not met since 2014.

### **Fiscal Operations**

As shown in Table 1, DoIT expenditures increased from approximately \$62 million to \$69 million during the audit period. DoIT was primarily funded by State agencies receiving services based on a comprehensive cost allocation plan. DoIT expenditures were allocated to agencies based on direct costs and shared costs. The direct cost portion consisted of line items budgeted at the request of the agency or salaries and benefits for positions assigned to the agency, such as embedded DoIT personnel. The shared cost portion was based on shared services and shared DoIT operating costs, which included costs associated with DoIT senior management. The methodologies used to allocate shared costs included personal computer (PC) counts, server usage statistics, and office space, among other areas. Approximately 40 percent of DoIT's expenditures represented direct charges and approximately 60 percent represented shared charges.

In addition to operating expenditures, DoIT expended over \$5 million on capital projects during the audit period. The largest capital project implemented during the audit period was the expansion of the virtual server environment which allows many virtual servers to operate on one physical server, and cost over \$2 million.

**Table 1**

**DoIT Revenues And Expenditures,  
SFYs 2016 And 2017 (In Thousands)**

	<b>2016</b>	<b>2017</b>
<b>Revenues:</b>		
Agency Income	\$61,618	\$64,233
Revolving Funds	0	4,907
<b>Total Revenues</b>	<b>\$61,618</b>	<b>\$69,140</b>
<b>Operating Expenditures:</b>		
Personnel And Benefits	\$34,387	\$36,510
Consultants	10,278	9,774
Technology-Hardware	5,521	6,954
Technology-Software	9,860	11,260
Other Non-Personnel Expenses	1,852	4,394
<b>Total Operating Expenditures</b>	<b>\$61,898</b>	<b>\$68,892</b>
<b>Excess (Deficiency) Of Revenues</b>	<b>\$ (280)</b>	<b>\$ 248</b>

Source: LBA analysis of State financial information.

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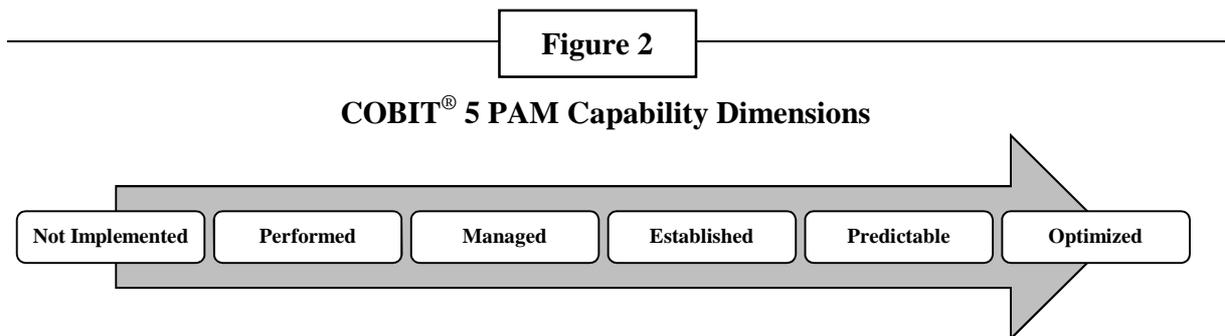
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**SERVICE DELIVERY**

The majority of issues we found during our audit of the Department of Information Technology (DoIT) fell into the category of service delivery. Issues affected almost every aspect of DoIT, from internal systems to statewide standards. As the State’s primary provider of information technology (IT) services, effective service delivery was essential. To ensure the relevance of our recommendations to DoIT, we drew heavily upon standards from statute, DoIT policies and procedures, and industry practices; and identified several areas where DoIT could improve service delivery.

**Maturity Model**

We assessed DoIT’s service delivery performance with a maturity model, which incorporated elements of the COBIT® (Control Objectives for Information and related Technologies) 5<sup>1</sup> Process Assessment Model (PAM). PAM was made up of 37 processes identified by COBIT® as being important to an IT service provider’s success, each with criteria for evaluation across six categories of progression. The categories of progression began with Level 0, where processes were not implemented, to Level 5, where processes were optimized to achieve outcomes (see Figure 2). Due to time and resource constraints, we selected 12 of the PAM’s processes for analysis, which we determined were essential to DoIT’s organizational success (See Table 8 in Appendix A). After evaluating each of these 12 processes, along with DoIT’s progress with regards to each area, we found DoIT had an average score of 1.6 out of 6 using this particular model. Of the six categories, this fell within the “performed” category, which was the second level in a six level continuum. Based on these findings, we inferred DoIT had implemented processes, but was still working toward managing these processes. This result matched DoIT management’s characterization of the agency’s maturity, as well as our overall conclusion that DoIT provided services to the State but was challenged by inefficient processes.



Source: COBIT® 5 Process Assessment Model Guide.

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<sup>1</sup> The COBIT® 5 framework, from ISACA®, is a framework for the governance and management of enterprise IT.

The results of the maturity model assessment mirrored issues found with DoIT's delivery of services. DoIT was heavily focused on performance outputs (e.g., services rendered, tickets completed) rather than outcomes (e.g., customer satisfaction), showing in practice how the organization was at a "performed" stage of maturity. Duplicate and non-standardized use of internal systems and insufficient planning also suggested less strategic focus and more operational focus, once more in line with the results of the maturity assessment. These findings showed DoIT had made progress with implementing essential processes, but was challenged by inefficiencies, preventing progress within the maturity model.

### **Alignment With Industry Standards**

We examined DoIT's service delivery against several industry standards, with emphasis on the Information Technology Infrastructure Library (ITIL®). ITIL® is made up of five volumes of standards representing an organization's service lifecycle. We aligned our findings and recommendations with the five major phases of service delivery: 1) develop a strategy, 2) design services according to strategy, 3) transition designed services into real environment, 4) operate designed services, and 5) continually evaluate and improve services. We organized our findings along these five phases for purposes of this report.

#### ***Strategy***

We found two major areas where DoIT could improve its service delivery strategy. According to ITIL®, the purpose of the strategy phase "is to define the perspective, position, plans and patterns that a service provider needs to...meet an organization's business outcomes." In evaluating DoIT, we found statutorily mandated agency IT plans were not fulfilling their purpose of establishing service requirements and guiding DoIT operations. DoIT also did not have any service level agreements with State agencies to specify requirements, leaving DoIT management with no clear direction regarding prioritization and scope of services.

### **Observation No. 1**

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#### **Improve Information Technology Planning**

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Agency information technology planning was inconsistent, ineffective, and inefficient. We found agency IT plans did not comply with statute, agency IT strategies and budgets did not align, and planning information was collected inefficiently.

#### **Statutory Compliance**

Statute required all Executive Branch agencies to prepare an Agency Information Technology Plan (AITP) and submit it to the Information Technology Council (IT Council). If an agency failed to submit an AITP, the Chief Information Officer (CIO) was required to develop an AITP for the agency. We found 28 of the required 36 agencies (77.8 percent) submitted an AITP during the audit period, but the CIO did not write a plan for the eight agencies without an AITP. None of the 28 AITPs were submitted to the IT Council as required by statute.

Statute also described several other requirements on the content, use, and process for developing and utilizing an AITP. We reviewed a random sample of ten AITPs on file during the audit period to evaluate compliance with statute and found the following areas of noncompliance:

- seven AITPs (70 percent) did not address the upcoming operating budget, and ten (100 percent) did not provide budget information consistent with the agency budget request;
- nine AITPs (90 percent) did not address the upcoming capital budget, and ten (100 percent) did not provided capital budget information consistent with requested funding;
- ten AITPs (100 percent) did not include cost estimates to determine feasibility of projects or plans; and
- ten AITPs (100 percent) neither received approval by the CIO, nor followed a formal process to receive approval.

Statute established two separate, but related, IT planning processes: 1) an AITP for individual agencies, and 2) the statewide technology plan developed by DoIT. DoIT management reported adoption of a Statewide Strategic Information Technology Plan (SSITP) in 2017 for the first time in over ten years as a major accomplishment during the audit period. However, statute required the AITPs to be used in developing the SSITP. The lack of complete AITPs limited DoIT's ability to fully leverage agency IT plans for broader planning purposes, and better integrate agency and statewide planning efforts as statute mandated.

### **Strategic And Budgetary Alignment**

Industry standards suggest IT planning is useful in assisting an organization to achieve its strategic goals. We found varying degrees of alignment between AITPs and agency strategic planning. For example, three of 10 AITPs (30 percent) we reviewed did not show any evidence of IT alignment with the agency's strategic goals. While 22 of 36 customer agencies (61.1 percent) were satisfied or somewhat satisfied with alignment of IT services with their agency's strategy, DoIT had the potential to improve agency IT planning and strategic alignment for the remaining agencies. We also found budgetary information was missing from the SSITP. Therefore, IT resource requirements and allocations could not be clearly identified. Consequently, DoIT staff reported resource allocation decisions lacked clear prioritization due to poor planning.

### **Inefficient Planning Process**

DoIT management stated the AITP process was not effective or efficient because the AITP template requested information that was not useful to DoIT. In our review of ten AITPs, we found five AITPs (50 percent) included pages with missing information. Additionally, one AITP included 15 incomplete pages out of a 32 page document. After the audit period, DoIT management started the process of revising the AITP template from a 32 page document to a one page document to request only essential information, and focus planning efforts on achieving alignment between IT services and the agency's business strategy.

Although the AITP process was vital for agencies to set IT priorities in the context of their overall strategy, DoIT management's dissatisfaction with the current AITP processes may have

caused inconsistent IT planning. Without consistent IT planning, DoIT management was limited in their ability to strategically prioritize projects and identify enterprise-wide IT solutions.

**Recommendations:**

**We recommend DoIT improve IT planning by developing policies and procedures to ensure:**

- **all Executive Branch agencies have a current AITP that has been approved by the CIO and submitted to the IT Council,**
- **AITPs include complete and comprehensive financial information required by statute, and**
- **AITPs and the statewide IT plan are integrated and aligned with the strategic and budgetary initiatives of the customer agencies.**

**We also recommend DoIT continue its effort to develop a more efficient AITP process and ensure only relevant information is collected.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will assess existing policies and procedures to identify, develop and implement new and updated policies and procedures to improve agency IT planning efforts and statutory compliance. These efforts are currently in progress and include simplifying submittal forms and approaches to focus on required information and ensuring financial and strategic alignment is included as a required step. Refined governance processes will be evolved to include both CIO and agency commissioner level collaborative approvals to ensure agencies are responsible for defining strategic business intent and DoIT is responsible for providing technology leadership and guidance.*

*The process will continually be adjusted as part of a continuous improvement program with anticipated updates to exercised draft policies and procedures in place by the end of the 3rd quarter of FY 2019.*

**Observation No. 2**

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**Establish Formal Service Level Agreements With State Agencies**

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DoIT did not have formal service level agreements (SLA) with State agencies regarding timeliness of service provision. Instead, some DoIT personnel used informal service targets. This approach led to varying service delivery and ambiguity in how staff performance was evaluated for services provided.

Staff were unsure where the list of service targets depicted in Table 2 originated or how timeline targets were determined, and were unaware of any recent efforts to obtain customer feedback regarding the targets. The benchmarks themselves were made up of six service request priority levels, with the highest (priority 1) requiring DoIT resolution within one hour of submission, and the lowest (priority 6) requiring DoIT resolution within 30 business days of submission (see Table 2). The targets made no distinction between agencies, though staff indicated there were separate methods of prioritizing requests for certain agencies.

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**Table 2**

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**DoIT Service Targets**

<b>Priority</b>	<b>Resolution Target</b>
Priority 1	1 hour
Priority 2	4 hours
Priority 3	1 business day
Priority 4	5 business days
Priority 5	10 business days
Priority 6	30 business days

Source: DoIT documentation.

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DoIT used these service targets in a non-standardized fashion across the organization. Help Desk Services (HDS) used the targets, while the rest of DoIT did not. Management received reports showing the overall average to close time for all tickets within a given time period, but these reports did not provide averages for each of the six service targets. Due to technical limitations with the data, we were unable to reliably determine in a timely manner whether each DoIT division achieved the target benchmark.

When asked about the possible need for SLAs, DoIT management had mixed responses. Some members of management thought SLAs would be helpful for DoIT, while others did not. Some DoIT staff mentioned benefits for DoIT not having SLAs, including flexibility of providing services. Another member of management said SLAs were not required in DoIT's case because it is an internal service provider, and not a private sector IT contractor. Management at other agencies had similarly mixed responses regarding the need for SLAs with DoIT. When asked if they thought SLAs were needed, nine representatives from other agencies said yes, 15 said no, and 12 were unsure. We noted management at other agencies had overall positive ratings for DoIT services. Notwithstanding DoIT and other agencies' opinions, industry practices recommended the use of SLAs.

According to the ITIL<sup>®</sup>, a compilation of leading practices in the IT field, an SLA "describes the IT service, documents service level targets, and specifies the responsibilities of the IT service provider and the customer." Separately, ITIL<sup>®</sup> states:

Although many organizations tend to believe that an agreement only exists when an SLA have been signed, this is not true. Whenever a service provider offers a service

and a customer uses that service an agreement comes into existence. The problem with these agreements is that they are *informal* and there is often a *misalignment* between what the *customer expects* and what the *service provider actually delivers*. Best practice has shown that a more *formal* approach to these agreements, using service level agreements, helps to overcome these misalignments and to control how services change over time to meet changing business needs. [emphasis added]

In other words, IT service providers should use SLAs to avoid misalignment between their ability to deliver services and customer expectations.

We identified several areas where misalignment between DoIT and customer expectations could exist. The use of a single set of service targets, not communicated or formalized with customers, could mean DoIT staff were providing services misaligned with customer expectations. The uniformity of the targets without prioritization by agency meant all agency requests were treated the same on paper, though staff said differences existed in practice. Parts of DoIT followed these targets, while others did not, creating competing customer service standards. Management reports of total average time to close a ticket did not provide information about performance for each of the six service targets, meaning managers would not notice if certain targets were being missed. Lastly, DoIT staff comments regarding service flexibility in a non-SLA environment were problematic from a management and performance evaluation stand point. Without baselines for required services, DoIT was free to provide varying levels of service to customers dependent on DoIT personnel's understanding of the situation, or the project, agency, or manager involved. DoIT managers were left with no formal understanding of customer expectations or the ability to evaluate staff performance. These misalignments increased the risk of inefficient and ineffective services provided to DoIT customers.

Applying ITIL<sup>®</sup> standards, we also determined DoIT was not an internal service provider as mentioned by staff, but a hybrid between an internal and an external service provider. This determination was based on DoIT's status as a separate State agency with its own statutory authority providing services to other State agencies. ITIL<sup>®</sup> recommended organizations in this hybrid internal/external service provider category create service level agreements with customers.

ITIL<sup>®</sup> explained that many IT service providers "fall into the trap of believing they should deliver the highest level of service possible, regardless of the level of fulfillment required." ITIL<sup>®</sup> explains this approach could lead to problems as resources are exhausted or the customer comes to expect similar effort in the future. To avoid falling into this trap, DoIT should identify basic services it can provide, then formalize these with customers to ensure uniform understanding of service expectations.

### **Recommendations:**

**We recommend DoIT management, in collaboration with State agency management, create formal SLAs which specify baseline services and expectations. These agreements should cover all major DoIT service areas provided to customers. Using these agreements, DoIT management should ensure staff are accountable for achieving customer service**

**benchmarks. DoIT management should establish metrics and collect data to evaluate performance vis-à-vis these SLAs, and should share results of these evaluations with the customer agency on a regular basis for accountability purposes.**

Auditee Response:

*DoIT concurs in part with the recommendation.*

*While DoIT concurs with the need to establish metrics for our key services, the concept of creating formal agreements can have a detrimental impact on developing the proper relationships with our Agency partners. The Service Level Agreement concept within the Technology industry is evolving towards the use of Key Performance Indicators (KPI's) that measure outcomes versus output, consistent with the methodology DoIT plans to implement.*

*The department will evaluate existing baseline services and identify a set of performance metrics to develop, in conjunction with our Agency partners. The focus will be to set consistent expectations on the delivery of services with state agencies and DoIT staff. In conjunction, standard metrics reporting will be developed to continually evaluate our service performance and monitor our organizational effectiveness. Identification, measurement and benchmarking of the initial set of metrics will be targeted for implementation by 3rd quarter, FY 2019. Additional KPI's will be defined and metrics adjusted over time as part of a continuous improvement program. DoIT will also evaluate the need for additional tools to capture data and develop more robust reporting capabilities.*

**Design**

We found three areas in need of improvement for the design phase of the ITIL service lifecycle. According to ITIL<sup>®</sup>, one of the purposes of the design phase is to “design IT services,...governing IT practices, processes and policies, to realize the service provider’s strategy.” Insufficient design of DoIT’s internal IT systems, project portfolio management process, and organizational structure impacted efficiency, and made it difficult for DoIT staff to achieve organizational goals.

**Observation No. 3**

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**Consolidate And Standardize Use Of Internal Systems**

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DoIT used multiple internal systems performing similar functions, and use of these systems was not standardized. Issues we found included:

- Customer service requests were handled in four different systems: FootPrints<sup>®</sup>, Service Request, Approvals and Expenditures (A&E), and Oracle<sup>®</sup> Database Action Request (ODAR).

- One database administration team in the Operations Division (OPS) used ODAR to process customer service requests, while the other database administration team used FootPrints.
- Critical outages were entered into a Lotus Notes<sup>®</sup> database called DoIT Tech Center, though similar functionality existed in FootPrints.
- Projects were managed using several systems, including Microsoft Project<sup>®</sup> and Service Request.
- DoIT primarily used Harvest<sup>®</sup> for software code change management and back-up, though SecureSafe and shared file servers were used by some staff to back up source code.
- Software code change requests were logged in Harvest<sup>®</sup>, FootPrints<sup>®</sup>, or Service Request, as well as by email and phone.

As for the use of these systems, different components of DoIT had different approaches. For instance, we found the Service Request system was used as a program management tool by some DoIT staff, while others used it for projects and to fulfill customer requests. Also, use of FootPrints<sup>®</sup> was not standardized across DoIT, with documentation lacking and instances found where tickets were not closed out timely.

The myriad systems used, which performed similar functions, was primarily due to insufficient governance. Some of the systems, such as Service Request and ODAR, were created in-house by particular divisions or teams within DoIT. Another factor in the use of multiple systems was that some applications lacked functionality that was needed by other divisions. In the case of Service Request, one member of management said their organization mandated use of the system, while other areas of DoIT did not.

Insufficient internal policies mandating which systems to use for a particular purpose left individual staff with leeway to use the system of their choice. Greater managerial oversight was required to consolidate and standardize use of internal systems.

According to the ITIL<sup>®</sup>, governance “works to apply a consistently managed approach at all levels of the organization...” ITIL<sup>®</sup> also states IT service providers, like DoIT, should have a single system to manage customer requests and a single system for event management. Separately, ITIL<sup>®</sup> recommends an organization have a “project portfolio” to track and refer back to projects as needed (see Observation No. 4).

Non-standardized use and duplication of internal systems had several effects on DoIT operations. The FootPrints<sup>®</sup>, ODAR, Service Request, and Tech Center systems all had data reliability issues due to non-standardized processes related to their use. This prevented management from using reports from these systems to comprehensively evaluate organizational performance. Service Request and ODAR either had little or no reporting functionality, with the former being so severely limited by data reliability to render any reporting function ineffective. Also, internally created and maintained systems such as ODAR and Service Request required organizational resources to develop and maintain, which management may have been better directed to supporting DoIT’s customers.

Consolidating and standardizing use of internal systems could improve organizational efficiency and effectiveness.

**Recommendations:**

**We recommend DoIT management evaluate business needs, identify systems that can best fulfill those needs, and then mandate the use of those systems. Management should create policies and procedures for staff to ensure standardized use of systems to produce reliable reporting. Management should decommission remaining systems performing duplicate functions.**

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department will review and evaluate existing systems to consolidate and standardize how they are used. This effort will focus on internal work assignments, critical outages, and software code management. Once analysis is complete, DoIT will identify and implement standard operating procedures necessary to produce reports to track and monitor organizational effectiveness. Internal systems and business processes will be reviewed and adjusted over time as part of a continuous improvement program.*

**Observation No. 4**

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**Portfolio Management Needed**

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DoIT did not follow recommended industry practices regarding portfolio management, specifically with regards to prioritizing projects, allocating resources, and providing managerial oversight.

Many organizations use a project management approach to effectively manage changes to their IT environment. The *Guide To The Project Management Body of Knowledge* defines a “project” as a “temporary endeavor undertaken to create a unique product, service, or result.” Development of new and enhanced IT systems requires a systematic consideration of strategic needs and resources across the enterprise. The concept of managing and prioritizing projects based on the needs of the enterprise is known as portfolio management. In portfolio management, a manager directs multiple projects and assigns resources based on priorities of the overall enterprise rather than component units within the enterprise.<sup>2</sup> However, it did not appear

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<sup>2</sup> Project Management Institute Inc., *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 2017. Copyright and all rights reserved. Material from this publication has been reproduced with the permission of PMI.

DoIT used portfolio management for its development projects. For example, the Agency Software Division (ASD) had no master list of continuing projects or formal method of prioritizing which projects received DoIT's limited resources.

Within DoIT, the ASD was responsible for assisting customer agencies with technology consulting services, maintaining customer agency applications, and assisting with IT project management. The largest division within DoIT with 152 positions, ASD was made up primarily of system development specialists, business system analysts, and IT managers. As such, ASD was uniquely equipped within DoIT to focus on project management activities. However, human resources in ASD were assigned to agencies based on funding source. ASD staff developed and maintained systems based on the priorities of the customer agencies they were assigned to, rather than the needs of the overall enterprise – the State. Instead of devoting resources to where IT development projects had been identified as critical to the State as a whole, each individual customer agency determined its own priorities with its assigned human resources from ASD. In some cases, like the Department of Health and Human Services, where ongoing development and maintenance was expected for large systems such as the Medicaid Management Information System, it may make sense to assign ASD staff to support and develop those projects. In other situations, it may make more sense to assign staff to projects according to priorities as established at the State level. Though, all but 17 positions within ASD were directly funded by an agency, and were therefore assigned to work primarily on the assigned customer agency's projects.

According to COBIT<sup>®</sup>, management should prioritize allocation of resources for IT initiatives based on enterprise needs. Statute authorizes the IT Council to advise DoIT Commissioner on several matters, including changes in quantity of resources allocated to executive branch agencies, location of IT resources, and allocation of IT personnel and IT budgeting and resource allocation.

Lastly, not all projects received customer agency review at high levels, and sometimes, projects went straight to the IT team without customer agency top management being informed. This resulted in ASD personnel working on projects without customer agency management approval. We were told customer agency management sometimes learned of these projects and canceled them, resulting in wasted effort. One of the benefits of portfolio management is a well governed prioritization and approval process that would eliminate this waste from occurring because projects would need approval before substantial effort was expended.

**Recommendations:**

**We recommend DoIT management adopt portfolio management in prioritizing and managing its development projects. We also recommend DoIT management identify which personnel are needed for ASD maintenance software projects and continue to have those positions directly funded by the customer agency. Other ASD positions should become shared positions and assigned to projects according to a priority established at the State level. DoIT, in collaboration with the IT Council, should consider alternative methods to more effectively prioritize these projects.**

Auditee Response:

*DoIT concurs with the recommendation.*

*The department will assess the current strategic plan (themed “aligning the enterprise”) approved by the IT council in January 2017 in conjunction with efforts already in progress to consolidate agency IT strategic planning needs and direction. Existing capital funds will allow the department to initiate some much-needed elements of project portfolio management including the development of a master list of enterprise projects across all state agencies and governance frameworks that will define formal project intake, initiation, approval and portfolio creation and management by DoIT, all in conjunction with agency partners.*

*Such a master list will facilitate planning regarding enterprise needs and additional project management best practices: intake, prioritization and portfolio management processes. Socialization of these items will occur with appropriate governing bodies such as the IT council, agency heads and legislative partners to gain acceptance of defined enterprise priorities. In concert with “Observation #7”, DoIT will identify staffing required to meet enterprise needs, allocation constraints and possible mitigation options regarding the use of direct/shared resources and continue socialization of these areas with appropriate stakeholders previously mentioned. In order to address the challenges created by directly funded resources, efforts will be required to develop in collaboration a plan to create a) increased flexibility in the current funding model to appropriately allocate needed resources, b) collaboration with partner agencies to assess the potential impact as resources are more evenly distributed, and c) discover the potential for any legislative based support for the effort. Ultimate outcomes anticipated would be a) a sustainable and incrementally updated agency and master enterprise project list, b) improved intake and prioritization policy and processes, c) improved allocation of resources, d) a consistent and collaborative approach to working with critical state decision making stakeholders and governing bodies, and e) ongoing monitoring, control and reporting capabilities.*

*It is anticipated that draft policies, procedures and frameworks that will be used as part of continuous project management improvement efforts will be in place by the end of the 1st quarter FY 2020. Draft resource allocation funding models will be defined and assessed by the beginning of 1st quarter FY 2020 with actionable timeframes to be defined based on evaluation results.*

**Observation No. 5**

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**Reevaluate Organizational Structure To Improve Customer Service**

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We found management could reorganize several areas of DoIT to improve customer service. Specifically, we found inefficiencies with the statutorily mandated structure of DoIT, business relationship management, and technical support services, all of which could negatively impact customer service.

## **Overall Structure**

DoIT's structure of four statutorily mandated divisions had not been changed since the agency's inception in 2008. We questioned whether this structure was efficient considering the dramatic changes which have taken place in the IT field since that time. These sentiments were echoed by senior DoIT management, and we found the Commissioner and Division Directors all agreed some organizational changes were needed. Proposals ranged from combining all "middleware" functions (i.e., work done by the Technical Support Services Division (TSS), OPS, and Web Support Division (WSD)) into one division, to consolidating "customer facing" elements (i.e., HDS and ASD). Members of management also spoke of organizational changes needed within the divisions, specifically ASD, TSS, and OPS.

We noted a bill was filed in the Legislature in August 2017 to allow DoIT to reorganize.

## **Business Relationship Management**

DoIT was structured so the primary agency business contacts (i.e., IT Managers or IT Leads) were managed by ASD, a group which had been traditionally focused on software development. We found most of the IT Leads were given management responsibility for teams of between one to several dozen software developers. According to the Commissioner, IT Leads should be the primary business relationship managers for DoIT. However, in a survey of all 15 DoIT IT Leads, 13 reported spending 50 percent or more of their time working on non-software-related projects.

ITIL<sup>®</sup> states the role of a business relationship manager is to provide "links" between the service provider (i.e., DoIT) and its customers, whereby the service provider delivers services which meet customer needs. ITIL<sup>®</sup> also states organizations providing IT services to external vendors (e.g., DoIT serving State agencies) often have business relationship management performed by a "separate and dedicated function" to "[maximize] contract value through customer satisfaction." We question whether IT Leads can effectively perform their business relationship management function while being managed by ASD and having management responsibility for software development teams.

## **Technical Support Services**

DoIT's technical support services function was dispersed among several organizational components, without a single point of contact for customer technical service requests (i.e., tickets), impacting customer service. We found several teams within DoIT provided technical support to customers. Meanwhile, management acknowledged, and our analysis of tickets confirmed, there was no single point of contact within DoIT for tickets. The majority of tickets came through HDS, but other tickets came through IT Leads, Division Directors, and individual technical support technicians. This approach was problematic because teams not associated with HDS took longer to complete tickets, though our analysis did not take into consideration difficulty of service provided. Some tickets were assigned to certain teams and individuals by HDS, and were not acted on for weeks or even months without any documentation explaining the cause of the delay. In other cases, tickets were transferred to certain teams and unnoticed by staff due to errors with how the ticket software was used.

DoIT also had duplicate service desk functions. The Telecomm service desk had a separate phone number and email address from HDS. Telecomm was the only component of DoIT that had its own workspace in FootPrints<sup>®</sup>, creating duplicate reporting. Furthermore, Telecomm's service desk had different processes than HDS, and used a separate system than HDS to seek managerial review of customer service requests. All of these differences were the result of Telecomm's recent consolidation into DoIT in July 2016. DoIT management said there were some discussions about coordinating Telecomm and HDS service desk functions since that time, but we found nothing substantive had been done to consolidate the two entities.

According to ITIL<sup>®</sup>, a service provider like DoIT "needs to ensure that its service assets are coordinated, controlled and deployed so that they can provide the appropriate levels of services at the agreed levels." ITIL<sup>®</sup> also recommends customer service requests have a "single point of contact" via a central service desk throughout the life of a ticket. Not having a single point of contact for tickets potentially created service delays, whereas service desk staff assigned responsibility over the lifetime of a ticket could audit any delays. In fact, HDS staff provided such a function on a limited scale for delayed tickets. Duplicate service desk functions, particularly with HDS and Telecomm, was an inefficient use of organizational resources, and could create confusion with customers as to which group to call for a given service.

### **Recommendations:**

**We recommend DoIT management evaluate the current organizational structure with regards to organizational efficiency and effectiveness in providing customer service. Specifically, we recommend DoIT management evaluate the feasibility of the following:**

- **creating internal policies and procedures that designate a central service desk as the single point of contact with customers regarding technical support issues,**
- **creating internal policies and procedures that designate customer relationship managers, their assigned agencies, and their roles with interacting with customers and DoIT; and**
- **consolidating service desk functions in HDS and Telecomm, including having a single number and email address for technical support requests.**

**The Legislature may wish to consider revising RSA 21-R to allow DoIT management greater flexibility to reorganize their department to maximize efficiency and effectiveness.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*These efforts are currently in progress. At the request of the department, HB1622 was introduced with bipartisan/bicameral support to allow for departmental reorganization. In concert with this legislation, DoIT has already held a series of facilitated workshops to identify an organizational structure better aligned with the department's statutory requirements and strategic direction. Should the legislation pass, it is anticipated that initial reorganization will begin in FY 2019 and will be incorporated as part of planning for the FY 2020-2021 operating budget.*

### ***Transition***

We found no observations dedicated solely to the transition phase of the ITIL<sup>®</sup> service lifecycle, though aspects of observations in other categories applied. ITIL<sup>®</sup> states the purpose of the transition phase is to “ensure that new, modified, or retired services meet expectations of the business as documented in the service strategy and service design stages of the [ITIL<sup>®</sup>] lifecycle.” In other words, the purpose of the transition phase is to implement services designed in accordance with organizational strategy. Observations from other sections which dealt with this phase included findings regarding documentation required for DoIT’s software development lifecycle and non-standardized use of IT systems (see Observation Nos. 3 and 4).

### ***Operation***

The majority of our observations from this section are tied to the operation phase of the ITIL<sup>®</sup> lifecycle. ITIL<sup>®</sup> states the purpose of the operation phase is “to coordinate and carry out the activities and processes required to deliver and manage services at agreed levels to business users and customers.” Areas of concern identified included insufficient IT project and availability management, inefficient allocation of human resources, inefficient service delivery, and insufficient compliance with policies and procedures.

## **Observation No. 6**

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### **Improve IT Project Management**

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During our file review of a judgmental sample of five IT projects completed during SFYs 2016 and 2017, each costing of \$100,000 or more, we found several areas of IT project management needed improvement. Though limited, our review of these projects supported statements made by DoIT personnel we interviewed.

#### **Inconsistent With System Development Methodology (SDM)**

An SDM establishes a common and uniform standard for all application development and describes conceptual phases, deliverables, tools, and approvals throughout the life of an IT project. While DoIT had adopted an SDM, we found inconsistent documentation demonstrating compliance with the SDM. We judgmentally selected five files of the 33 projects completed during SFYs 2016 and 2017 for review. When compared to DoIT’s SDM, there were many inconsistencies between what was required according to the SDM and the evidence provided. One project’s documents showed evidence of meeting 25 of DoIT’s 43 required elements while another project evidenced only four elements.

The file review also indicated CIO and stakeholder approvals were inconsistent. For projects with a contract, we generally found all had evidence of the CIO’s approval, while in-house projects had no evidence of approvals. However, all projects should be formally approved. Compliance with DoIT’s SDM did not appear to be compulsory. By not following DoIT’s SDM, IT projects were unlikely to be completely documented and at greater risk of being inefficiently managed.

### **Inconsistent With Project Management Principles**

Analysis of the project documents also indicated project management was inconsistent. We reviewed the Project Management Institute's *A Guide To The Project Management Body of Knowledge* and identified five process groups within a properly managed project: initiating, planning, executing, monitoring and controlling, and closing. While some projects showed indications of following these five processes, there was some variation among the projects. For example, one project that was developed completely in-house only had documentation for two of the five process groups. According to the Project Management Institute, "[p]oorly managed projects or the absence of project management may result in: missed deadlines, cost overruns, poor quality, rework, uncontrolled expansion of the project, loss of reputation for the organization, unsatisfied stakeholders, and failure in achieving the objectives for which the project was undertaken." DoIT recognized its project management deficiencies and reported they were in the process of improving their project management skills.

### **Project Status Monitoring**

Given the documentation retained, it was not possible to determine whether projects were completed on time and on budget. First, there was no comprehensive system tracking the status of all IT projects, which would capture this data. Second, while Requests for Proposal responses and contracts contained target dates, the actual completion date was not recorded in the project documentation.

### **Project Documents Not Easily Found**

Documentation for completed IT projects were not maintained in a central location. Project documents were retained by the IT Leads responsible for the project. Because the files were not in a centralized location, the ASD Director had to request the files from each of the IT Leads responsible for the project and wait for the request to be fulfilled. Project documents could not be located for one project because the IT Lead at the time had left DoIT. DoIT had no policy or procedure that required the project leaders to turn over documentation of the projects they oversaw or standard file contents. Without a central location for file storage, effective oversight and timely access was limited. A central location would also aid in management oversight of project documents and progress.

### **Recommendation:**

**We recommend DoIT management improve project management by:**

- **ensuring project leaders follow DoIT's SDM, including creating all the documents necessary to effectively manage the project as indicated in the SDM;**
- **ensuring project management principles are followed for each of its development projects;**
- **effectively monitoring the status of development projects to determine, among other things, whether projects are delivered on time and within budget; and**

- **developing and implement policies and procedures to fully document and retain all project documents in an accessible location. DoIT management should consider a policy describing required documents and standard file organization.**

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department will assess the System Development Management process (SDM) and define a governance methodology that will ensure consistent SDM and project principle use in accordance with Project Management Body of Knowledge (PMBOK) process standards. This will include standard project initiation, planning, executing, monitoring and tracking and capturing actual completion dates and budgets upon project closing. Policies, procedures and standards will be defined for the governance of centralized document control and management. Existing capital efforts are currently in progress to aide in the improvement of project management maturity and promotion of consistent workflow and document management practices.*

*Revised SDM policy, processes and governance methods will be targeted for initial draft and review by 1st quarter FY 2020 in conjunction with a phased continuous improvement program. This will ensure drafted policies are finalized, maintained and periodically reviewed to promote consistent compliance enforcement and documentation maintenance.*

**Observation No. 7**

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**Evaluate Human Resource Allocations**

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We identified several DoIT human resource allocation practices used during SFYs 2016 and 2017 that appeared inefficient, including DoIT personnel funding model, distribution of technical support responsibilities, and allocation of IT Lead responsibilities.

**DoIT Position Funding Model May Impede Efficient Use Of Staff Resources**

DoIT staff were primarily assigned according to practices that dated to when staff from other agencies were consolidated rather than a formal methodology of where resources and skills were needed. Most DoIT staff were split between two types of positions: direct funded positions and shared funded positions (See Table 3). Funding for direct staff came from a single agency for each position, while funding for shared staff came from two or more agencies.

Table 3

**DoIT Direct/Shared Funded Positions, As Of September 2017**

	<b>Direct</b>	<b>Shared</b>
Agency Software Division	134	18
Technical Support Division	78	7
Operations Division <sup>1</sup>	32	36
Web Support Division	0	15

Note:

<sup>1</sup>Does not include 14 Telecomm Team staff.

Source: LBA analysis of DoIT staff reports.

Some DoIT managers called this funding model “rigid,” and said they could not use direct funded staff on projects for agencies other than those associated with their sole benefactor. One manager spoke of the difficulty of finding certain skills within DoIT, and having to resort to informal methods (asking for favors) to obtain help on projects because of restrictions surrounding direct-funded employees. In another case, a manager said they could not obtain staff assistance to review IT contracts for other agencies because the personnel in question were direct-funded employees. Yet, DoIT management reported direct-funded staff could work on projects unrelated to their primary funding agency by using certain codes on their employee timesheet. As a result, it appeared agency restrictions on DoIT’s use of direct funded employees, none of which were based on formal agreements, were negatively impacting DoIT organizational efficiency.

An example of how DoIT’s funding model impacted efficiency was the use of Structured Query Language (SQL)-trained database administrators (DBA). DoIT employed several DBAs, some who were SQL trained, and many of whom were direct-funded employees. DoIT management needed SQL-trained DBAs in different parts of its department, but did not draw upon existing DoIT staff with this expertise. A DoIT manager also identified at least one instance where a SQL-trained DBA completed non-database-related work such as unrelated technical support. In other words, this particular employee’s skill was needed elsewhere in the department and the employee was performing functions typically relegated to technical support staff. Even so, management still could not use this employee’s time for projects not related to the primary agency. One of the benefits of centralizing IT staff resources from other agencies into DoIT was the opportunity to more efficiently share personnel (i.e., their knowledge and skills) among agencies. DoIT cannot operate efficiently without more flexibility to use existing personnel, particularly if the employees in question have expertise in a certain area, but are performing other functions.

### **Technical Support Responsibilities**

We found other instances where non-technical support staff worked on customer technical support requests (i.e., tickets). In an analysis of tickets submitted in SFYs 2016 and 2017, we found ASD staff completed over 1,000 tickets that should have been assigned to DoIT’s

technical support staff. Subject matter of these tickets included items such as central processing units, monitors, printers, scanners, servers, and login support, all which we deemed as the purview of DoIT's technical support and operations staff. We found 89 of ASD's 152 staff members were assigned tickets of this nature. These practices were problematic because DoIT management spoke of resource constraints in ASD, particularly the need for developers and business analysts. We did not find evidence in the other divisions of non-technical support staff completing tickets unrelated to their primary job function. ASD staff completing tasks which other staff in DoIT were responsible for was an inefficient approach to the organization's division of labor.

### **IT Leads**

The distribution of DoIT's IT Leads was uneven. IT Leads were assigned to one or more agency, and were typically assigned a staff, though some IT Leads had no staff. We analyzed the number of agencies assigned to each IT Lead, with their respective numbers of applications supported, and IT expenditures for SFY 2017 and found one IT Lead was responsible for 19 agencies with combined IT expenditures of \$2.5 million, while three other IT Leads were each responsible for one agency with IT expenditures of under \$1 million (see Table 4). We could not find a reason for these disparities. More equitable distribution of IT Lead and staff resources may result in improved customer service and satisfaction, and a more efficient use of resources.

The ITIL<sup>®</sup> states a service provider such as DoIT "needs to ensure that its service assets are coordinated, controlled and deployed so that they can provide the appropriate levels of service at the agreed levels." Inefficient human resource allocation practices like restricting use of direct funded employees, allowing staff to complete tasks which others in DoIT were responsible for, and unevenly distributing IT Lead workload impacted DoIT's ability to meet customer requirements. Statute gave authority to DoIT to manage and coordinate all IT resources in the Executive Branch. Restrictions from other agencies regarding DoIT's use of its human resources, prevented DoIT from effectively managing its IT resources. Curtailing these practices in the future will help DoIT fulfill obligations and streamline operations.

Table 4

## IT Lead Workload Indicators

IT Lead	Agencies Served	IT Expenditures <sup>1</sup>	Applications Supported <sup>2</sup>	ASD Positions Supervised <sup>3</sup>
1	Health and Human Services	\$26,695,921	111	46
2	Safety	9,611,006	121	16
3	Transportation	6,347,673	107	20
4	Employment Services	4,373,010	21	13
5	Environmental Services	2,770,112	101	14
6	Administrative Services, Justice, 17 others	2,471,561	40	0
7	Liquor Commission	2,469,517	8	6
8	Revenue Administration	2,315,473	17	11
9	Corrections	1,803,914	20	2
10	Education	1,512,951	41	5
11	Insurance, Lottery, Veterans Home	1,087,456	20	0
12	Labor	1,006,202	19	4
13	Business and Economic Affairs, Natural and Cultural Resources	748,785	9	3
14	Fish and Game Commission	605,367	17	3
15	Public Utilities Commission	508,456	21	2
16	Banking Commission	194,345	14	1

Notes:

<sup>1</sup> As of SFY 2017.

<sup>2</sup> Applications supported as of July 2017.

<sup>3</sup> ASD positions supervised as of January 2018.

Source: LBA analysis of DoIT reports and organizational charts.

### **Recommendations:**

**We recommend DoIT management improve its human resource distribution by:**

- evaluating its use of direct- and shared-funded employees and make changes to improve efficiency,
- curtailing technical support work done by non-technical support staff through training and policies, and
- evaluating current workload for IT Leads and more efficiently distribute responsibilities.

**DoIT management should communicate its statutory authority to manage all DoIT staff to customer agencies, and collaborate with these agencies to more efficiently allocate human resources statewide.**

Auditee Response:

DoIT concurs with the recommendation.

*A key theme throughout this audit has been on the roles/responsibilities of the staff and how the department implements a more efficient and effective workforce. The department agrees with this assessment and is committed to make changes necessary to address maintenance and operations within DoIT as well as new project development. This effort overlaps with the work currently in progress to reorganize the department. The department will work closely with its agency partners to realign its workforce to address necessary changes in how it funds direct and shared staff, make changes in how help desk tickets are resolved, and evaluate the workload and responsibilities assigned to IT Leads.*

**Observation No. 8**

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**Improve Regional Support Services Operations**

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Employees within the Regional Support Services (RSS) team of the TSS were assigned significantly different numbers of customer service tickets, and had different remote completion rates for tickets. We also observed RSS teams did not complete customer technical support requests (i.e., tickets) timely when compared to DoIT service level targets. Based on these findings, it appeared RSS staff workload was not allocated effectively to fulfill customer requests.

**Tickets Per Technician**

Analysis of service desk tickets assigned during SFYs 2016 and 2017 indicated certain teams within RSS were assigned more than double the number of tickets of other teams (see Table 5). For instance, Teams 4 and 6 were assigned 12,807 and 12,103 tickets, respectively, while Teams 8 and 5 were assigned 4,052 and 6,291 tickets, respectively, during SFYs 2016 and 2017. Because each team had different numbers of staff assigned, we evaluated the number of tickets per technician for each team and then compared the teams. For SFY 2017, Team 8 (serving the Department of Resources and Economic Development, NH Liquor Commission, and the Lottery Commission) had the fewest tickets per technician with 518, while Team 4 (serving the Department of Health and Human Services) had the most tickets per technician with 1,141 tickets each. Looked at another way, each technician was assigned 731 tickets, on average, during SFY 2017. Teams 4 and 5 were assigned more than 1,000 tickets per technician and Teams 2, 6, and 8 were assigned less than 600 tickets per technician. The growth rate of tickets between SFY 2016 and SFY 2017 was 15 percent for Teams 2 and 4, while Teams 3 and 5 had a three and five percent decrease, respectively.

We also found RSS staff did not complete tickets within DoIT service level targets. We observed all eight RSS teams missed between three and five of the six DoIT service level target's benchmarks. Some of the teams had average times to close a ticket which were several days beyond the targeted benchmark. A member of management acknowledged that RSS staff were

not evaluated based on the SLA targets. Combining these findings with those regarding tickets per technician, it appeared RSS staff workload was not allocated efficiently between SFY 2016 to SFY 2017.

<b>Table 5</b>
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**Tickets Assigned To RSS Teams, SFYs 2016 And 2017<sup>1</sup>**

RSS Team	Agencies Served	SFY 2016		SFY 2017		Change
		Tickets	Tickets Per Technician	Tickets	Tickets Per Technician	Percent Change
1	Transportation (5 Staff)	3,810	762	3,667	733	-4
2	NH Liquor Commission (partial), Education, Labor, Office of Prof. Licensure, Sununu Center, Corrections, Veterans Home, Public Utility Commission, Insurance (12 Staff)	5,971	497	6,859	572	15
3	Fish and Game, Revenue, Justice, Administrative Services, Agriculture, Cultural Resources (6 Staff)	4,600	767	4,466	744	-3
4	Health And Human Services (6 Staff)	5,963	994	6,844	1,141	15
5	NH Liquor Commission (supervisor only), Employment Security (3 Staff)	3,230	1,077	3,061	1,020	-5
6 <sup>2</sup>	Health And Human Services (remote services only), Environmental Services, Adjutant General, Information Technology (11 Staff)	5,830	530	6,273	570	8
7	Safety (6 Staff)	4,992	832	5,491	915	10
8	Resources And Economic Development, NH Liquor Commission (partial), Lottery Commission (4 Staff)	1,980	495	2,072	518	5
<b>Total</b>	(53 Staff)	36,376		38,733		6

Notes:

<sup>1</sup>According to DoIT management, workload required for tickets could fluctuate based on the project or agency.

<sup>2</sup>Includes Enterprise Software Distribution Team which handles software updates for the entire State.

Source: LBA analysis of FootPrints<sup>®</sup> ticket data.

When presented with our analysis, DoIT management provided several caveats. Specifically, DoIT management said our analysis did not consider instances of staff turnover, documentation of technician workload evaluations by management, and examples of staffing reallocation to meet needs. DoIT management also stressed that the workload required for a given ticket could fluctuate depending on the project or agency. In other words, work completed at Agency A could be materially different than work completed at Agency B. DoIT management explained a ticket handled by a larger team would require less work because the responsibilities are divided among staff as part of a division of labor, while the same ticket handled by a smaller team may require more work because there are no additional staff to share responsibilities. We also heard of several instances where DoIT management tried to reallocate staff from one agency to another, but encountered opposition from the host agency, which prevented any workload reallocation. Using this feedback from management, we conducted additional analysis of RSS technician workload to provide more accurate findings.

As part of our additional analysis, we found evidence in RSS ticket per technician reports used by management of additional ticket disparities between technicians. After removing employees who held management positions, traveled extensively, or had other notes by management as having legitimate reasons for not completing tickets on RSS ticket per technician reports, we found the average monthly tickets completed by the remaining 36 RSS technicians varied between 36 and 151 in 2016, and between 38 and 171 in 2017. The average number of tickets completed in SFY 2016 and SFY 2017 for this same group of technicians was 77 and 76, respectively. These disparities could have been due to differences in tickets among teams and restrictions placed on human resource allocation by customer agencies.

According to ITIL<sup>®</sup>, “the service provider” (i.e., DoIT) “needs to ensure that its service assets are coordinated, controlled and deployed so that they can provide the appropriate levels of services at the agreed levels.” RSS was not able to meet DoIT service resolution targets, possibly due to an inefficient allocation of staff resources. DoIT management risked inefficient service delivery to State agencies without an allocation of workload among RSS technicians, which matched customer demand (i.e., ticket requests) and service target requirements. With regards to agency opposition to staff reallocation, statute gave authority to DoIT to manage and coordinate all IT resources in the Executive Branch.

### **Remote Technical Service**

Distribution of technical support tickets resolved remotely also varied among RSS teams between SFY 2016 to SFY 2017 (Table 6). Teams 1 and 6 had the highest rates for remote permanent resolution of tickets during this time period, with 41 percent (3,092 tickets) and 28 percent (3,474 tickets) of each team’s tickets, respectively, being resolved in this manner. Meanwhile, Teams 3, 5, and 8 had much lower rates for remote permanent resolution of tickets between SFY 2016 to SFY 2017, with rates of zero percent (11 tickets), three percent (193 tickets), and three percent (129 tickets), respectively, among all tickets assigned to these teams. Members of management agreed some RSS teams do more remote work than others and surmised that RSS could do a better job completing tickets remotely. DoIT management mentioned a new remote technical support tool, implemented in 2017, should help technicians provide more services without having to physically visit customers.

Table 6

**Breakdown Of Permanent Ticket Resolution Status By RSS Teams,  
SFYs 2016 And 2017**

<b>Team</b>	<b>Resolved Remotely</b>	<b>Resolved Locally</b>	<b>Other</b>
1	3,092 42%	4,131 55%	254 3%
2	1,848 14%	10,680 83%	308 3%
3	11 0%	8,804 97%	249 3%
4	1,889 15%	10,633 83%	285 2%
5	193 3%	5,958 95%	139 2%
6	3,474 29%	8,081 67%	538 4%
7	757 7%	9,613 92%	112 1%
8	129 3%	3,831 95%	92 2%
<b>Total</b>	<b>11,393</b> <b>15%</b>	<b>61,731</b> <b>82%</b>	<b>1,977</b> <b>3%</b>

Source: LBA analysis of FootPrints<sup>®</sup> ticket data.

According to statute, DoIT is responsible for “creating statewide efficiencies through the use of information and other technologies.” Cutting down on time used by technicians to physically visit customers (e.g., setting up appointments, correspondence, travel, logistics, and other activities) through the use of remote software tools to complete tickets, could free up employees to fulfill more customer requests. Fulfilling more customer requests could in turn help RSS improve its performance with meeting performance benchmarks adopted by TSS, thus improving operational efficiency as mandated by statute. Increased use of remote tools by staff could also help RSS management distribute workload more effectively.

**Recommendations:**

**We recommend DoIT management evaluate RSS ticket workload and use of remote technical support tools, making changes to improve RSS efficiency. Since RSS staff are not evenly distributed across RSS teams, management should also evaluate whether the current organizational structure is efficient, and make changes accordingly. Lastly, we recommend DoIT management communicate its statutory authority for managing all DoIT staff to customer agencies, and collaborate with these agencies to more efficiently allocate human resources for the benefit of State government as a whole.**

Auditee Response:

*DoIT concurs with the recommendation.*

*The department has efforts currently in progress to address these issues. A new remote access solution has been purchased and will be fully implemented within the RSS team by the end of FY 2018. Further evaluation will take place during 1st quarter FY 2019 to determine which other DoIT divisions would benefit from utilizing the remote solution. Auditing will be conducted on ticket types that can be handled remotely to verify successful use of the remote tool.*

*The department also plans to evaluate the need for additional metrics and reports to better account for remote support workload, consistent handling of tickets amongst each division, and ensure that ticket volume and performance metrics targets are accurately reflected. RSS ticket/project workload will be routinely reviewed and changes made where necessary for the benefit of State government as a whole.*

**Observation No. 9**

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**Capture And Review Availability Metrics**

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According to ITIL<sup>®</sup>, measuring and monitoring IT service availability is crucial in ensuring service availability is consistently provided. ITIL<sup>®</sup> states,

Availability management defines, analyses, plans, measures and improves all aspects of the availability of IT service ensuring that all IT infrastructure, processes, tools, roles, etc. are appropriate for the agreed availability service level targets. It provides a point of focus and management for all availability-related issues, relating to both services and resources, ensuring that availability targets in all areas are measured and achieved.

However, DoIT did not effectively monitor and manage the availability of its IT resources. We attempted to determine IT resource availability for the audit period but found no system accurately captures all critical outage data and DoIT did not regularly report on system availability (i.e., system uptime).

Although DoIT policy requires critical outages to be reported through a Lotus Notes-based database called DoIT Tech Center at the first sign of service interruption, we found the data to be unreliable in its reporting of service availability. For example, we found typographical errors in certain data fields, which prevented an accurate recording of the start or end time of an event, which then prevented an accurate calculation of elapsed time that the system was down. Furthermore, the “Actual Down Time” data field was not used to measure and report on system availability, and in fact was limited to 99 hours so that if it were to be used to report system downtime, it would result in underreporting system downtime when problems existed for more than 99 hours. Because DoIT Tech Center does not generate regular reports for management’s review of system availability, data quality had gone unmonitored.

Availability of IT resources is significant to ensuring customer satisfaction. Without the ability to track and monitor resource availability, DoIT cannot be assured it is providing an expected service level.

**Recommendations:**

**We recommend DoIT management evaluate whether FootPrints<sup>®</sup>, its existing help desk software, can effectively provide the functions of DoIT Tech Center software so accurate reports can be generated regarding system uptime for improved management oversight. If FootPrints<sup>®</sup> is incapable of supporting and reporting on system availability metrics, DoIT should evaluate the best way to gather and accurately report this data.**

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department has efforts currently in progress to address these issues. Help Desk Services (HDS) is currently evaluating the ability to leverage FootPrints<sup>®</sup> to replace the Critical Outage component within the DoIT Tech Center. Based on successful study results, DoIT anticipates beginning the cutover to Footprints<sup>®</sup> for Critical Outage tracking starting in the first half of FY 2019. DoIT will further evaluate what solution(s) could be leveraged to replace the Infrastructure Change Resource (ICR). FootPrints<sup>®</sup> was reviewed in the past and deemed not suitable. DoIT will also evaluate what solution(s) could be leveraged and/or purchased to address reporting on system availability metrics.*

**Observation No. 10**

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**Improve Source Code Management Practices And Systems**

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DoIT source code management practices lacked a process to ensure all application source code was identified and saved as required by policy. DoIT relied on training software managers to self-report new applications under development and manually secure source code. While DoIT management and staff reported training efforts improved compliance with source code management policies, noncompliance still remained.

**Identify Applications**

We determined there was no process to inform the source code management tool administrator of new software development projects. We requested a list of all DoIT supported software applications as part of our audit. DoIT identified 759 DoIT-supported software applications as of July 2017. While some of the applications were commercial off-the-shelf software, others were developed by DoIT or contractors. We found not all source code for DoIT-developed software was properly stored. Using the list of DoIT applications, we judgmentally sampled 17 applications. Of those 17 applications, 13 were either secured in the source code management tool or reported as commercial off-the-shelf applications not requiring storage. Of the remaining

four applications, three were reported as being secured utilizing an alternative method other than the one authorized by policy, and one was reported as not secured due to an oversight. Once DoIT staff was notified, they reported securing the application.

DoIT staff also reported some applications were omitted from the source code management tool because the applications were backed up to server shared drives. These assets were more vulnerable to data loss or destruction and threatened the continuity of State operations. We were told a shared drive was corrupted within a customer agency due to a ransom-ware attack, reportedly resulting in the loss of application data. By not having a system to identify missing applications, DoIT was more reactive than proactive, since it took an instance of data loss for one application support team to improve source code management practices.

### **Source Code Change Notification**

DoIT policy required changes to software configuration to be logged into the source code management tool within one week of any change to an application. DoIT policy was established to ensure the integrity and traceability of software configuration throughout the software life cycle, and implementation of this policy was the responsibility of management. However, agency management and DoIT management lacked the ability to consistently monitor compliance with this policy because the request to modify the source code of an application was not a standardized process. Without a consistent process to identify change requests to an application, DoIT management could not effectively identify noncompliance with policy, and where gaps in software configuration integrity and traceability existed.

DoIT management reported source code management could be automated. However, DoIT had not implemented or fully explored automated tools to streamline source code management practices. In the absence of an automated source code management tool, developers were required to log into a specific computer to upload source code, which added an additional step to source code management.

### **Recommendations:**

**We recommend DoIT management develop a process to identify State-developed software application assets, require storage in a single source code management tool, and monitor compliance. We also recommend DoIT complete efforts to implement automation tools to streamline source code management.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*The department has a responsibility to manage application source code and configurations and establish procedures to ensure compliance with all policies and best practices. It will begin analysis of all software assets and identify solutions to manage and audit use of software code management solutions that can be integrated into the software coding practices of developers. In*

*addition to source code management for in-house developed solutions, planning must also incorporate how to manage vendor developed solutions.*

## **Observation No. 11**

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### **Ensure State Websites Are Uniform**

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State websites were not uniform across agencies, both with regards to presentation in accordance with DoIT policy, and to functionality with mobile devices.

According to DoIT's e-Government Branding Policy, "all external State websites and applications shall contain a pre-defined banner that identifies the agency as an official part of the New Hampshire State Government website." The policy further states that all State websites "must link to the NH.gov portal site www.nh.gov." In an evaluation of 37 State agency primary websites, five were found non-compliant with this policy due to not having the "pre-defined banner" and/or a link to www.nh.gov: Council on Developmental Disabilities, Department of Fish and Game, Liquor Commission, Lottery Commission, and Police Standards and Training Council. It appeared these five State agencies contracted with private vendors to create their websites. According to management, DoIT did not have authority to enforce its e-Government Branding Policy, allowing some agencies to contract for website design and hosting. The financial impact of agencies contracting for web design and hosting services was not determined.

We also reviewed the same 37 websites to determine their functionality with mobile devices. Using a proprietary website which evaluates the "mobile friendliness" of a given site (i.e., how easily a consumer can view and use a website via a mobile device), we found 22 of 37 (59.5 percent) State agency primary websites were not created to facilitate view and use by a mobile device. Some of the websites determined as not "mobile friendly" included the Departments of Health and Human Services, Environmental Services, Education, Transportation, and Safety. Management said DoIT started implementing "mobile friendliness" (i.e., responsive design) standards around 2012, and those categorized as not "mobile friendly" have not had their websites redesigned by DoIT since that date. Lack of a responsive design, coupled with a large backlog of agency websites needing redesign, could impact delivery of citizen services.

### **Recommendations:**

**We recommend DoIT management, in collaboration with other agencies, ensure all State websites follow DoIT's e-Government Branding Policy and responsive design standards.**

**DoIT management should also evaluate how efficiently it delivers web services to agencies, making changes as necessary to improve efficiency and provide greater value to the State.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*These activities are currently in progress under the auspices of the Governor's Digital Government Initiative. This effort includes working with the Governor, Legislature and State Agency partners to develop an improved branding strategy, updating policies to require new and updated websites to address branding and responsive designs are included in the requirements, and release of a comprehensive RFP to procure an enterprise content management solution (CMS) along with hosting and professional services.*

### ***Continual Improvement***

DoIT had one major area of improvement with regards to the last phase of the ITIL<sup>®</sup> service lifecycle, continual improvement. According to ITIL<sup>®</sup>, the purpose of the continual improvement phase is to “align IT services with changing business needs by identifying and implementing improvements to IT services that support business processes.” We found DoIT could improve its performance measurement efforts, especially with regards to changing the organizational focus from outputs to outcomes.

### **Observation No. 12**

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#### **Improve Performance Measurement**

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DoIT did not have a performance measurement system for evaluating whether outcomes were achieved. Though DoIT management provided several informational reports from some IT systems, we found reporting primarily focused on outputs rather than outcomes. While DoIT conducted customer service surveys which provided some information on outcomes (i.e., customer satisfaction), we found the surveys were limited and only covered one of DoIT's many services provided to its customers. These approaches were not in harmony with statutory requirements and industry standards, and left management with insufficient information on service outcomes to make effective decisions.

#### **Current Performance Measurement Practices**

When asked about performance measurement, DoIT management offered examples of several reports and customer service surveys as evidence of their efforts. We found the Division Directors received extensive information on most IT systems and several processes, including technical service requests, mainframe and server usage, and other areas. DoIT management also shared data obtained from its customer service surveys administered through Help Desk Services (HDS). DoIT used two types of surveys to obtain feedback regarding technical support services: an annual survey and a survey tied to the closure of technical support requests. The former was sent to all State employees, while the latter was sent to the State employee tied to a given technical support request. Some members of DoIT management said they would like to have a more holistic way to evaluate customer satisfaction, covering all services provided. However, besides the surveys, which had limitations of their own, we observed the reports used by Division Directors were primarily focused on outputs rather than outcomes. This meant DoIT management had no systematic, formal way of determining whether services provided were meeting customer needs.

### **Customer Satisfaction Surveys Need Improvement**

The surveys used by DoIT had several issues, including data reliability, survey administration, and data usage. The annual survey and the survey tied to technical support requests, though having separate populations, had the same wording for questions. This approach was problematic because the annual survey asked about the ease of submitting requests and timeliness of DoIT staff response, questions which would not be pertinent to individuals who had not submitted technical support requests. Both surveys were accessed via a webpage, and there were no restrictions on individuals filling out the survey multiple times. Indeed, we found evidence of duplicate responses to the annual survey, which could have impacted data reliability. The surveys were also not tied to a given identity (e.g., name, email address), making it possible for individuals to complete the survey in another's name and give positive feedback about their own services, though we found no evidence this happened. Finally, the subject matter of the surveys was geared toward DoIT's technical support function, leaving DoIT with no feedback regarding other areas of responsibility like software and web development, operations, project management, financial transparency, and billing. Thus, the surveys evaluated customer satisfaction as an outcome of one set of services provided, but were not broad enough to apply to all of DoIT.

### **Statutory Obligations Unmet**

The performance measurement methods used by DoIT did not meet statutory requirements. According to statute, the Commissioner of DoIT was responsible for “[d]eveloping an information technology satisfaction measurement program to ensure information technology resources and strategic plans are meeting the needs of each agency.” Statute required the Commissioner to create a “system of agency satisfaction metrics” to “track the satisfaction of delivery” of IT solutions by DoIT. Lastly, the Commissioner was required to set “satisfaction benchmarks to meet or exceed customer expectations. Other than surveys related to technical support services, DoIT did not have any other formal method of obtaining systematic feedback from agencies. We also did not find evidence of any performance benchmarks being set.

### **Industry Standards Not Followed**

According to ITIL<sup>®</sup> “the service provider should continually take into account whether” services rendered meet customer needs rather than focusing on outputs alone. Recent changes to the State IT Strategic Plan, including a focus on customers, seem to align with these standards. However, the lack of evaluation of customer satisfaction with DoIT services rendered left management with only output measures on which to make decisions. ITIL<sup>®</sup> recommends IT service providers “measure and demonstrate value” to customers through linking “business outcomes, objectives and their underpinning processes and functions” to services provided. Thus, the next step for DoIT is to expand its current surveys and create a systematic, regular method for obtaining customer satisfaction levels regarding its performance across all major services. As part of this approach, DoIT management could tie survey questions to service level agreement requirements and DoIT objectives. This approach would provide more useful information for DoIT purposes, and allow management to evaluate performance with regards to both outputs and outcomes. Lastly, ITIL<sup>®</sup> recommends the IT service provider have “end-to-end performance monitoring and

measurement of IT services supporting business processes,” and regularly compare performance with service level agreement targets. Such monitoring and measurement could take the form of a dashboard of key indicators, both outputs and outcomes, which would allow management to make more effective decisions.

To evaluate DoIT outcomes, we conducted two surveys to provide a more holistic evaluation of DoIT outcomes: a survey of State employees who received technical support services, and a survey of senior management at State agencies. The State employee survey focused on technical support services, while the survey of senior management asked about all major DoIT services. Both surveys provided positive results regarding DoIT services. In fact, our survey of technical support users obtained similar positive results as DoIT’s own surveys, though with a slightly higher proportion of individuals indicating some level of dissatisfaction. However, certain information from the survey of senior management identified areas of improvement for DoIT, including less enthusiastic responses regarding internet access, software development, database administration, financial transparency, IT billing, and IT procurement. This information would go unnoticed without expanding and improving the current DoIT surveys. DoIT risks ineffective and inefficient operations without improving its current performance measurement efforts to provide more reliable and holistic information on outcomes.

**Recommendations:**

**We recommend DoIT management improve performance measurement efforts by creating a formal, systematic approach to measure customer satisfaction for all major DoIT services which follow statutory requirements and industry recommended practices. DoIT management should follow up with agencies to identify the specific problems they are having with DoIT services, and then set reasonable expectations to meet users’ needs.**

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department will expand existing customer support request satisfaction surveys to include key services where feasible with the existing set of tools. DoIT is currently updating its annual IT customer survey to include additional services and plans to implement with the next scheduled survey rollout. The department is also evaluating the use of an annual survey tool targeting Agency IT Stakeholders to evaluate DoIT’s overall effectiveness year over year and use these results to benchmark our services with other Government entities.*

*The department will phase in a program to review negative survey results and perform follow up interviews where feasible as part of a continuous improvement program.*

**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF INFORMATION TECHNOLOGY**

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**FINANCIAL OPERATIONS**

The Department of Information Technology (DoIT) financial management personnel were tasked with the dual mission of exerting management control over information technology (IT) financial transactions and providing customer service to agencies. DoIT management designed financial operations to achieve these two tasks by implementing a detailed cost allocation and budget system, reviewing and approving IT purchases, publishing all DoIT transactions on the State intranet, and providing agencies with information on their IT budgets. While DoIT financial operations were focused on the correct objectives, we found unnecessarily complex, outdated, and undefined processes limited financial operations in efficiently and effectively achieving its objectives.

A certain level of complexity and detail was required within the cost allocation and billing systems for DoIT to accurately allocate and bill agencies for IT expenses, but we found the level of complexity and detail did not always substantially improve accuracy or transparency. For example, DoIT provided customers with detailed transactional information and customized financial reports, but complexities in the cost allocation system made it difficult to understand the financial information provided. Financial operations included a labor intensive billing process which lacked processes for DoIT or customer agencies to easily detect errors or evaluate the allocation methodologies utilized. Consequently, we found instances of billing errors, non-equitable cost allocations, and varying degrees of customer satisfaction with financial operations.

Financial systems and processes remained relatively unchanged since the creation of DoIT and did not sufficiently adapt to organizational changes or customer needs. DoIT utilized multiple financial systems which emulated existing State financial systems. Although these systems were originally designed to improve control over IT transactions, we found these systems created duplicate processes and lacked system integration needed to provide useful financial information for customers. In addition to potentially outdated financial systems, the budget practice of providing discounted IT services was based on a former structure where individual boards and commissions were still independent.

Effectively and efficiently acquiring IT solutions was a shared responsibility between DoIT and customer agencies. DoIT provided technical expertise by guiding, reviewing, and approving IT procurements and requisitions. However, we found DoIT inconsistently implemented IT policies, such as sufficiently reviewing and approving all required procurement documents according to set timeframes. Additionally, we found areas where procurement and requisition policies were lacking, which resulted in inefficiencies and potential IT security risks to the State. Finally, while DoIT did not own the IT assets obtained by customer agencies, financial operations were not designed to timely ensure customers received the financial information required to accurately capitalize IT software assets for financial reporting purposes.

## Observation No. 13

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### Simplify Cost Allocation Methodologies

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Our 2006 financial audit of the Office of Information Technology (OIT) found OIT's "model of allocating to and recovering from user agencies the precise costs of operations results in a high burden...to work at a level of exactitude and detail that exacerbates the issues..." We have similar concerns in this audit of DoIT, as the cost allocation method was substantially the same as the method used earlier. We found cost allocation methodologies were unnecessarily complex and inefficient, which heightened the risk of subsequent cost allocation mistakes going unnoticed. The OIT concurred in part with the prior audit finding, but it did not appear the cost allocation methodology had changed significantly since 2006.

Cost allocation systems ensure shared costs, like administrative overhead, are distributed in an equitable and transparent manner among those consuming services. By distributing costs equitably, customer agencies relying on different funding sources such as federal grants, are able to receive a proportional reimbursement for the cost of services incurred. Additionally, cost allocation systems need to be transparent to provide useful information to the customer agency. Therefore, the more complexity added to cost allocation methodologies potentially detracts from transparency.

#### Complexity And Transparency

DoIT relied on 85 different cost allocation methods, plus 42 direct cost allocation methods. The basis for the different allocations included:

- personal computer (PC) counts,
- number of filled positions,
- daily time reports,
- console count,
- number of page prints,
- millions of instructions per second,
- modified PC count,
- Windows<sup>®</sup> central processing unit (CPU) count,
- number of licenses,
- number of merchant identifications,
- UNIX<sup>®</sup> server CPU count,
- server statistics,
- square footage,
- checks printed,
- percent allocations,
- data center operations,
- mobile device count, and
- disk space.

Some allocations were used monthly, while others were used only quarterly or annually. Thirteen new allocations were added to the plan during the audit period. Overall, the allocation methodologies appear reasonable, but the level of complexity used to increase the accuracy of the cost allocation system detracted from the transparency of IT costs provided to customer agencies and the efficiency of operations. For example, DoIT staff collected metrics on where employees were assigned every month. These metrics were used in 13 different cost allocation methods to distribute the salaries and benefits cost of 19 DoIT employees. Eight of the 13 cost allocation methods were used to distribute the cost of a single employee, which may not have been the most efficient approach to allocating costs considering the data had to be revised every month. Six of the 13 position cost allocations were used to distribute management or administrative personnel expenses across an entire organizational unit. Once cost was spread across the organizational unit, the cost then needed to be billed to the customer agency. However, spreading the cost between organizational units made it difficult for the agency receiving the invoice to understand where the expense came from.

The other seven of the 13 position cost allocations were used to distribute management expenses for personnel embedded within an agency for different employee groups. While the intended purpose was to distribute costs among different organizational units overseen by management, we found five of these managers only supervised one employee group or organizational unit during the month of June 2017. Therefore, the cost allocation designed to spread the cost between multiple employee groups was potentially unnecessary. Finally, some cost allocations were nested within another allocation, further complicating the allocation.

In our survey of customer agencies, 14 out of 36 (38.9 percent) reported cost allocations were transparent while 12 customer agencies (33.3 percent) reported costs were not transparent.

## **Equity**

While our survey indicated more customers found the costs to be fair (47.2 percent) than unfair (16.7 percent), we found the following examples of cost allocations not achieving equity among customer agencies:

- DoIT developed a separate and unnecessary cost allocation method to allocate Help Desk Services' (HDS) expenses. The HDS cost allocation method excluded one of the largest HDS customers from the PC count cost allocation method. Instead, this large customer agency directly paid for HDS staff in lieu of using the cost allocation method. We found this alternative allocation method resulted in the large customer agency paying for about 13 percent of HDS expenses while using nearly 30 percent of its services. This condition developed as a result of HDS absorbing help desk personnel employed by the large customer agency. The reported original intent was to add these employees into the cost allocation method for the next budget biennium, but due to the complexity of the allocation methods, it was overlooked during the 2018/2019 budget preparation. We found this additional cost allocation method resulted in one agency under paying approximately \$460,000 with the other agencies picking up this additional cost during the audit period. We also note the large customer agency that was under billed was likely eligible to receive federal reimbursement for its IT expenses.

- When DoIT was created, it designated certain agencies as *partner* or *small* agencies. *Partner* agencies transferred employees to DoIT and all other agencies with fewer IT resources were considered *small*. This labeling, based on a transfer of resources years ago, was still used during the audit period and was to ensure smaller agencies would pay less for services. However, this labeling was inconsistently used in an equitable manner and resulted in additional complexities in the cost allocation system. For example, millions of dollars in technical support and network administration services from DoIT were only charged to *partner* agencies, which excluded over a dozen *small* agencies receiving these services. Finally, all of these allocations to limit the cost to *small* agencies required DoIT to maintain additional cost allocation methodologies.

Because of the complexity of DoIT's cost allocation methods, identifying billing errors was difficult, as discussed in Observation No. 14.

**Recommendations:**

**We recommend DoIT management simplify its cost allocation methodologies where practical by balancing the goal of being precise against the need to be transparent and efficient in making equitable cost allocations.**

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department will review our current cost allocation methods to identify areas where the need for precision is superseded by the need to be efficient and transparent. Efforts include a comprehensive review of the various cost allocation methods to include metrics, cost allocation methods and the designation of agencies as partner or small with the overall goal of simplifying the entire process. The first review will be conducted with the start of the budget process for FY 2020-2021 and will be performed on an annual basis.*

***Billing Process***

DoIT billing process is currently a continuous process performed by DoIT staff to produce the monthly invoices for agencies receiving DoIT services. While the billing process could fluctuate between 63 and 175 steps depending on the month being billed, the process could be summarized into six difference phases: 1) cost driver metrics are first collected according to a schedule; 2) metrics are entered into the CAP95<sup>®</sup> software and a cost allocation table is produced; 3) the cost allocation table produced by the CAP95<sup>®</sup> is reformatted into the Financial Allocation Reporting System (FARS) application; 4) the reformatted allocation table is imported into the Invoice Database along with transaction data to produce the invoices; 5) invoices are reconciled with the statement of appropriations within the accounting system, NHFirst; and 6) invoices are uploaded into NHFirst and sent to be paid along with supporting documentation and customized reports requested by the agencies. In total, the billing process includes processing the allocation data

through four systems prior to generating an invoice for payment: CAP95<sup>®</sup>, FARS, Invoice Database, and NHFirst.

## **Observation No. 14**

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### **Improve Billing Process**

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While the monthly billing process for DoIT services appeared to adequately allocate nearly \$37 million in overhead costs amongst customer agencies annually, the process was overly complex, involving gathering information from numerous sources, using multiple databases and applications, manually entering data, and taking up to 175 steps lasting approximately 30 days to create invoices. We also found the billing process lacked effective controls and was inefficient. The complexity of the methodology was reportedly driven by the desire to be fair in allocating DoIT costs; however, the resulting process was too complicated to be easily explained or checked by agencies.

### **Ineffective Controls**

The accuracy of the billing process was limited by three factors: 1) not all manual entry into the cost allocation system received a secondary review to ensure accuracy; 2) no periodic reconciliation of the amount allocated to each agency was performed; and 3) the complexity of the cost allocation made it difficult to audit an invoice. We found these missing controls resulted in two agencies being overbilled by an estimated \$112,000 during the audit period and the incorrect billing persisted for 21 months without detection by DoIT or the two agencies negatively impacted.

### ***Manual Data Entry Review***

Data entry of the statistics used in CAP95<sup>®</sup>, the cost allocation software application, received a secondary review. However, after the allocation statistics were entered, DoIT staff had to manually assign an accounting job number and enter it into the system with an allocation methodology, so charges under an accounting job number would be correctly allocated. If an error was made when manually recording the accounting job number and allocation method, no secondary review procedure existed to identify and remedy this mistake. After reviewing a DoIT invoice for a large agency for a single month, we found this lack of secondary review resulted in a \$78,000 billing error during the audit period for the agency we selected for review. We also found this error impacted another agency, making the billing error total \$112,000. Once DoIT was made aware of this error, they reportedly implemented a secondary review.

### ***Reconciliation Of Cost Allocation Accuracy***

The billing error we found was first made in February 2016 and remained until it was brought to the attention of DoIT staff in November 2017. The error persisted for 21 months because no reconciliation procedure existed to ensure the allocation was working correctly. The only reconciliation procedure performed by DoIT ensured all DoIT expenses were allocated and not whether the amount allocated to each agency was accurate. We note, in our *Office of Information*

*Technology Financial and Compliance Audit Report for the Nine Months Ended March 31, 2006*, OIT reported it would implement a periodic internal review of the allocation plan accuracy. However, no such periodic review for accuracy was in place during the current audit period.

### ***Invoice Complexity***

The two agencies overbilled for 21 months were considered by DoIT staff as two of the agencies best equipped to understand DoIT cost allocation and billing methods. These two agencies were reportedly known to regularly review their DoIT invoices. These two agencies may have been unable to identify the billing error due to the complexity of the cost allocation and billing methodology. We found it took an estimated 45 minutes for DoIT staff to demonstrate one allocation method worked as designed because the one allocation selected was comprised of ten additional allocations. For just one of the agencies, each invoice consisted of 30 different allocations each month. The complexity of the invoice made identifying and rectifying billing errors difficult. Although DoIT met with agencies to explain their IT budget and billing, no training program or documents existed for agencies to better understand the complexities of the billing system, and how to effectively review invoices received by DoIT for accuracy.

### **Inefficient Processes**

DoIT's billing process primarily involved two DoIT staff collecting and entering data the allocation metrics, verifying the metrics were accurate, and producing the invoices using three different software applications. We found inefficiencies existed due to data collection frequency, data verification processes, and the running of multiple database queries.

### ***Data Collection Frequency***

The longest steps in the billing process involved gathering multiple reports for entry into the system. The data collection process for next month's invoice would typically start shortly after the previous month's invoice was sent, and the invoices would not be created until the data collection phase was completed, which could take weeks. Certain statistics, such as PC counts, server utilization, timesheet data, and software licenses were collected on either a monthly, quarterly, or annual schedule. While gathering data on how an employee tracked their time was expected to fluctuate, other data collected could be expected to stay more static throughout the year. For example, the location of a filled position within a DoIT office and the number of computers operated by an agency during the year could be expected to remain static. Decreasing the frequency of some data collection could reduce time spent collecting and entering data without dramatically decreasing the accuracy of the cost allocation.

We found monthly and quarterly data could be collected less frequently without materially impacting the accuracy of cost allocations, such as:

- Filled Positions: DoIT monthly collected data on the number of filled positions within 14 different DoIT offices during the audit period. Of the 14 office allocations used, 11 (78.6 percent) did not change between the first and second month of SFY 2017, seven (50.0

percent) did not change between the first and fourth quarter of SFY 2017, and three (21.4 percent) did not change between the first and last month of SFY 2017. We note one of the filled position metrics, which fluctuated the most between the first and last quarter of SFY 2017, only changed by adding 8.9 percent more positions to the allocation.

- PC Counts: Six of the PC counts were collected on a quarterly basis during the audit period. We found five of those six PC counts experienced little fluctuation between the first and fourth quarter of SFY 2017, with less than 11 percent of agencies submitting a PC count with more than a ten percent change in their share of the cost allocation.
- Data Center: Data for two Data Center metrics were collected quarterly. However, one metric experienced no changes from quarter one and quarter four of SFY 2017 and the other metric had one agency's share of the cost allocation only shift six percent between quarter one and quarter four of SFY 2017.
- Merchant Identification Accounts: Data for one metric on the number of merchant identification accounts held by agencies was collected quarterly. However, during SFY 2017, the only change that occurred between quarter one and quarter four of SFY 2017 was one agency went from having 98.9 percent of accounts to 100 percent of all accounts.

### ***PC Count Verification***

Although DoIT had a software application which tracked every computer on the network and issued to an agency, DoIT billing processes required agencies to validate the PC counts produced by the DoIT tracking system. DoIT provided the PC counts to be used in the allocation metric on a quarterly basis to 25 different agencies for verification during the audit period. These agencies were expected to validate or dispute the PC counts provided by DoIT. Reportedly, waiting for verifications delayed the billing process and agency staff responsible for verifying PC counts did not have time to verify the counts timely. Further, one of the 25 agencies which required a PC count verification had only 11 computers out of the over 10,500 State computers (0.1 percent) during the audit period.

### ***Database Queries***

After data collection was complete, data were brought into multiple databases, where dozens of queries were run to verify or format the data. Several of the queries performed a similar function. After we brought this to the attention of DoIT, staff reported multiple queries were eliminated or consolidated. By decreasing the number of queries needed, the steps of the billing process could decrease, potentially reducing the risk of an essential query being missed.

Inefficiency in the billing process required DoIT to allocate resources to perform tasks, that may not have added significant value to the billing process. Further, the lack of efficiency in the billing process limited DoIT's ability to allocate resources to processes that ensure the effectiveness of the billing process.

**Recommendations:**

We recommend DoIT management review its cost allocation and billing systems to simplify each. We also recommend DoIT management improve the effectiveness of the billing process by:

- ensuring all manual assignments of accounting job numbers to allocation methodologies receive a secondary review,
- implementing a periodic internal review to assess the accuracy of invoices, and
- developing policies and procedures to assist and educate agencies on how to review and understand DoIT invoices.

We recommend DoIT management improve the efficiency of the billing process by:

- reviewing the data collection frequency schedule and assess whether cost allocation metrics could be collected less frequently without significantly impacting the accuracy,
- assessing the necessity to solicit a PC count verification for 25 different State agencies, and
- consolidating the data integrity and formatting queries used during the billing process.

**Auditee Response:**

*DoIT concurs with the recommendation.*

*By the beginning of FY 2019, the department will establish policies and procedures to review manual entries and implement a quarterly internal review process. DoIT will also continue to assist and educate state agencies on the monthly billing process and establish policies and procedures to review the data collection schedule, access metrics verification and consolidate data integrity during the billing process. The department will continue to reach out to agencies to educate and assist with the entire DoIT billing process, review the data collection frequency schedule, assess the necessity of obtaining two PC counts and review the various queries used during the billing cycle to consolidate without impacting accuracy.*

**Observation No. 15**

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**Ensure Criteria Used To Select Agencies Eligible For Discounted Services Is Kept Current**

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DoIT was primarily funded by customer agencies paying for DoIT services. Agencies were appropriated class 27 funding to pay for DoIT services. DoIT then invoiced each agency based on direct costs incurred by the agency and an allocation of DoIT's overhead costs. Agencies then paid for IT services using their class 27 appropriation. In addition to the revenue from agency transfers, DoIT expended nearly \$575,000 in appropriated general funds during the audit period

to discount the cost of IT services provided to nine customer agencies. We found the criteria used to select the nine agencies receiving discounted services was not established in policy and may have been outdated.

DoIT managers reported allocating general funds based on the following criteria: 1) the agency receiving services was funded with more than 95 percent general funds; 2) only certain services would be discounted, for example, shared IT services would be discounted, but not direct agency purchases, such as computer purchases; and 3) the agency was considered small at the time the methodology was developed. When these criteria were met, small agencies received a credit funded by general funds to pay for qualifying services. However, the definition of small agency established over ten years ago did not consider organizational changes in the State. Therefore, the Office of Professional Licensure and Certification (OPLC) continued to be considered a small agency during the audit period, although OPLC utilized 96 personal computers which was 49 more than the next largest agency receiving discounted services.

Table 7 depicts the nine customer agencies receiving general fund credits to reduce their DoIT invoices during the audit period. The OPLC received the most discounted services due to the merger of smaller boards who were previously receiving discounted services before the creation of the OPLC and the continued classification as a small agency.

We note, after the audit period, a new law directed the Commissioner of the Department of Administrative Services (DAS), in consultation with the Commissioner of DoIT, to eliminate the use of the class 27 account.

**Table 7**

**Agencies Receiving Discounted IT Services Provided By DoIT, SFYs 2016 And 2017**

<b>Customer Agency</b>	<b>SFY 2016</b>	<b>SFY 2017</b>	<b>Total</b>
Office of Professional Licensure And Certification <sup>1</sup>	\$190,268	\$236,423	\$426,691
Governor’s Office	28,151	35,946	64,097
Department of Agriculture, Markets, and Food <sup>2</sup>	26,385	22,908	49,293
Executive Council	4,871	5,352	10,223
Veterans Council	3,143	3,612	6,755
Public Employee Relations Board	3,660	3,017	6,677
Adjutant General <sup>2</sup>	2,627	2,419	5,046
Judicial Council	1,853	2,803	4,656
Boxing and Wrestling Commission	123	231	354
<b>Total</b>	<b>\$261,081</b>	<b>\$312,711</b>	<b>\$573,792</b>

Notes:

<sup>1</sup>OPLC consisted of over 40 regulatory boards and was not 95 percent general funded. However, OPLC received two invoices to differentiate general-funded boards from non-general-funded boards.

<sup>2</sup>These agencies were not 95 percent funded with general funds, but DoIT charged a unit within the agency that was funded with general funds.

Source: Unaudited DoIT invoices.

**Recommendations:**

**We recommend DoIT management, as it works with the Commissioner of DAS, redesign its funding structure, eliminating class 27 appropriations, and ensure customer agency funding methods are formalized and kept current. If the new funding structure involves charging customer agencies for services or providing discounted services, we recommend DoIT develop and maintain criteria on its methodology used to charge or credit services.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will develop and maintain criteria on our methodology used to charge or credit state agencies for IT goods and services. It will also work with the legislature and impacted agencies to review and determine best practices for the FY 2020-2021 operating budget.*

**Observation No. 16**

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**Ensure Cost Allocation Plan Reflects Current Allocation Practices**

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DoIT management reported cost allocations to federal and State oversight bodies inconsistent with its actual practices. DoIT's cost allocation plan detailed the organizational units within DoIT and the allocation methods used to distribute the cost of services provided by each DoIT organizational unit. We identified inconsistencies between the listed allocation methods and the allocation methods used in practice for two DoIT organizational units. For example, time-tracking metrics and the number of work stations were incorrectly listed as allocation methodologies used by the Bureau of Finance and Administration (BFA) and the Office of the CIO within DoIT. DoIT management reported the inconsistency existed because each allocation method assigned to an organizational unit did not necessarily mean the metric was utilized to allocate the expenses, but meant the allocation method was used generally within DoIT. However, the cost allocation plan did not include a qualification describing that the cost allocation methods under each organizational unit were to be interpreted as general methods used, and not specific methods used for each organizational unit.

Statute required the cost allocation plan to be submitted to DAS. Subsequently, DAS was required to get approval from the federal government to allocate indirect costs in accordance with the cost allocation plan. Once approved, statute required the cost allocation plan to be implemented in a manner consistent with the approved plan.

After we identified inconsistencies in the cost allocation plan, DoIT reported that the inconsistent methods first appeared nearly ten years ago and have not been updated to reflect current operations. A lack of periodic detailed review and the revision of the cost allocation plan may have been a reason for the inconsistent implementation.

**Recommendations:**

**We recommend DoIT comply with statute and ensure the cost allocation plan reflects current allocation practices. We also recommend DoIT management periodically review and revise its cost allocation plan to ensure accurate information is provided to those responsible for federal and State oversight.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will conduct a thorough review of our cost allocation plan to ensure accurate information is provided. By the 4th quarter FY 2018, DoIT will meet with DAS to update the cost allocation plan and implement procedures to review the plan on a regular basis. DoIT will work closely with customer agencies to ensure proper activity codes are issued to assist in tracking DoIT expenses accumulated during capital IT projects.*

## Observation No. 17

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### Evaluate Financial Systems And Analyze Business Processes

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DoIT maintained and utilized multiple inefficient and potentially duplicative financial applications. It also failed to analyze its business processes. While DoIT management expressed a desire to improve its financial applications, it was not a priority. Therefore, these applications remained relatively static since the creation of DoIT, including two cost allocation applications, a budgeting application, and a requisition application. During the audit period, DoIT initiated a project to update one of these applications. However, these efforts were limited in their effectiveness, because DoIT lacked a strategic approach to ensure IT solutions were aligned and integrated with business processes and requirements.

#### Cost Allocation Software Applications

DoIT utilized two applications to perform the same function during the cost allocation process. DoIT staff entered cost allocation metrics and accounting code information into an application called CAP95<sup>®</sup>. The data entry was then transferred from CAP95<sup>®</sup> application into the Financial Allocation Reporting System (FARS) application. The FARS application reformatted the data and monitored the data for exceptions. While most of the data entry transferred into the FARS application, DoIT performed the duplicative task of assigning new accounting codes to cost allocation methods in both systems.

#### Budgeting Applications

DoIT utilized two budgeting systems: 1) the State's budget application called Affinity<sup>®</sup>, and 2) an in-house application called Linked Information System (LIS). The LIS application provided DoIT management a detailed view into the DoIT budget. This level of granularity existed for certain items within the DoIT budget, such as direct IT purchases. Once the budget was developed in LIS, all the detail was summarized in a manner compatible with Affinity<sup>®</sup> and manually entered into Affinity<sup>®</sup>.

Although the LIS application provided detailed budget data, the extra granularity in the LIS application was not fully integrated with other financial applications. Consequently, the lack of integration prevented the LIS application from producing budget-to-actual reporting. As a result, DoIT management and customer agencies reported managing IT budgets effectively was challenging without budget-to-actual reporting.

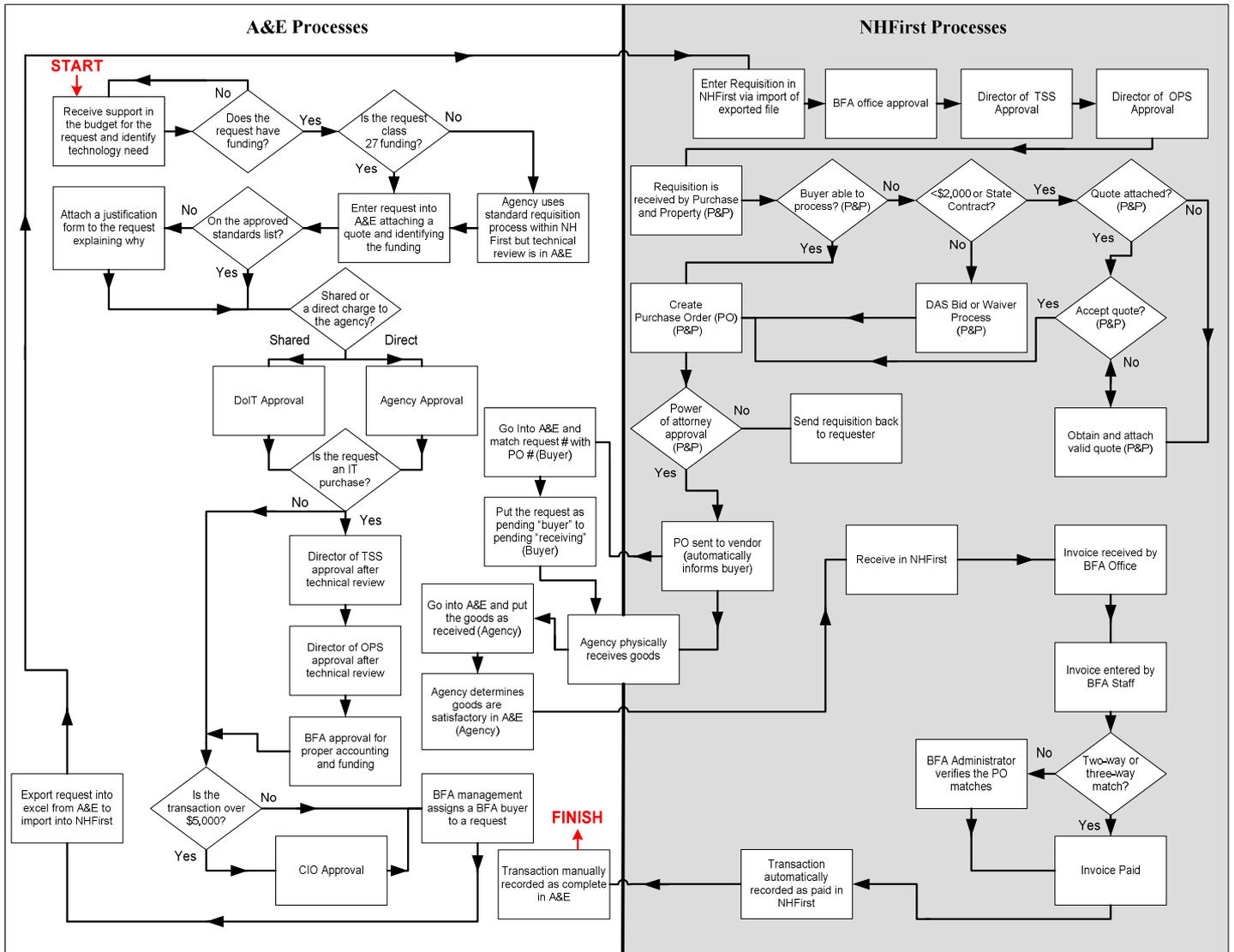
#### Requisition Applications

DoIT utilized an in-house requisition application called Approvals and Expenditures (A&E) during the audit period. The A&E application was designed for DoIT staff to get a more detailed view of IT purchases relative to the data in the LIS application while entering, reviewing, and approving purchases. Requisitions were also required to be entered, reviewed, and approved in the NHFirst application, which was the State's general ledger program. Figure 3 illustrates the

requisition process and how the A&E and NHFirst applications were utilized in the requisition process.

Figure 3

DoIT Requisition Process



Source: LBA analysis of DoIT policies and the DAS Manual of Procedures.

During the audit period, requests entered into A&E took a median of 20 calendar days to result in a purchase order in NHFirst. During these 20 calendar days, DoIT reviewers were able to perform their tasks without major delays in A&E. For example, financial reviews took a median of 1.3 days and technical reviews a median of 2.6 days. However, nearly half of the first 20 calendar days were within the A&E system, before the official requisition process was initiated

in NHFirst. We also found maintaining two requisition systems resulted in multiple inefficient business processes:

- *Duplicate Reviews.* Two technical and one financial review were completed first in A&E, and were repeated in NHFirst.
- *Additional Manual Processes.* DoIT staff had to perform manual processes, which may not have been necessary if DoIT used only NHFirst as its exclusive requisition application. For example, when requests were first created and approved in A&E, a DoIT manager manually assigned the request to DoIT staff before being uploaded in NHFirst. Also, DoIT staff manually matched request identification numbers in A&E with purchase order numbers in NHFirst.
- *Maintaining Two Systems.* A&E and NHFirst applications captured data from each purchase request through payment, and duplicate data were maintained in both applications. For example, staff manually recorded purchase orders as complete and paid in both systems.
- *Incomplete Software Integration.* Prior to initiating a request in A&E, the requester was required to link the purchase request to an account within the LIS budget application. However, the A&E system did not automatically inform the requester if the request lacked an appropriation. Instead, requesters ran a separate report to view available appropriations and maintained external spreadsheets to determine budget to actual amounts.

During the audit period, the A&E application was redesigned to increase user functionality. However, DoIT's efforts to update A&E application lacked a comprehensive assessment of business requirements and processes, the assignment of a business system analyst, and analysis of alternative IT solutions. Instead, a highly paid DoIT developer spent two years working on the software redesign without addressing the underlying duplicate purchasing processes or developing a strategy to fully integrate the systems.

A&E was originally developed to identify when customer agencies over expended their IT appropriations because the statewide financial system in place at that time allowed overspending to occur. Although this financial control deficiency existed when the A&E application was first developed, the financial control environment under NHFirst utilized an automated feature to address this concern. A more comprehensive reassessment of the business requirements may have demonstrated that the use of the statewide NHFirst application would be sufficient and there was no need to duplicate processes.

### **Recommendations:**

**We recommended DoIT management strategically analyze its use of potentially duplicate financial software applications and inefficient business processes. We also recommend any future efforts to revise internal software applications include an assessment of business processes and requirements.**

Auditee Response:

DoIT concurs with the recommendation.

*Due to the inherent complexities of the department's current cost allocation requirements, secondary systems are being used to track and provide agencies with a certain level of detail. DoIT will work with DAS to review its needs to determine if the financial systems of record could accommodate the detailed cost allocation requirements and/or the existing requirements can be simplified. Any future upgrades will include an analysis of business processes to drive increased efficiencies, eliminate duplication and align with industry best practices and standards.*

**Observation No. 18**

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**Improve Procurement And Requisition Policies And Processes**

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DoIT inconsistently standardized, updated, and implemented policies and procedures to ensure effective and efficient IT procurement and requisition processes.

**Procurement**

DoIT involvement in the procurement process primarily involved two roles: 1) providing technical review and guidance of IT procurements and 2) providing and ensuring required approvals were executed during different stages of the process.

***Technical Review And Guidance***

DoIT had robust policies outlining technical review and guidance for the IT procurement process, but DoIT staff reported policy was inconsistently followed and required revision. We reviewed three procurements and confirmed DoIT inconsistently followed its technical review and guidance policies.

- Document Review. DoIT policy required several documents be reviewed during the technical review process, including: Project Concept Document (PCD), Request for Information, Request For Proposals (RFP), Request for Bids (RFB), contracts, and contract amendments, as applicable. While certain documents received consistent technical review, some documents were inconsistently reviewed or created. For example, we found only one incomplete PCD existed, and it did not receive a technical review. We also noted only four RFBs were recorded as receiving a technical review during the audit period, although DoIT processed dozens of procurements.
- Required Review By Division. DoIT policy required all four DoIT divisions and the IT Security Group (ITSG) conduct a technical review of the documents created during the IT procurement process. However, the required reviews by each division and ITSG inconsistently occurred.

- Review Timeframes. DoIT policy set time limits for reviews. Two-thirds of the procurements we reviewed received a review within the two-week timeframe. Further, DoIT had no systematic approach to assess compliance with the technical review timeframes established in policy.
- Critical And Recommended Suggestions. Policy required DoIT to indicate whether suggestions made during the technical review process were critical or were only recommendations so project teams could prioritize issue resolution. Our file review found this policy was not followed. By not clearly indicating the criticality of each comment during the technical review, project teams were potentially unaware of the degree of risk they may have accepted during the IT procurement process.

DoIT management reported some parts of the technical review process were more important than others and some projects posed a higher degree of risk to the State. However, DoIT IT procurement policies did not take into consideration the degree of risk. Consequently, DoIT management made ad hoc assessments given resources available and perceived risk.

### ***Approval Process***

Statute required DoIT to provide approval of and consult with any agency during the IT procurement process. To implement statute, DoIT policies and procedures required approval from the CIO, the commissioner of the agency pursuing the IT procurement, and other stakeholders at various stages in the procurement process. We found instances where significant documents, such as PCDs, RFPs, and contracts inconsistently received the required approvals. DoIT management reported the need to revise procurement policies and procedures, which may be the reason for noncompliance. Additionally, DoIT management reported the need to involve customer agency management and DoIT management earlier in the approval process for significant projects, but no policies and procedures existed to identify significant versus insignificant IT procurements.

### **Requisition**

In addition to providing oversight during the procurement process, DoIT also provided technical review and approvals of requisitions. However, we found inefficiencies in the requisition process.

### ***IT Lead Involvement***

DoIT BFA policy required the IT Lead, or designee, initiate the request for a purchase. While BFA policies allowed for designees to enter requests, technical staff reported part of the technical review process was contacting IT Leads to confirm their acknowledgement of the purchase. The process of ensuring an IT Lead was aware of the requisition may have been counterproductive, because this practice resulted in staff contacting IT Leads, which may have unnecessarily delayed the requisition process and created inefficiencies.

### ***Approved Standards List***

Statute required DoIT develop a standards list of IT products and services under State contract to enable agencies to purchase directly from a list of pre-approved items without requiring further DoIT approval. DoIT developed an approved standards list, but all requisitions made from the list went through the standard requisition approval processes without exception. Although all IT purchases were still subjected to limitations established by DoIT, DoIT did not further streamline the IT requisition process by identifying any purchases which did not require DoIT review and approval.

### **Recommendations:**

**We recommended DoIT management improve the procurement process by:**

- **ensuring all reviews and approvals required by policy are accomplished,**
- **revising policy to develop a more risk-based approach for reviewing IT procurements,**
- **communicating to customer agencies which recommendations must be addressed for approval and which recommendations are suggestions, and**
- **developing a systematic approach to ensure IT procurement policy and review timeframes are achieved.**

**We recommend DoIT management improve the requisition process by:**

- **clarifying policy on how designees of IT Leads will be utilized in the requisition process and ensuring technical review practices are consistent with policy; and**
- **identifying items on the approved standards list which do not need to go through the technical review process, and exempting them from additional DoIT approval.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will evaluate both the procurement and requisition processes.*

### **Procurement Improvements**

*Efforts are currently in progress to improve the risk-based analysis regarding what procurement items DoIT must review based on potential risk. DoIT developed a rules engine used to gauge criticality of procurements based on data type, complexity, ownership and exchange. DoIT is also assessing existing procurement review policy in order to define and deploy a framework to make the review process more effective. Timing of reviews and prioritization of recommendations will be evaluated, developed, deployed and monitored based on updated policy and procedures.*

*It is anticipated these efforts will result in draft policy, procedures and methodology by the end of 2nd quarter FY 2019 and will be incorporated as part of an ongoing continuous improvement program.*

Requisition Improvements

*Current requisition processes will be assessed regarding IT leader involvement and standard product purchases to gauge areas where efficiency can be improved.*

*Requisition process assessment is anticipated to result in draft recommendations by the beginning of FY 2019 that will be implemented by the end of 2nd quarter FY 2019.*

**Observation No. 19**

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**Define Contract Management Roles**

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DoIT lacked formal policies clearly defining customer agency and DoIT contract management roles. In practice, DoIT management reported the assignment of contract management roles were based on resource availability, technical capabilities of parties involved, and type of project. DoIT management reported the preferred arrangement involved an agency accepting primary ownership of their contract, while DoIT provided support and assistance. However, we found the lack of formal policies resulted in unclear roles and varied agency expectations of DoIT involvement in contract management.

For instance, our *Pharmacy Board Controlled Drug Prescription Health And Safety Program Performance Audit Report* dated December 2017, found a customer agency relied on DoIT to manage contract deliverables relative to data security and confidentiality of the procured IT service, but DoIT performed limited contract management after procurement and offered no assurance that contract services were operational. DoIT thought the customer agency should be responsible for ensuring adequate security was provided by the contractor, and the customer agency likely thought it was DoIT's responsibility as the subject matter expert. DoIT management identified IT security as a priority and major risk factor during the IT procurement process. However, efforts to introduce IT security into the procurement process may have been ineffective without clear roles to ensure implementation. Further, assigning contract management roles to individuals lacking the required expertise may introduce unnecessary risk into IT projects. While personnel with the technical capabilities to manage IT contracts effectively may be limited by resource availability, developing a policy to assign high-risk IT contracts to the most technically capable personnel could ensure limited personnel resources are applied to IT contracts posing the highest risk to the State.

**Recommendations:**

**We recommend DoIT management develop formal policies assigning contract management roles between DoIT and customer agencies and make all parties aware of their responsibilities throughout the implementation and completion of each contract.**

**We also recommend DoIT develop a risk-based approach to ensure IT security contract deliverables are executed.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will assess the need to update existing and define new policies and procedures relating to the clarification of contract management, management of key contract deliverables and the development and clarification of roles for agency and DoIT personnel. This will be done from the perspective of project initiation as well as during contract development. Clarification areas will be identified, documented and socialized with appropriate stakeholders. This includes agency senior management, key contract points of contact and governing bodies such as the IT Council. Policies will be deployed and monitored after stakeholder socialization and approval.*

*It is anticipated these efforts will result in draft policies and procedures by the end of 2nd quarter FY 2019 that will require extensive socialization and feedback gathering from agency stakeholders and governing bodies to formalize an acceptance of defined roles/responsibilities. Implementation of policies and procedures will occur after appropriate stakeholder approvals, which would be estimated by 1st quarter FY 2020.*

**Observation No. 20**

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**Policies And Procedures Needed For Capital Projects**

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DoIT lacked policies and procedures to assist agencies in recording DoIT expenses accumulated during capital IT projects. State policy required all computer software equal to or greater than \$500,000 be capitalized for financial reporting purposes. During the development phase of an IT project, all direct costs, including materials and personnel costs, were to be recorded as part of the value of the capital asset. Once the IT project was considered complete, the State IT project was to be classified as a capital asset and amortized over five years.

To ensure IT project payroll expenses were correctly tracked, DoIT relied on customer agencies to request a new accounting job code for the IT project, and for DoIT staff to charge time spent on the project using the new job code. However, we found a \$30 million customer agency software project did not capitalize the cost of DoIT personnel costs assigned to the IT project.

Given DoIT's ownership of their payroll data and role in IT project development, the current practices of relying on customer agencies to initiate the tracking of DoIT payroll expenses may have been insufficient to ensure compliance with State policy.

**Recommendation:**

**We recommend DoIT develop policies and procedures to ensure DoIT personnel and other costs are properly recorded and reported to the customer agency for all projects likely to exceed \$500,000.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will continue to work closely with customer agencies to ensure proper activity codes are issued to assist in tracking DoIT expenses accumulated during capital IT projects. It will also work with DAS to communicate these requirements during the formulation and implementation of capital projects with an IT component.*

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**ADMINISTRATION**

We identified some administrative areas the Department of Information Technology (DoIT) could improve. Of primary concern, we found DoIT did not have a current Continuity of Operations Plan (COOP), leaving the State at risk in case of a disaster or catastrophic event. We also found DoIT could improve compliance with administrative statutes, and statewide policies and procedures, and its timeliness in resolving prior audit findings.

**Observation No. 21**

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**Continuity Plan Should Be Updated**

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Many State functions rely upon technology to deliver citizen services. State agencies rely upon DoIT to provide its computers and communications infrastructure. Continued availability of these technology resources are crucial to delivering services. Therefore, DoIT needs to ensure it can recover quickly from adverse events. A COOP can identify risks and outline specific measures to implement when recovery is necessary. According to the Information Technology Infrastructure Library (ITIL<sup>®</sup>), a continuity plan defines “the steps required to restore business processes following a disruption. The plan also identifies the triggers for invocation, people to be involved, communications etc.”

The DoIT COOP was incomplete and outdated. Until recently, no one had been assigned to keeping the plan up-to-date. The last iteration of the plan appeared to have been drafted in January 2009 and lists agency leaders from that time as contacts. It also referenced the State’s old financial system and human resources system used at the time, which were phased out long ago. In addition, some sections of the plan appeared incomplete. For example, the table listing the individuals to be notified in an emergency simply says “TBD,” an acronym for “to be determined.” It also refers to an alternative facility for use in recovery operations, but DoIT had not leased that property since June 2010.

Without a complete and current COOP, DoIT may be less effective in handling an emergency situation, leaving its customer agencies without efficient and effective technical support to carry out their missions in such an emergency.

**Recommendation:**

**We recommend DoIT management establish a current COOP for its own operations and develop a process for ensuring the plan is updated on a continuing basis.**

**Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will develop an updated COOP plan. As the provider of critical IT infrastructure and enterprise applications used by multiple agencies, an updated plan is not only essential to DoIT's daily operations but it impacts the ability for agencies to continue operations that involve technology solutions. Once the plan is updated, DoIT will implement a process to review and modify the plan on a continuing basis.*

## **Observation No. 22**

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### **Adopt Administrative Rules And Unify Policies And Procedures**

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DoIT lacked administrative rules in accordance with the *Administrative Procedures Act* to codify statewide DoIT policies binding on customer agencies and the public. We also note, our *2006 Financial Audit*, found the Office of Information Technology (OIT) lacked administrative rules and the OIT concurred.

The *Administrative Procedures Act* required State agencies to adopt administrative rules related to its organization, operations and practices, and formal and informal procedures. By definition, administrative rules communicated agency policies, procedures, and practices binding on persons outside the agency. Valid administrative rules provided agencies with the force of law when imposing requirements on others and the rule making process provided public and Legislative oversight of agency actions.

In the absence of administrative rules, DoIT utilized policies and procedures scattered among organizational units without standardization. For example, DoIT had organization-wide policies, as well as policies for the Technical Support Services Division (TSS) and the Bureau of Finance Administration (BFA). DoIT management and staff reported the distributed policies and procedures needed simplification and increased agency compliance to be effective. Additionally, members of management at DoIT and other agencies reported inconsistent policies and procedures existed between different divisions, and policies were not consistently known or understood by agency customers.

While statute required all agencies to adopt administrative rules, statute was not clear regarding the extent DoIT was required to adopt rules, if at all. For example, areas lacking clarity in statute, included:

- DoIT Commissioner was not specifically granted rule-making authority;
- DoIT was specifically exempted from rule-making for one requirement, which may imply all other requirements in statute were subject to the rule making process; and
- DoIT was mandated to establish statewide policies without specifically exempting the policies from the rule-making process.

DoIT reported having several discussions with legislators about rulemaking authority and the best course of action for establishing statewide IT policies. However, statute was ultimately not clarified. Ensuring statewide IT policies are promulgated in rules would give the Legislature additional oversight of the policies and more clearly compel other agencies to follow them.

**Recommendations:**

We recommend DoIT management adopt IT policies and procedures that are to be followed by other agencies in administrative rules, as required by the *Administrative Procedures Act*, or seek specific legislation exempting it. The Legislature may wish to further clarify the status of DoIT's authority to adopt rules by specifically granting rulemaking authority or exempting DoIT from the requirements of the *Administrative Procedures Act*. If it is determined that rules are not required, the policies should at least be standardized and centralized for easy referencing by affected agencies.

*Auditee Response:*

*DoIT concurs with the recommendation.*

*The department has statutory authority under RSA 21-R:4, XVIII to establish statewide standards and protocols to be adhered to by all executive branch agencies. DoIT currently has statutory authority to adopt a Manual of Procedure (MOP) relative to Telecommunications. The MOP is binding on executive branch agencies. DoIT will work to introduce statutory language to explicitly authorize it to adopt policies and practices that are binding on other agencies. In tandem with this, DoIT has a project currently in progress to review, modify and update all policies and procedures on an annual basis.*

**Observation No. 23**

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**Ensure IT Council Meetings Comply With Statutes**

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DoIT lacked policies and procedures to ensure the Information Technology Council (IT Council) consistently complied with statutory requirements to file statements of financial interest in accordance with RSA 15-A, and properly document non-public sessions as required by RSA 91-A.

**Statements Of Financial Interest**

We found IT Council members only filed 30 of the 53 statements of financial interest (56.6 percent) required during the audit period. As a result, 40 percent of the IT Council meetings were attended by ineligible members and one meeting did not include a quorum of six eligible members. The statutory requirement to file statements of financial interest was to ensure the performance of official duties by public officials would not give rise to a conflict, but the lack of financial disclosure by some IT Council members made potential conflicts less transparent to the public. Public officials, such as IT Council members, were required to annually file statements of financial interest. Filing was necessary to be eligible to serve on the IT Council, and knowing noncompliance was a misdemeanor.

*Our Office of Information Technology Financial and Compliance Audit Report for the Nine Months Ended March 31, 2006 found inconsistent filings of statements of financial interest by IT*

Council members. In 2006, the then OIT reported they would inform IT Council members about their filing requirements and develop a process to ensure ongoing compliance, but no process was effective during the current audit period. Instead, the current Commissioner of DoIT instructed IT Council members to file statements of financial interest at the second meeting of the IT Council during the audit period. However, IT Council membership was constantly changing during the audit period and more consistent reminders were likely needed to ensure compliance.

### **Non-public Session**

RSA 91-A, commonly referred to as the Right-to-Know Law, existed to ensure the greatest possible public access to the actions, discussions, and records of public bodies. The Right-to-Know Law required the retention of meeting minutes and outlined specific procedures for a public body to utilize non-public session. During the audit period, the IT Council went into non-public session once and voted to seal the minutes. When we requested DoIT to produce the non-public minutes, DoIT was unable to locate the minutes, which were a permanent record of the IT Council. Further, the Right-to-Know Law required the IT Council to specifically cite their authority to enter non-public session. While the IT Council generally cited their authority to enter non-public session, the IT Council did not specifically document the reason for entering non-public session.

Although DoIT Commissioner informed the IT Council members about the requirements of the Right-to-Know Law during the initial meeting of the IT Council in 2015, DoIT lacked more consistent reminders, policies, and procedures to assist IT Council members in maintaining compliance.

### **Recommendations:**

**We recommend DoIT management develop policies and procedures to ensure the IT Council maintain consistent compliance with statutory requirements to file statements of financial interest and document non-public sessions. Further, we recommend DoIT management work with the IT Council to ensure ineligible IT Council members do not serve until statements of financial interest are filed.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will ensure the IT Council members have statements of financial interest on file as required by statute. As part of this effort, DoIT will also implement a process to update member's filings on an annual basis.*

*The department will review how minutes are recorded and retained and implement procedures to ensure they are in alignment with the State's Right to Know law (RSA 91-A).*

## Observation No. 24

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### Address Prior Audit Findings

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DoIT management did not resolve all prior audit findings. The Office of Legislative Budget Assistant has conducted two audits of DoIT's predecessor organization since 2006: a financial audit in 2006 and a performance audit in 2008.

The 2006 audit produced several observations, of which four were identified as pertinent to our current audit and remained unresolved during the audit period. We noted management of DoIT's predecessor concurred in part or concurred with all four recommendations. Subject matter of these observations included:

- improve cost allocation process,
- implement continuity of operations plan,
- adopt administrative rules, and
- submit statements of financial interest.

The 2008 audit produced seven recommendations, of which three were either not resolved or partially resolved. We noted management of DoIT's predecessor concurred with all three of these recommendations. Subject matter of these observations included:

- strengthen project management,
- evaluate the entire IT procurement process, and
- implement additional metrics.

The specific reasons why some audit findings were not resolved depended upon the area of deficiency. However, the resultant delays in resolving these findings signaled insufficient managerial control and planning. DoIT Management should create a corrective action plan to address audit findings timely. Unresolved audit findings represent gaps in DoIT's control environment, increasing risk of inefficient and ineffective operations.

### **Recommendation:**

**We recommend DoIT management create a corrective action plan to resolve all prior and current audit findings in a timely manner.**

### **Auditee Response:**

*DoIT concurs with the recommendation.*

*The department will develop a prioritized timeline and project plan with dates and milestones for each of these observations. The department will update and consult with both the IT Council and the Legislative IT Oversight Committee regularly on its progress implementing changes identified in this audit.*

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**APPENDIX A  
SCOPE, OBJECTIVES, AND METHODOLOGY**

**Scope And Objectives**

In November 2015, the Fiscal Committee of the General Court adopted a joint Legislative Performance Audit and Oversight Committee recommendation to conduct a performance audit of the Department of Information Technology (DoIT). The entrance conference with DoIT was held in June 2017 and the oversight committee approved the scope of the audit in October 2017.

Our audit was designed to answer the following question:

**Whether DoIT efficiently and effectively managed and coordinated technology resources in State fiscal years (SFY) 2016 and 2017?**

To answer this question, we evaluated DoIT's customer service and internal operations.

Although cybersecurity ranked high in our assessment of risk, it was not evaluated as part of this audit. DoIT had planned a cybersecurity audit through the capital budget process and we did not want to duplicate such an effort. We also observed several cybersecurity-related audits were conducted by third parties during the audit period, involving DoIT services at the Departments of Revenue Administration, Administrative Services, Health and Human Services, and Safety.

**Methodology**

To gain an understanding of DoIT and its operating, control, and regulatory environments, we:

- reviewed State laws, relevant legislative committee hearings, Information Technology (IT) Council minutes, policies and procedures, the State IT Strategic Plan, budget and financial documents, website and software development standards, DoIT websites, personnel lists, organization charts, performance metrics, management reports, software manuals, agency IT Plans, DoIT staff job classifications, external audit reports, prior Office of Legislative Budget Assistant audits, and similar audits from other states, and relevant news articles and studies;
- interviewed DoIT management and key stakeholders;
- attended a Joint Legislative Information Technology Oversight Committee meeting;
- visited the central help desk and DoIT data center; and
- researched recommended practices in the IT field.

To determine how efficient and effective DoIT was in SFYs 2016 and 2017, we:

- interviewed DoIT management and key stakeholders;
- determined IT system data reliability;
- analyzed technical support processes, financial data, and budget data;

- evaluated project management and prioritization practices, software source code management, procurement procedures, the Continuity of Operations Plan, performance measurement methods, and user access control procedures;
- examined DoIT's cost allocation system, as well as its billing process and the organizational structure; and
- reviewed infrastructure reliability statistics, agency IT plans; procedures for software changes, and IT asset control procedures.

## Surveys

We conducted three surveys in support of the audit's objectives.

### *Technical Support Survey*

To obtain feedback from State employees regarding DoIT's technical support function, we surveyed all 920 employees who had technical support requests submitted in their name between October 8 and October 14, 2017. We received 417 responses for a 45.3 percent response rate.

The results are in Appendix C.

### *DoIT Stakeholder Survey*

To obtain feedback from management at other State agencies regarding DoIT services, we surveyed a management representative at all 37 agencies supported by DoIT. We received 36 replies for a response rate of 97.3 percent.

The results are in Appendix D.

### *IT Leads Survey*

To obtain feedback regarding DoIT's business relationship management services, we surveyed all 15 IT Leads and each replied for a response rate of 100 percent.

The results are in Appendix E.

## Data

### *FootPrints<sup>®</sup> Data*

We analyzed data from FootPrints<sup>®</sup>, DoIT's ticketing system, for most technical service requests submitted in SFY 2016 and SFY 2017. This information was analyzed to determine timeliness and appropriateness of services rendered. Information for a random sample of 131 of these tickets was also collected to determine the efficiency and effectiveness of DoIT's ticketing process. We performed tests on data elements to determine whether the data sets were complete. We determined the data sets were complete after evaluating test results by examining ticket dates, ticket numbers, tickets by agency, and tickets by status. The FootPrints<sup>®</sup> data had several

limitations, including insufficient managerial control over data input and definitions. Therefore, we did not project our results to the entire population.

#### *Tech Center Data*

Data from the Tech Center application from SFYs 2016 and 2017 was analyzed to determine availability of systems supported by DoIT. We determined the data was unreliable based on staff comments, limitations in the system itself, and data entry errors we found.

#### *Approvals and Expenditures Data*

We analyzed data from DoIT's Approvals and Expenditures (A&E) system from SFY 2016 and 2017 to determine efficiency of DoIT financial operations. No limitations were found with this data. However, we note this data was transferred into a separate software system after the audit period without DoIT performing a reconciliation procedure.

#### *Cost Allocation Data*

We analyzed cost allocation metrics and invoice transaction data to determine the efficiency and effectiveness of financial operations. Although the data was found reasonable for the purpose of our analysis, we noted management controls to periodically review allocation data for accuracy was lacking.

### **Maturity Model**

To assess the maturity of DoIT's processes, we used an abbreviated approach incorporating the Control Objectives for Information and related Technologies (COBIT<sup>®</sup>) 5 Process Assessment Model (PAM). According to ISACA<sup>®</sup>, the PAM is an "evidence-based" maturity assessment which evaluates an "enterprise's process capabilities against COBIT<sup>®</sup> 5" standards. A report from the Institute of Internal Auditors (IIA) states "maturity models," in general, "establish a systematic basis of measurement for describing the [current] state of [an organization or] process." The use of a maturity model can also enable continuous improvement of performance. The IIA report further states that while outcome metrics can provide the ultimate criteria for measuring the success of a program, understanding how effectively the processes leading to those outcomes are designed and functioning can facilitate systematic process improvements. The PAM had 37 processes used for evaluating an organization's maturity. We selected 12 which we determined as essential to DoIT's operations, including areas such as strategy, budget and costs, operations, and service availability (see Table 8). Then, using the PAM framework, we evaluated DoIT based on these 12 processes and the six capability dimensions defined by COBIT<sup>®</sup>. The six dimensions were—going from least to most mature—implemented, performed, managed, predictable, and optimized. Starting at the least mature dimension, we evaluated DoIT using PAM-defined criteria, then calculated an overall average score for each process by converting the six capability dimensions into numbers zero through six.

**Table 8**

**DoIT Maturity Evaluation Using COBIT® Process Assessment Model**

Process	PAM Capability Dimensions <sup>1</sup>					
	Level 0- Implemented	Level 1- Performed	Level 2- Managed	Level 3- Established	Level 4- Predictable	Level 5- Optimizing
Ensure Governance Framework Setting and Maintenance	F	P	N	N	N	N
Manage the IT Management Framework	F	P	N	N	N	N
Manage Strategy	F	P	N	N	N	N
Manage Budget and Costs	F	P	N	N	N	N
Manage Human Resources	F	P	N	N	N	N
Manage Service Agreements	F	P	N	N	N	N
Manage Programs and Projects	F	P	N	N	N	N
Manage Availability and Capacity	F	L	P	N	N	N
Manage Operations	F	L	P	N	N	N
Manage Service Requests and Incidents	F	P	N	N	N	N
Manage Continuity	F	N	N	N	N	N
Monitor, Evaluate, and Assess Performance and Conformance	F	P	N	N	N	N

Key: F-Fully Achieved, L-Largely Achieved, P-Partially Achieved, N-Not Achieved

Note:

<sup>1</sup>Under the PAM approach, the assessor must rank the organization at “Largely Achieved” or higher for a given capability dimension before they can assess the organization at the next level.

Source: LBA analysis using COBIT® PAM evaluation tool

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**APPENDIX B  
DEPARTMENT OF INFORMATION TECHNOLOGY  
RESPONSE TO AUDIT**



**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF INFORMATION TECHNOLOGY**  
27 Hazen Dr., Concord, NH 03301  
Fax: 603-271-1516 TDD Access: 1-800-735-2964

www.nh.gov/doit

**Denis Goulet**  
*Commissioner*

March 1, 2018

The Honorable Neal M. Kirk, Chairman  
Fiscal Committee of the General Court  
and Members of the Committee  
State House  
Concord NH 03301

RE: Response to performance audit report by Office of the Legislative Budget Assistant – “2018 Performance Audit Report,  
*Department of Information Technology*”

Dear Chairman Kurk and Members of the Committee:

We thank the Committee for the opportunity to comment on the recent performance audit report issued by the Office of the Legislative Budget Assistant (LBA) for the Department of Information Technology (DoIT).

First and foremost, I share my sincerest thanks and appreciation to the LBA management and audit staff for their hard work pursuant to this audit. I especially want to thank John Clinch, Mark Manganiello, and Jonah Fjeldsted for their dedication, flexibility, and professionalism. The audit team took the time to research IT best practices and the details associated with IT governance methodologies, which lends credibility to the audit findings. The amount of time they spent delving into every aspect of DoIT in an extremely detailed manner is a testament of their commitment to their job and the citizens of NH.

From the beginning, DoIT viewed this audit as an opportunity to improve. Taking this positive approach allowed the DoIT team to transparently share information at all levels with the intent of improving the accuracy and completeness of the audit results. Starting in the last biennium, DoIT has leveraged the theme “elevating DoIT” as a description of our ongoing continuous improvement efforts. While we have made progress, there are, and always should be, areas where we will strive to improve.

I am quite pleased that the audit findings align so well with the principles embodied in the DoIT Statewide Strategic Information Technology Plan\* that was ratified by the Information Technology Council in 2017. This gives us confidence that we are already on the right track. The work of the audit team has documented opportunities to continue on this path and accelerate our improvement. DoIT is committed to moving forward to address these findings in an organized, prioritized and workman like manner.

Once again, I thank the LBA and the audit team for assisting DoIT in helping to bring clarity and focus to our ongoing continuous improvement effort, “elevating DoIT”.

Sincerely,

A handwritten signature in blue ink, appearing to read "Denis Goulet".

Denis Goulet

DG/pb

*“Innovative Technologies Today for New Hampshire's Tomorrow”*

\* <https://www.nh.gov/doit/strategic/documents/strategic-plan-body.pdf>

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**APPENDIX C  
SURVEY OF STATE EMPLOYEES REGARDING TECHNICAL SUPPORT SERVICES**

We sent surveys to all 920 State employees requesting DoIT service desk assistance between October 8, and October 14, 2017. We received 417 responses for a 45.3 percent response rate. We combined and simplified similar answers to open-ended questions and presented them in topical categories; multipart responses were counted in multiple categories where applicable. Some totals in the following tables may not add up to 100 percent due to rounding or where respondents could respond multiple times to the same question.

<b>Question 1. Why did you require DoIT technical support? Please select all that apply.</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Issues with hardware (computer, printer, or mobile device)	177	42.4
Issues with software (i.e., Microsoft Office <sup>®</sup> , internet browser, other applications)	184	44.1
Issues with network (i.e., internet or shared file access)	110	26.4
Issues with website	22	5.3
Other (please specify)	122	29.3
	<b>417</b>	
	<b>0</b>	

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 1. Text Responses, Other:</b>	<b>Count</b>
Hardware assistance	24
Sign in/Password issue	22
Software assistance	21
Create/Delete Account	17
Network assistance	13
Security/Access assistance	12
Don't remember	9
Staff/Computer moved	7
Email assistance	6
Needed access to a website	2
Other	11
	<b>122</b>

*provided comment*      **122**

<b>Question 2. How were your technical support requests submitted? Please select all that apply.</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Phone	147	35.3
Email	310	74.3
Web	28	6.7
Contacted my agency's DoIT point of contact (IT lead)	42	10.1
Other (please specify)	20	4.8

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 2. Text Responses, Other:</b>	<b>Count</b>
FootPrints	6
On site IT support	6
Email	2
Do not remember	2
Supervisor	2
Phone	1
Uncategorized	2

*provided comment*      **21**

<b>Question 3. Has your issue(s) been resolved?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes, by DoIT personnel	351	84.2
Yes, by non-DoIT personnel	18	4.3
No	25	6.0
Unsure	23	5.5

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 4. Overall, how satisfied were you with the services provided by DoIT during these technical support requests?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	317	76.0
Somewhat satisfied	56	13.4
Neither satisfied nor dissatisfied	17	4.1
Somewhat dissatisfied	13	3.1
Dissatisfied	10	2.4
Unsure	4	1.0

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 4. Additional information provided by respondent (optional):</b>	<b>Count</b>
Quick response	22
Takes too much time to resolve	18
Exceptional/Excellent	16
Helpful	11
Professional	7
Not helpful	6
Poor communication	3
Friendly	2
Have not heard back	2
Satisfied	2
Don't remember	2
Other	25

*provided comment* **85**

**Question 5. Please indicate your level of satisfaction with DoIT services provided during your recent technical support requests based on the following categories:**

<b>Answer Options</b>	<b>Excellent</b>	<b>Above Average</b>	<b>Average</b>	<b>Below Average</b>	<b>Poor</b>	<b>Unsure</b>	<b>Response Count</b>
Ease of submitting technical support service requests	257 (61.6%)	88 (21.1%)	56 (13.4%)	12 (2.9%)	1 (0.2%)	3 (0.7%)	417
Level of communication during the time your support requests were in process	194 (46.5%)	105 (25.2%)	84 (20.1%)	23 (5.5%)	8 (1.9%)	3 (0.7%)	417
Professionalism of support service staff	262 (62.8%)	100 (24.0%)	44 (10.6%)	4 (1.0%)	1 (0.2%)	6 (1.4%)	417
Timeliness of responses from first contact to resolution	211 (50.6%)	93 (22.3%)	62 (14.9%)	24 (5.8%)	18 (4.3%)	9 (2.2%)	417
Ability to resolve your service requests	221 (53.0%)	101 (24.2%)	61 (14.6%)	13 (3.1%)	10 (2.4%)	11 (2.6%)	417
Overall rating for technical support services	215 (51.6%)	117 (28.1%)	66 (15.8%)	10 (2.4%)	5 (1.2%)	4 (1.0%)	417

*respondent answered question* **417**

*respondent skipped question* **0**

**Question 6. Did your technical support issues require you to call or email the DoIT central service desk?**

<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	259	62.1
No	99	23.7
Unsure	59	14.1

*respondent answered question* **417**

*respondent skipped question* **0**

<b>Question 7. Overall, how satisfied were you with the performance of the service desk personnel during these contacts? (Service desk personnel are those who typically answer the phone or reply to emails for initial requests)</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	238	74.8
Somewhat satisfied	31	9.7
Neither satisfied nor dissatisfied	17	5.3
Somewhat dissatisfied	8	2.5
Dissatisfied	2	0.6
Unsure	22	6.9
<i>respondent answered question</i>		<b>318</b>
<i>respondent skipped question</i>		<b>99</b>

<b>Question 7. Additional information provided by respondent (optional):</b>	<b>Count</b>	
Poor communication	10	
Professional	8	
Quick response/Callback	6	
Excellent assistance	4	
Did not help	3	
Other	19	
<i>provided comment</i>		<b>41</b>

<b>Question 8. Were visits from a DoIT technician or other DoIT personnel required to resolve your issues?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	165	39.6
No	229	54.9
Unsure	23	5.5
<i>respondent answered question</i>		<b>417</b>
<i>respondent skipped question</i>		<b>0</b>

<b>Question 9. How satisfied were you with the performance of the DoIT technicians during these visits?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	149	79.3
Somewhat satisfied	8	4.3
Neither satisfied nor dissatisfied	6	3.2
Somewhat dissatisfied	5	2.7
Dissatisfied	4	2.1
Unsure	16	8.5
<i>respondent answered question</i>		<b>188</b>
<i>respondent skipped question</i>		<b>229</b>

<b>Question 9. Additional information provided by respondent (optional):</b>	<b>Count</b>
Excellent	9
Helpful	8
Issue was unresolved	4
Do not remember	2
Responsive	2
Other	6

*provided comment*                      **26**

**Question 10. DoIT uses the following benchmarks in providing services to customers. Each benchmark represents the amount of time within which DoIT aims to resolve the associated issue. Please rate the reasonableness of each benchmark:**

<b>Answer Options</b>	<b>Reasonable</b>	<b>Somewhat Reasonable</b>	<b>Neither Reasonable Nor Unreasonable</b>	<b>Somewhat Unreasonable</b>	<b>Unreasonable</b>	<b>Unsure</b>	<b>Response Count</b>
Critical Outage (Statewide problem affecting many users): Resolved in 1 hour	258 (61.9%)	43 (10.3%)	31 (7.4%)	6 (1.4%)	7 (1.7%)	72 (17.3%)	417
Urgent (single user or group outage with no work around): Resolved in 4 hours	186 (44.6%)	95 (22.8%)	32 (7.7%)	27 (6.5%)	12 (2.9%)	65 (15.6%)	417
High (single user or group outage with a work around): Resolved in 1 business day	193 (46.3%)	100 (24.0%)	33 (7.9%)	19 (4.6%)	10 (2.4%)	62 (14.9%)	417
Medium (all problems affect one user and work around exists): Resolved in 5 business days	164 (39.3%)	89 (21.3%)	48 (11.5%)	35 (8.4%)	19 (4.6%)	62 (14.9%)	417
Medium Low (application functionality and informational issues): Resolved in 10 business days	144 (34.5%)	77 (18.5%)	44 (10.6%)	58 (13.9%)	22 (5.3%)	72 (17.3%)	417
Low (problems require scheduling, application fix, or ordering of a part): Resolved in 30 business days	138 (33.1%)	74 (17.7%)	54 (12.9%)	53 (12.7%)	33 (7.9%)	65 (15.6%)	417

*respondent answered question*                      **417**  
*respondent skipped question*                      **0**

<b>Question 11. Would a service level agreement outlining DoIT services provided and service time targets be useful for your agency?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	158	37.9
No	75	18.0
Unsure	184	44.1

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 12. Overall, how satisfied are you with the services provided to your agency by DoIT?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	283	67.9
Somewhat satisfied	81	19.4
Neither satisfied nor dissatisfied	24	5.8
Somewhat dissatisfied	19	4.6
Dissatisfied	4	1.0
Unsure	6	1.4

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 12. Additional information provided by respondent (optional):</b>	<b>Count</b>
Prompt resolution	8
Slow	6
Excellent staff	5
Satisfied	4
Understaffed	4
Professional	3
Poor communication	2
Priorities are different	2
Problem unresolved	2
Unhelpful	2
Website insufficient	2
Other	26

*provided comment*      **50**

<b>Question 13. What is your opinion of the efficiency of DoIT services?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Efficient	231	55.4
Somewhat efficient	112	26.9
Neither efficient nor inefficient	25	6.0
Somewhat inefficient	22	5.3
Inefficient	14	3.4
Unsure	13	3.1

*respondent answered question*      **417**  
*respondent skipped question*      **0**

<b>Question 13. Additional information provided by respondent (optional):</b>	<b>Count</b>
Efficient	11
Excellent	4
Understaffed	4
Some workers show little initiative	4
They do the best they can	3
Ticketing is inefficient	3
Hardware is an issue	2
Bureaucratic	2
IT support is inefficient	2
Slow response	2
Software issues get fixed quickly, hardware issues are slow	2
Other	18

*provided comment*      **43**

<b>Question 14. Do you have any other feedback regarding DoIT services?</b>	
<b>Comments</b>	<b>Count</b>
No	33
Quick response	16
Need better communication	6
Professional	5
Return control to agencies	4
Need quicker response	2
Understaffed	2
Other	28

*provided comment*      **139**  
*did not provide comment*      **278**

**Question 15. If you would like to receive a link to our report when it becomes public, please provide an email address below. (We will not report or retain this email address after the report is made public.)**

<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
No, thank you.	328	78.7
Yes. (Please provide email address)	89	21.3

*respondent answered question*      **417**  
*respondent skipped question*      **0**

**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF INFORMATION TECHNOLOGY**

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**APPENDIX D  
SURVEY OF DoIT STAKEHOLDERS**

We sent surveys to the 37 agency heads identified as Department of Information Technology (DoIT) customers. We received 36 responses for a 97.3 percent response rate. We combined and simplified similar answers to open-ended questions and presented them in topical categories; multipart responses were counted in multiple categories where applicable. Some totals in the following tables may not add up to 100 percent due to rounding or where respondents could respond multiple times to the same question.

<b>Question 1. Overall, how satisfied are you with the services provided to your agency by DoIT?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	19	52.8
Somewhat satisfied	11	30.6
Neither satisfied nor dissatisfied	5	13.9
Somewhat dissatisfied	0	0.0
Dissatisfied	1	2.8
Unsure	0	0.0

*respondent answered question*                   **36**  
*respondent skipped question*                   **0**

<b>Question 1. Additional information provided by respondent (optional):</b>	<b>Count</b>
Certainly improved over prior management.	1
Support through the Agency Software Division (ASD) is very good, but support from Web Services Division (WSD) is poor. ASD knows we are their customer and partner. WSD believes we are here to do what they want.	1
Uptime Security = A+ Desktop Support = B+ Support for specialized software = C-	1
Our support team is always very helpful.	1
The Department of State has its own IT department, so we utilize DoIT for certain support functions.	1
Our DoIT partners are responsive to our needs, provide consultation on forecasting or triaging events, and are timely during emergent events.	1
IT has been a challenge to my agency since I started working there in January 2017.	1
Very satisfied with the in-house support, but larger website projects, hours of support, and database management fail to meet the needs of the agency.	1
Desktop Services is very quick and responsive. I think our DoIT staff gives us more data analysis service than most agencies would expect.	1
Hard to navigate Help Desk ticket system.	1

<b>Question 1. Additional information provided by respondent (optional):</b> <i>(Continued)</i>	<b>Count</b>
Our DoIT embedded staff, as well as management at DoIT are incredibly responsive to our needs. It is clear that their goal is to make sure that our agency is successful.	1
Help desk responses are quick and effective. On the other hand, major projects and staffing needs are addressed very slowly and, if they are dealt with, results are often unsatisfactory.	1
We value the DoIT staff embedded at our agency. The limited number of DoIT staff servicing the entire State & the lack of flexibility in process leads to frustration.	1
DoIT's tools to manage finance and bill in a timely manner are deficient. Money lapses and projects go unfished due to a lack of timely information on fund balances and expenditures.	1

*provided comment*      **14**

<b>Question 2. Please indicate your agency's level of satisfaction with the following services provided by DoIT.</b>								
<b>Answer Options</b>	<b>Satisfied</b>	<b>Somewhat satisfied</b>	<b>Neither satisfied nor dissatisfied</b>	<b>Somewhat dissatisfied</b>	<b>Dissatisfied</b>	<b>Does not provide this service</b>	<b>I don't know</b>	<b>Response Count</b>
Cybersecurity	22 (61.1%)	9 (25.0%)	1 (2.8%)	0 (0.0%)	0 (0.0%)	2 (5.6%)	2 (5.6%)	36
Database administration	12 (33.3%)	6 (16.7%)	3 (8.3%)	4 (11.1%)	1 (2.8%)	7 (19.4%)	3 (8.3%)	36
Data storage	9 (25.0%)	13 (36.1%)	3 (8.3%)	4 (11.1%)	0 (0.0%)	5 (13.9%)	2 (5.6%)	36
Data recovery	11 (30.6%)	8 (22.2%)	3 (8.3%)	1 (2.8%)	0 (0.0%)	4 (11.1%)	9 (25.0%)	36
Report writing from data systems	11 (30.6%)	5 (13.9%)	2 (5.6%)	2 (5.6%)	1 (2.8%)	9 (25.0%)	6 (16.7%)	36
Email	20 (55.6%)	8 (22.2%)	2 (5.6%)	1 (2.8%)	1 (2.8%)	4 (11.1%)	0 (0.0%)	36
Help desk services	24 (66.7%)	7 (19.4%)	2 (5.6%)	0 (0.0%)	0 (0.0%)	3 (8.3%)	0 (0.0%)	36
Information technology contracts/ procurement	9 (25.0%)	8 (22.2%)	8 (22.2%)	2 (5.6%)	3 (8.3%)	3 (8.3%)	3 (8.3%)	36
Internet access	22 (61.1%)	6 (16.7%)	2 (5.6%)	5 (13.9%)	0 (0.0%)	1 (2.8%)	0 (0.0%)	36
Networking	19 (52.8%)	7 (19.4%)	5 (13.9%)	1 (2.8%)	0 (0.0%)	4 (11.1%)	0 (0.0%)	36
Information technology expertise and advice	16 (44.4%)	10 (27.8%)	4 (11.1%)	4 (11.1%)	0 (0.0%)	2 (5.6%)	0 (0.0%)	36
Software/application development	8 (22.2%)	7 (19.4%)	7 (19.4%)	1 (2.8%)	4 (11.1%)	4 (11.1%)	5 (13.9%)	36
Information technology vendor management	8 (22.2%)	8 (22.2%)	5 (13.9%)	3 (8.3%)	1 (2.8%)	5 (13.9%)	6 (16.7%)	36
Application maintenance	10 (27.8%)	12 (33.3%)	4 (11.1%)	3 (8.3%)	1 (2.8%)	5 (13.9%)	1 (2.8%)	36
Project management	6 (16.7%)	8 (22.2%)	6 (16.7%)	3 (8.3%)	2 (5.6%)	6 (16.7%)	5 (13.9%)	36
Technical support	19 (52.8%)	10 (27.8%)	2 (5.6%)	2 (5.6%)	0 (0.0%)	3 (8.3%)	0 (0.0%)	36
Web page support	12 (33.3%)	7 (19.4%)	6 (16.7%)	2 (5.6%)	3 (8.3%)	6 (16.7%)	0 (0.0%)	36

*respondent answered question*      **36**  
*respondent skipped question*      **0**

<b>Question 3. How satisfied are you with DoIT’s ability to provide or assist your agency in finding the information technology solutions your agency needs?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	11	30.6
Somewhat satisfied	13	36.1
Neither satisfied nor dissatisfied	5	13.9
Somewhat dissatisfied	5	13.9
Dissatisfied	1	2.8
Unsure	1	2.8

*respondent answered question*                    **36**  
*respondent skipped question*                    **0**

<b>Question 3. Additional information provided by respondent (optional):</b>	<b>Count</b>
200 characters is not sufficient for a response. The survey should have been modified.	1
When it comes to the administration of my agency’s software application, DoIT needs to provide more expertise and resources to ensure quality solutions are delivered in a timely fashion.	1
DoIT does a great job with all of the services provided to my agency. One idea to consider would be adding analysts to help agencies move forward with projects.	1
No database or SQL support, which is very important to this agency. DoIT is willing to try to suggest vendor solutions, but most times, the agency must find its own solutions.	1
We have one large database that has been in need of replacement for years and it has been a lengthy project finding an application to replace it.	1
Sometimes, the speed at which the assistance is provided is a bit slow.	1
At times, there seems to be somewhat of a “hot potato” effect where no one wants to own a particular solution.	1
We involve DoIT as a result of needing their approvals.	1
DoIT has been invaluable in our agency’s search for new technology solutions to meet our needs. They are always willing to offer their expertise and use their connections for our agency’s benefit.	1
The project manager for my agency’s project hasn’t done well identifying our system needs and helping us make the necessary changes.	1
For agency specific systems, we get some support from our dedicated DoIT staff, but our frustration is how Statewide systems are purchased and ensuring they meet Statewide needs.	1
Our biggest concern has been web forms, which are taking a long, long time to be constructed. We previously had a very satisfactory system. Otherwise, we are very satisfied.	1

*provided comment*                    **12**

<b>Question 4. In your opinion, do you think a written service level agreement between your agency and DoIT would improve your customer relationship or level of service provided?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	9	25.0
No	15	41.7
Unsure	12	33.3

*respondent answered question*      **36**  
*respondent skipped question*      **0**

<b>Question 5. In a word or short phrase, please explain why you think a service level agreement would improve or not improve your customer relationship or level of service provided.</b>	
<b>Comments</b>	<b>Count</b>
A service level agreement would clarify expectations through the alignment of goals and responsibilities.	7
A written agreement will not change the relationship or performance, as DoIT services are obligatory.	3
Lacks staff, resources, and expertise to meet a service level agreement.	3
I do not think it is necessary, as DoIT is responsive-things are good as they are.	2
Severity matrix, hours to resolution, less emotion to issues, penalties, acceptable quality for each issue.	1
This would give clear guidance on what services the agency would need to outsource or employ internally.	1
We are a very small agency and feel one on one contact is a better way to deal with any issues.	1
We are all State agencies working for the best mutual outcome – why create more paperwork/work for staff, who are already overworked?	1
Our relationship with DoIT is “as needed,” or on a project-by-project basis.	1
We already have the opportunity to work closely as colleagues.	1
I feel for the most part, DoIT is very responsive to our needs, with the exception of a specific project within my agency.	1
Need action, not promises.	1
Has the potential to unduly restrict the relationship.	1

*provided comment*      **24**  
*respondent skipped question*      **12**

<b>Question 6. How satisfied is your agency with the alignment of information technology services received from DoIT and your agency's strategic plans?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	12	33.3
Somewhat satisfied	10	27.8
Neither satisfied nor dissatisfied	8	22.2
Somewhat dissatisfied	2	5.6
Dissatisfied	2	5.6
Unsure	2	5.6

*respondent answered question*                    **36**  
*respondent skipped question*                    **0**

<b>Question 6. Additional information provided by respondent (optional):</b>	<b>Count</b>
There is really no alignment at this time because of the absence of long range strategic plans.	1
We have several software tools as part of our plan, and there are not many resources available from DoIT to complete these projects.	1
Some parts of DoIT work as strategic partners, others (WSD) do not.	1
Website update process is low and very expensive. Strategic plan is limited by DoIT abilities.	1
At present, we utilize the State's IT at a very minimal level.	1
More flexibility to meet our agency's strategic needs. The biggest weakness is hours of service. We engage with our customers outside of the 8-4 M-F model.	1
We support Statewide enterprise systems to reduce costs & eliminate duplicate systems, but DoIT doesn't do adequate outreach to make sure the solution will meet Statewide needs.	1
We are currently in the process of converting to a fully supported agency by DoIT, which leaves us unable to comment on many of the services as we have yet to use them.	1
We think that there are a lot of opportunities to facilitate data receipt and processing. Other than that, we are largely satisfied.	1

*provided comment*    **9**

**Question 7. How satisfied is your agency with DoIT’s understanding of your agency’s information technology priorities?**

Answer Options	Count	Percent
Satisfied	17	47.2
Somewhat satisfied	10	27.8
Neither satisfied nor dissatisfied	5	13.9
Somewhat dissatisfied	2	5.6
Dissatisfied	1	2.8
Unsure	1	2.8

*respondent answered question*      **36**  
*respondent skipped question*      **0**

Question 7. Additional information provided by respondent (optional):	Count
Embedded staff understand priorities, but don’t always see alignment with Statewide or centralized resources.	3
For some priorities, DoIT is attentive. Other times, DoIT is unable to help. Website update/upgrade is difficult and costly to produce.	1
My IT Lead has a good understanding of our agency and asks questions to obtain more knowledge when needed.	1
Though, our agency’s IT priorities could rapidly be changing.	1
Largely satisfied would be a more accurate response.	1

*provided comment*      **7**

**Question 8. Since July 1, 2015, has your agency worked with DoIT to develop a software application for your agency?**

Answer Options	Count	Percent
Yes	15	41.7
No	13	36.1
Unsure	8	22.2

*respondent answered question*      **36**  
*respondent skipped question*      **0**

<b>Question 9. For each statement below, please indicate your level of agreement as it relates to software development.</b>								
<b>Answer Options</b>	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>Neither agree nor disagree</b>	<b>Somewhat disagree</b>	<b>Disagree</b>	<b>I don't know</b>	<b>Not applicable</b>	<b>Response Count</b>
DoIT effectively performed project management throughout the application development process(es).	1 (6.7%)	4 (26.7%)	1 (6.7%)	3 (20.0%)	4 (26.7%)	1 (6.7%)	1 (6.7%)	15
DoIT effectively assisted my agency in defining business requirements for the application(s).	3 (20.0%)	4 (26.7%)	2 (13.3%)	2 (13.3%)	3 (20.0%)	1 (6.7%)	0 (0.0%)	15
DoIT effectively solicited input of stakeholders and potential users of the software applications(s).	2 (13.3%)	6 (40.0%)	0 (0.0%)	3 (20.0%)	2 (13.3%)	1 (6.7%)	1 (6.7%)	15
DoIT effectively assisted my agency in developing a return on investment or cost-benefit analysis for the project(s).	1 (6.7%)	2 (13.3%)	2 (13.3%)	2 (13.3%)	4 (26.7%)	1 (6.7%)	3 (20.0%)	15
DoIT effectively provided project plan(s) with realistic time schedules.	2 (13.3%)	3 (20.0%)	2 (13.3%)	2 (13.3%)	4 (26.7%)	1 (6.7%)	1 (6.7%)	15
DoIT effectively provided or planned an adequate testing environment and testing procedures for the application(s).	2 (13.3%)	6 (40.0%)	1 (6.7%)	3 (20.0%)	1 (6.7%)	1 (6.7%)	1 (6.7%)	15
DoIT effectively addressed issues and concerns during the project(s).	4 (26.7%)	5 (33.3%)	0 (0.0%)	2 (13.3%)	3 (20.0%)	1 (6.7%)	0 (0.0%)	15

*respondent answered question*      **15**  
*respondent skipped question*      **21**

<b>Question 10. Since July 1, 2015, has DoIT provided operational support or maintenance for a software application within your agency?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	20	55.6
No	8	22.2
Unsure	8	22.2
<i>respondent answered question</i>		<b>36</b>
<i>respondent skipped question</i>		<b>0</b>

<b>Question 11. Are you satisfied with the operational support and maintenance you received from DoIT for your software applications?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	8	40.0
Somewhat satisfied	5	25.0
Neither satisfied nor dissatisfied	3	15.0
Somewhat dissatisfied	2	10.0
Dissatisfied	2	10.0
Unsure	0	0.0
<i>respondent answered question</i>		<b>20</b>
<i>respondent skipped question</i>		<b>16</b>

<b>Question 11. Additional information provided by respondent (optional):</b>	<b>Count</b>
Again, resources and expertise are a challenge.	1
A specific IT project has been significantly delayed by unwillingness to work on a better operational support and maintenance model.	1
To the extent DoIT offered support, support was competent and efficient. However, DoIT's scope of support is limited.	1
My IT Lead has always been very supportive and helped or gotten us assistance as needed to work through any issues we had.	1
The provided support for multiple systems in different environments with different levels of performance.	1
Staff has skills, but lack redundancy and adequate resources overall.	1
<i>provided comment</i>	<b>6</b>

<b>Question 12. Overall, how strongly would you agree with the following statement: “DoIT provides good value for its cost to my agency”?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Strongly agree	6	16.7
Agree	11	30.6
Neither agree nor disagree	12	33.3
Disagree	5	13.9
Strongly disagree	1	2.8
Unsure	1	2.8

*respondent answered question*                    **36**  
*respondent skipped question*                    **0**

<b>Question 12. Additional information provided by respondent (optional):</b>	<b>Count</b>
As the cost is not negotiated for a scope of work, value is hard to determine. Cost is simply assessed.	1
We pay DoIT about twice our direct cost – our share of “overhead.” All things being equal, I would be interested to see what an outside provider could do for us for that money.	1
Because at present, we do not use DoIT to its fullest extent, I can neither agree nor disagree.	1
I understand there is a cost associated with the service, but there isn’t a clear understanding of the cost basis we’re charged.	1
Although DoIT is improving in this area, it can be difficult to answer “agree” with that statement without greater insight into budgeting and costs.	1
Centralization of DoIT assets has created an entity too large to manage properly.	1
There is great value in certain services and certain employees, but it’s not consistent across all services and employees.	1
I’m happy with the services that DoIT provides, but it is difficult to analyze the appropriateness of the various costs.	1
A specific agency IT project has been somewhat disappointing.	1
I have answered “unsure” or “don’t know” for several questions. The director, who would normally answer your survey is out of the office for a period of time. I answered to the best of my knowledge.	1

*provided comment*                    **10**

<b>Question 13. For each statement below, please indicate your level of agreement.</b>							
<b>Answer Options</b>	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>Neither agree nor disagree</b>	<b>Somewhat disagree</b>	<b>Disagree</b>	<b>I don't know</b>	<b>Response Count</b>
DoIT's overall costs are fair.	6 (16.7%)	11 (30.6%)	10 (27.8%)	6 (16.7%)	0 (0.0%)	3 (8.3%)	36
DoIT's costs are transparent.	5 (13.9%)	9 (25.0%)	8 (22.2%)	12 (33.3%)	0 (0.0%)	2 (5.6%)	36
DoIT's billing methods are easy to understand.	5 (13.9%)	8 (22.2%)	9 (25.0%)	10 (27.8%)	1 (2.8%)	3 (8.3%)	36
DoIT's cost allocation methods are easy to understand.	4 (11.1%)	8 (22.2%)	11 (30.6%)	8 (22.2%)	3 (8.3%)	2 (5.6%)	36
DoIT provides my agency with useful information about the services I receive and their associated costs.	6 (16.7%)	10 (27.8%)	12 (33.3%)	6 (16.7%)	0 (0.0%)	2 (5.6%)	36

*respondent answered question*      **36**  
*respondent skipped question*      **0**

<b>Question 14. Overall, how satisfied are you with the DoIT procurement process?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	10	27.8
Somewhat satisfied	7	19.4
Neither satisfied nor dissatisfied	9	25.0
Somewhat dissatisfied	7	19.4
Dissatisfied	2	5.6
Unsure	1	2.8

*respondent answered question*      **36**  
*respondent skipped question*      **0**

<b>Question 14. Additional information provided by respondent (optional):</b>	<b>Count</b>
Contracting requirements are lengthy and time consuming, which hinders progress; painful.	4
The process would benefit from greater transparency and information sharing.	1
Average contract tasks can take over a year to get to the point when the contract is ready for the Governor & Council.	1
For equipment – procurement items; satisfied – however, for software or things to contract for, the process is too time consuming. We have lost budgeted funds because of the process.	1
My agency does not use DoIT for procurement.	1
For Statewide service, the process is effective. When it’s a local agency-specific process, it could be more seamless.	1
I do understand the need to address security components, but much of the paperwork seems like overkill. It took nearly 18 months and over 80 pages for a \$20k system service contract. Ouch.	1
The process at times, shuts down early in the fiscal year, and can be restrictive when DoIT is unwilling to bring items to the Fiscal Committee.	1
Tools to manage procurement are antiquated and approvals take too long.	1
Small items go well, bigger purchases take a long time.	1

*provided comment*      **10**

<b>Question 15. In what areas could DoIT improve its service delivery or operations?</b>	
<b>Comments</b>	<b>Count</b>
DoIT requires additional State funding to provide necessary services and resources to agencies.	5
Improve communication.	3
Improve web services.	2
Streamline contracting.	2
DoIT needs to be the leading advocate for IT needs of all departments.	1
More oversight of the technical resources that support the agency.	1
Business and system requirement assistance for software development.	1
Working with us to optimize our outcome versus telling us how you are willing to operate (one group) would be welcome. ASD is good.	1
Enhance types of support (especially database support) and aim more resources at web design/support.	1
Software has some blocks. When an agency finds a program that will work, DoIT says “No,” and it takes years to get a new system.	1
We like our IT lead, but we need her to be available more to our agency. I believe this is currently being worked on.	1
Education to all agencies on the procurement process and forecast information on Statewide products.	1
Again, not using enough of the services to be able to judge their delivery or their operations.	1
More flexible hours of operation to meet the customers’ (agencies) needs.	1

<b>Question 15. In what areas could DoIT improve its service delivery or operations?</b> <i>(Continued)</i>	
<b>Comments</b>	<b>Count</b>
I am satisfied with how they provide services and operations.	1
Improve my agency's application uptime availability.	1
Needs an ability to provide resources when agencies have funds to pay. Agencies should not suffer when DoIT has a vacant position.	1
Service agreements.	1
Better support coverage, broader and deeper technology capabilities.	1
I don't have any concerns about service delivery or operations.	1
Move toward more reliable storage of data.	1
Improve performance of project managers.	1
Do a better job with aligning individual agency business needs with IT solutions.	1
Report writing, email, project management, and IT budget development.	1
General service is very good and responsive. Contracted services with outside vendors is less satisfactory.	1

*provided comment*                      **28**

<b>Question 16. If you would like to receive a link to our report when it becomes public, please provide an email address below. (We will not report or retain this email address after the report is made public.)</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
No, thank you.	14	38.9
Yes. (Please provide email address)	22	61.1

*respondent answered question*                      **36**  
*respondent skipped question*                                      **0**

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**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF INFORMATION TECHNOLOGY**

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**APPENDIX E  
SURVEY OF IT LEADS**

We sent surveys to the 15 Information Technology (IT) Leads within the Agency Software Division. We received 15 responses for a 100 percent response rate. We combined and simplified similar answers to open-ended questions and presented them in topical categories; multipart responses were counted in multiple categories where applicable. Some totals in the following tables may not add up to 100 percent due to rounding or where respondents could respond multiple times to the same question.

<b>Question 1. In your opinion, please describe the role of the IT Lead.</b>	
<b>Comments</b>	<b>Count</b>
Represent all DoIT services and not just software applications	15
IT planning or strategy	10
Budget management	9
Project management	8
Staff management	7
Procurement management	6
Enforce or develop policies	4
Security	2
Training and development	2
Statistics, research, and reporting	1
Help Desk – Customer support	1
There are many historical tactical responsibilities that are administrative or clerical in nature	1
<i>provided comment</i>	<b>15</b>

**Question 2. According to a review of tickets in Footprints, we found Agency Software Division employees were completing non-software related tickets. What percentage of time do you estimate you and employees under your supervision work on non-software related activities?**

<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
0%	0	0.0
5%	1	6.7
10%	4	26.7
15%	1	6.7
20%	0	0.0
25%	1	6.7
30%	3	20.0
35%	1	6.7
40%	0	0.0
45%	0	0.0
50%	2	13.3
55%	1	6.7
>60%	1	6.7
Unsure	0	0.0

*respondent answered question*                    **15**  
*respondent skipped question*                    **0**

<b>Question 2. Additional information provided by respondent (optional):</b>	<b>Count</b>
My agency is involved with the operations of the Division of Technical Support Services.	2
IT includes many other tasks than those that are software related. These other areas of responsibility include hardware procurements/issues, regulatory reporting/auditing from an IT perspective, general project feasibility, and planning as it pertains to the IT component, process improvement, IT security, and so on.	1
The majority of our activities are software related, but my assigned agency does look to us to assist with use of Microsoft Office® products.	1
Infrastructure oversight projects are not software.	1
Examples include tickets that I get as IT Lead regarding desktop exception requests, and issues that are part software and part server.	1
We do not just handle software; we manage the entire IT stack.	1
Some members of my group are involved in infrastructure, contract, project management, and procurement support that is not software related.	1
Resources are so scarce that we need to be a gap fill when necessary.	1
Around 30 percent of my time has been on critical outages, ICR, R&R, equipment for new and existing employees, etc.	1
My ASD staff does not use Help Desk tickets for software related work. We use the SR system for that.	1

*provided comment*                    **10**

<b>Question 3. Do you utilize the LIS budget system or reports generated from the LIS budget system?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	14	93.3
No	1	6.7
<i>respondent answered question</i>		<b>15</b>
<i>respondent skipped question</i>		<b>0</b>

<b>Question 4. How satisfied are you with the LIS system at assisting you in managing your agency's IT budget(s)?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	3	21.4
Somewhat satisfied	5	35.7
Neither satisfied nor dissatisfied	4	28.6
Somewhat dissatisfied	0	0.0
Dissatisfied	2	14.3
Unsure	0	0.0
<i>respondent answered question</i>		<b>14</b>
<i>respondent skipped question</i>		<b>1</b>

<b>Question 5. In a word or short phrase, please describe why you are dissatisfied with the LIS budgeting system.</b>	
<b>Comments</b>	<b>Count</b>
It is not comprehensive and takes too long to learn.	1
There is no ability to have budget/expense forecasting. Spend plans are kept external to LIS on a spreadsheet. Spend plan updates are a manual process and can be subject to error.	1
I can't seem to get the answers I'm looking for.	1 <sup>1</sup>

*Note: <sup>1</sup>Due to an unknown software error, three respondents were able to answer question five, although the question was only intended for the two respondents who responded dissatisfied in question 4.*

*provided comment*                      **3**

<b>Question 6. Do you utilize the Approval &amp; Expenditure (A&amp;E) system (currently R&amp;R) for tracking budget expenses?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	13	86.7
No	2	13.3
<i>respondent answered question</i>		<b>15</b>
<i>respondent skipped question</i>		<b>0</b>

<b>Question 7. How satisfied are you with the A&amp;E/R&amp;R system at assisting you in managing your agency's IT budget?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	1	7.7
Somewhat satisfied	7	53.9
Neither satisfied nor dissatisfied	1	7.7
Somewhat dissatisfied	2	15.4
Dissatisfied	2	15.4
Unsure	0	0.0

*respondent answered question*      **13**  
*respondent skipped question*      **2**

<b>Question 8. In a word or short phrase, please describe why you are dissatisfied with the A&amp;E/R&amp;R system.</b>	
<b>Comments</b>	<b>Count</b>
Lists order by line item in main view rather than a summary. It's been running extremely slow.	1
Too time consuming and too many requirements for an IT Lead to complete for the number or resources allocated, such as getting specs from other DoIT partners for servers and switches; needing 5 quotes; having to enter every component of a server or switch because the way it is listed on spec sheet – sometimes exceeding 20 separate items that need to be entered for a single device.	1
First, we don't generate the budget, much of it is provided to us from DoIT through the charge back. Many expenditures, we have little control over because numbers are generated 24 months before the expenditure with little or no inflation consideration and passed along. Even though that process is a problem, we are given little in the ways of tools to manage budget. I was told, "Create a spreadsheet and manage that way." It is 2017 and I am told to manage something that I did not create with no tools to manage it by the technology arm of the organization. It is almost funny.	1
The new R&R system is not fully integrated with the budget. Cannot tell current balance of logical links. These have to be tracked manually in the spend plans.	1

*provided comment*      **4**

<b>Question 9. Do you consider DoIT financial software applications to be duplicative of existing State financial systems (e.g., NHFirst)?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	5	33.3
No	10	66.7

*respondent answered question*      **15**  
*respondent skipped question*      **0**

<b>Question 10. Please describe what system or systems are duplicative and why.</b>	
<b>Comments</b>	<b>Count</b>
I've heard that all of this information can be entered directly into Lawson, but I do not have Lawson credentials to compare R&R with it.	1
Why can't DoIT use the same system that every other department uses? Answer that and you have your answer.	1
NHFirst and the R&R systems are independent and appear to be double entry transactions.	1
Once information entered into R&R is approved, it is then entered into NHFirst for the next steps of processing, ordering, and tracking of the procurement, which could be used and information could be housed in one system.	1
I never understood why we have a class 27 and so does the agency. I always thought that the budget should remain with the agency. They have business office staff and others who purchase and maintain the budget already. Just my opinion.	1

*provided comment*                      **5**

<b>Question 11. Do you frequently or routinely have to explain a DoIT invoice to an agency you support?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	7	46.7
No	8	53.3

*respondent answered question*                      **15**  
*respondent skipped question*    **0**

<b>Question 12. How would you describe the ease of explaining a DoIT invoice to an agency you serve?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Easy to explain	1	14.3
Somewhat easy to explain	1	14.3
Neither easy nor difficult to explain	2	28.6
Somewhat difficult to explain	1	14.3
Difficult to explain	1	14.3
Unsure	1	14.3

*respondent answered question*                      **7**  
*respondent skipped question*    **8**

<b>Question 12. Additional information provided by respondent (optional):</b>	<b>Count</b>
The agencies I support have different buckets of money they have to track from self-funded, federal, and general funds. I need to let them know what the money was spent on.	1
It depends on the invoice, but I am usually able to explain the invoice without too much difficulty.	1
Some of the shared amounts are so broken down it can be difficult to explain what it is for.	1
I am very new to this position level and the issue of this is just arising with the agency that I support.	1
<i>provided comment</i>	<b>4</b>

<b>Question 13. Do you utilize the time-tracking reports to manage your staff and IT projects?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	4	26.7
No	11	73.3
<i>respondent answered question</i>	<b>15</b>	
<i>respondent skipped question</i>	<b>0</b>	

<b>Question 14. How satisfied are you with the usefulness of the time-tracking data collected by DoIT at assisting you in managing staff and IT projects?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Satisfied	0	0.0
Somewhat satisfied	2	50.0
Neither satisfied nor dissatisfied	2	50.0
Somewhat dissatisfied	0	0.0
Dissatisfied	0	0.0
Unsure	0	0.0
<i>respondent answered question</i>	<b>4</b>	
<i>respondent skipped question</i>	<b>11</b>	

<b>Question 15. In a word or short phrase, describe why you are dissatisfied with the time-tracking data collected by DoIT.</b>	
<b>Comments</b>	<b>Count</b>
There were no responses.	0
<i>provided comment</i>	<b>0</b>

<b>Question 16. In your opinion, could DoIT benefit from having service level agreements with agency customers that spell out priorities and benchmarks for DoIT support timeframes?</b>		
<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
Yes	10	66.7
No	0	0.0
Unsure	5	33.3

*respondent answered question*                    **15**  
*respondent skipped question*                    **0**

<b>Question 16. Additional information provided by respondent (optional):</b>	<b>Count</b>
Priorities change constantly within an agency, thus they must be flexible and agreed upon on a regular basis.	2
There is no way to effectively “rebate” an agency if we do not meet service level agreements (SLA), as we bill agencies for all of our expenses. Would we bill Agency A for the rebate that we “owe” Agency B due to not meeting Agency B’s SLA? I think my main question is, What is the penalty for not meeting SLAs and how would this be administered fairly?	1
I believe anytime you manage expectations for all involved is good.	1
Absolutely needed. This is not a DoIT issue, but rather an agency issue. The inability to prioritize and govern projects is counterproductive and cause for IT resources to be reactive to agency needs. Agencies need more assistance with establishing priorities, governance policies, and assessing the appropriate resources/skills and appropriate number needed to meet current and future business needs.	1
It makes sense, but we have tried something similar in the past with memorandum of agreements (MOA) and they did not prove very useful.	1
We have SLAs for the Central Help Desk, which is determined by priorities. We could use some SLAs at the project level.	1
Not everyone knows what everyone is working on.	1
May be a good direction to move to, as would be beneficial to both parties.	1

*provided comment*                    **8**

<b>Question 17. Is there anything else you would like to tell us about DoIT or your role as an IT Lead?</b>	
<b>Comments</b>	<b>Count</b>
I enjoy my role within DoIT.	4
The role of serving both DoIT and the assigned agency can be difficult for all parties.	4
I have developed strong relationships with my agencies and I believe that I add value to their objectives. Additionally, I rely greatly on every division/unit within DoIT to meet my goals and objectives, and have developed helpful relationships with these various areas within DoIT.	1
The IT leads are expected to do almost everything IT (networking, business supports, contracts, hardware, software, etc.).	1
Better project management and ownership from within DoIT would be a huge benefit.	1
I can only comment on the role supporting my assigned agency. The IT lead is constantly reacting in a tactical mode, setting priorities on the fly. This leaves limited time for strategic thinking or approaches.	1
Understaffed and split reporting structure makes this role very complex. It is often needed to be creative to get the appropriate resources to complete the mounting responsibilities.	1
The IT lead provides a critical customer service role in DoIT. As the liaison, it can be challenging to work with the many divisions within DoIT to ensure the mission of our partner agencies can be met in a timely manner.	1
None.	1

*provided comment*                      **11**

**Question 18. If you would like to receive a link to our report when it becomes public, please provide an email address below. (We will not report or retain this email address after the report is made public.)**

<b>Answer Options</b>	<b>Count</b>	<b>Percent</b>
No, thank you.	4	26.7
Yes. (Please provide email address)	11	73.3

*respondent answered question*                      **15**  
*respondent skipped question*    **0**

**STATE OF NEW HAMPSHIRE  
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**APPENDIX F  
STATUS OF PRIOR AUDIT FINDINGS**

The following is the status of seven observations found in our prior LBA Performance Audit Report dated July 2008, entitled *Office Of Information Technology*.

<u>No.</u>	<u>Title</u>	<u>Status</u>		
1.	Strengthen Project Management (See Current Observation No. 6)	●	○	○
2.	Evaluate Entire IT Procurement Process (See Current Observation No. 18)	○	○	○
3.	Develop Data Center Consideration Plan	●	●	●
4.	Research New Technologies To Drive Efficiencies	●	●	●
5.	Additional Metrics Need To Be Implemented (See Current Observation No. 12)	●	○	○
6.	Establish Professional Development Programs	●	●	●
7.	Reassess OIT's Reporting Requirements	●	●	●

The following is the status of five observations found in our prior LBA Audit Report entitled *Office Of Information Technology, Financial And Compliance Audit Report For The Nine Months Ended March 31, 2006*.

<u>No.</u>	<u>Title</u>	<u>Status</u>		
2.	Cost Allocation Process Should Be Improved (See Current Observation No. 13 And No. 14)	○	○	○
9.	Continuity Of Operations Plan Should Be Implemented (See Current Observation No. 21)	○	○	○
15.	Comprehensive Policies And Procedures Should be Prepared For All Significant Operational Areas	●	●	○
19.	Administrative Rules Should Be Adopted (See Current Observation No. 22)	○	○	○
20.	Statements Of Financial Interest Should Be Filed (See Current Observation No. 23)	○	○	○

A copy of the prior report can be accessed on-line at our website <http://www.gencourt.state.nh.us/LBA/default.aspx>

Status Key			
Fully Resolved	●	●	●
Substantially Resolved	●	●	○
Partially Resolved	●	○	○
Unresolved	○	○	○

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