EVALUATION OF INFORMATION TECHNOLOGY (IT) SERVICE DELIVERY TO STATE AGENCIES

OFFICE OF TECHNOLOGY SERVICES
DIVISION OF ADMINISTRATION

PERFORMANCE AUDIT SERVICES
ISSUED JANUARY 22, 2020

January 22, 2020

The Honorable Patrick Page Cortez,
  President of the Senate
The Honorable Clay Schexnayder,
  Speaker of the House of Representatives

Dear Senator Alario and Representative Barras:

This report provides the results of our performance audit of the state Office of Technology Services (OTS). The purpose of this audit was to evaluate OTS' framework for providing information technology services to state agencies.

We found several areas of concern. Among them, OTS has not developed a comprehensive list of the services it provides and how much each service costs, as recommended by best practices. State agency management and OTS agency relationship managers reported not knowing the full range of services OTS provides.

In addition, OTS has not defined performance expectations for each of the services it provides or developed formal mechanisms for receiving and responding to feedback, as recommended by best practices. This limits the ability of state agencies to hold OTS accountable. In our survey of state agencies, 29 (60.4 percent) of 48 respondents agreed that agency-specific benchmarks or performance measures would help OTS serve their agency better.

We did find that OTS has reduced the time it takes to resolve service requests. Service desk teams reduced overall resolution times from 12.4 business days in fiscal year 2016 to 2.3 business days in fiscal year 2018, while field teams reduced resolution times from 14.9 business days to 4.6 business days during the same timeframe. However, OTS should monitor its compliance with internal targets to ensure all requests are resolved in a timely manner.

OTS also has not developed procedures to handle complex service requests, and poor internal communication between OTS sections contributes to delays in resolving these requests. As a result, OTS does not always respond in a timely manner or provide status updates to agencies making the service requests.

We found, as well, that OTS does not track all state agencies' IT projects and does not have a process to manage IT projects, as recommended by best practices. OTS staff could not provide key documentation, such as project plans and schedules or payment schedules, for

The Honorable Patrick Page Cortez,
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projects we reviewed to determine if the office was managing projects according to best practices. Effective project management is important because OTS has identified a $959 million backlog for modernizing the state's most at-risk applications.

Staffing challenges, such as the high number of retirements and vacancies, also affect OTS' ability to provide IT services effectively and efficiently. In addition, OTS' funding model, which requires 100 percent cost recovery, presents the office with challenges in terms of planning for the future IT needs of state agencies.

I hope this report will benefit you in your legislative decision-making process.

We would like to express our appreciation to the management and staff of OTS and to the state agency staff who responded to our survey for their assistance during this audit.

Sincerely,

Daryl G. Purpera, CPA, CFE
Legislative Auditor

DGP/aa

OTS Evaluation

Louisiana Legislative Auditor
Daryl G. Purpera, CPA, CFE

**Evaluation of IT Service Delivery to State Agencies
Office of Technology Services
Division of Administration**

January 2020

Audit Control # 40180023

Introduction

We evaluated the Office of Technology Services' (OTS) delivery of information technology (IT) services to state agencies. Beginning in fiscal year 2015, Louisiana consolidated IT services for state agencies into OTS, and Louisiana Revised Statute (R.S.) 39:15.1 granted it authority over the IT systems and services of most[1] executive branch agencies. R.S. 36:4 created OTS within the Division of Administration.

On November 16, 2019, a cybersecurity attack on state of Louisiana government servers resulted in service interruptions, as OTS had to shut down state agency computer systems. This audit was completed prior to that incident and does not focus on OTS' data security function. However, our IT auditors are currently assessing the effects of the cybersecurity attack, along with OTS' response to the incident.

We conducted this audit because of feedback and concerns we received about OTS' service delivery through a survey we sent to these agencies.[2] The survey identified issues with customer service, including poor communication, slow resolution of help desk tickets, and lack of accountability and transparency. Effective customer engagement will not only benefit OTS and its customers (state agencies), but will also benefit state operations as a whole.

> **Examples of State Agency Employee Survey Results (November 2018)**
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> - **37.3%** rated OTS' communication about initiatives or changes as below average or poor.
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> - **38.6%** disagreed or strongly disagreed that their agency has a mechanism to hold OTS accountable for service delivery.
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> - **75.0%** agreed that OTS meets all or most of their agency's software needs.
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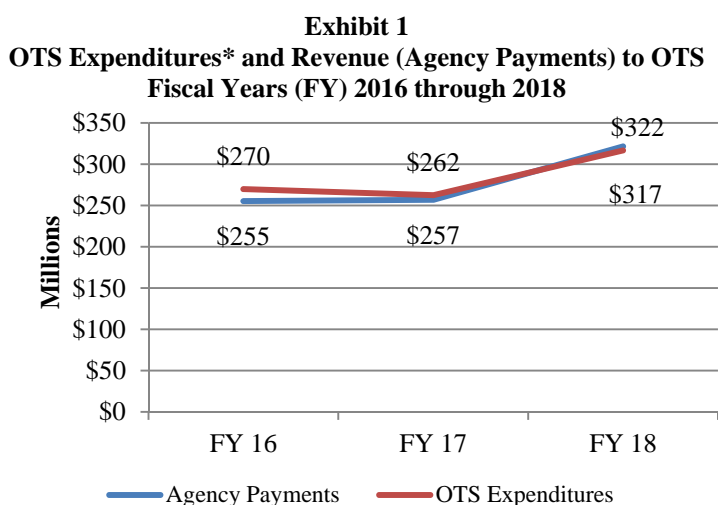> **Source:** LLA survey of employees in state agencies included in OTS consolidation.

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[1] Per R.S. 39:15.1, OTS has authority over all information technology systems and services for agencies in the executive branch of state government, except for any agency of a statewide elected official.

[2] We sent the survey to 77 state agency employees and received 56 responses (72.7%) from employees in 18 state agencies.

OTS has three legislatively mandated roles:[3] (1) the acquisition, billing, and record keeping of IT systems/services; (2) reviewing, coordinating, approving, or disapproving state agencies' requests for IT procurement; and (3) establishing master purchase contracts for equipment. While its originating statute did not include an overall purpose or goals for the consolidation, OTS stated that the intent was to save money. As such, OTS' mission is to establish competitive, cost-effective technology systems and services while acting as the sole centralized customer for the acquisition, billing, and record keeping of those services. Prior to consolidation, Louisiana contracted with Deloitte for $650,000 to develop an IT consolidation plan (consolidation plan) that included evaluating best practices, IT consolidation in other states, and the state's existing IT infrastructure. The resulting action plan was completed in March 2014 and included 21 deliverables, such as human capital management, organizational structure, and an operational plan for service management and delivery.

When IT services were consolidated, OTS received all IT positions from the state agencies included in the consolidation. In addition, OTS became responsible for the IT infrastructure for these agencies, which included severely outdated equipment and an array of servers, hardware, and applications. OTS receives no direct state General Funds and is fully funded through a cost-recovery model, billing agencies for services. In fiscal year 2018, OTS expended $316.6 million, a 17.4% increase from $269.7 million in fiscal year 2016. According to OTS, the increase in expenditures is due to an increase in spending on IT projects for state agencies. Exhibit 1 shows OTS expenditures and agency payments to OTS for fiscal years 2016 through 2018. Appendix C shows agency payments to OTS for fiscal years 2016 through 2018.

Exhibit 1
OTS Expenditures* and Revenue (Agency Payments) to OTS Fiscal Years (FY) 2016 through 2018

*According to OTS, it spent approximately $30 million in fiscal year 2016, $47 million in fiscal year 2017, and $82 million in fiscal year 2018 of expenditures on IT projects for state agencies.

Source: Prepared by legislative auditor's staff using information from OTS.

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[3] Acts 15, 45, and 712 of the 2014 Regular Legislative Session

OTS is divided into eight "verticals," (referred to in this report as sections), which are responsible for the various functions of OTS. Exhibit 2 includes a description of each section and staffing level as of June 30, 2018.

Exhibit 2 OTS Section Descriptions and Staffing Levels As of June 30, 2018		
Section	**Description**	**No. of Staff**
Applications and Data Management	Responsible for web/portal services, GIS applications, application development and management, database services, and data and information management.	291
End User Computing (EUC)	Statewide single point of contact for all incidents, issues, and requests through the self-service web portal, email, and phone systems; provide support for all state-issued hardware and software.	198
Data Center Operations	Responsible for facilities management, storage, mainframe, servers, databases, and network services.	179
Production Support Services	Responsible for state mail and printing services.	66
Strategy, Planning, and Administration	Responsible for developing statewide policies and standards, strategic planning, and IT governance.	29
Office of Operations	Responsible for service planning and management, service reporting and analysis, budget, purchasing, licensing and contracts management, rate setting, and service catalog development.	28
Project and Portfolio Management	Responsible for providing standards, guidance, and oversight of major state IT projects.	20
Agency Relationship Management (ARMs)	Serves as liaison between OTS and state agencies and assists agencies in identifying IT needs and long-term strategic goals.	16
Total		**827**
Source: Created by legislative auditor's staff using data from Business Objects and OTS' website.		

According to OTS, it has made several changes to the state's IT infrastructure and services since consolidation, including the following:

- OTS established a standard list of 10 computer models that can be purchased or leased with replacements every four years, which provides the opportunity for reduced costs and allows agencies to operate with updated, stable hardware. Prior to consolidation, state agencies used more than 250 different models of computers and laptops.

- OTS created a Project Management Office (PMO),[4] which is responsible for oversight of state IT projects. Agencies did not have PMOs prior to consolidation.

- OTS has standardized and lowered software license costs for Microsoft products and Adobe Professional licenses. Prior to consolidation, agencies were paying different amounts for the same Microsoft products.

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[4] OTS also calls PMO the Project and Portfolio Management section.

To evaluate OTS' delivery of IT services to state agencies, we used industry best practices outlined in the Information Technology Infrastructure Library (ITIL) and the Project Management Body of Knowledge (PMBOK), recommendations made in Deloitte's consolidation plan, and surveyed seven other states with consolidated IT services.[5] In addition, we analyzed help desk ticket data, surveyed Agency Relationship Managers (ARMs), and reviewed a targeted selection of IT projects. The objective of this review was:

To evaluate OTS' customer-service framework for providing IT service delivery to state agencies.

Our results are summarized on the next page and discussed in detail throughout the remainder of the report. Appendix A contains management's response, and Appendix B includes our scope and methodology. Appendix C shows agency payments to OTS for fiscal years 2016 through 2018. Appendix D contains an excerpt from Utah's Department of Technology Service's service catalog, and Appendix E shows projects managed by the OTS Project Management Office.

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[5] We surveyed Alabama, Maine, Minnesota, Mississippi, Missouri, Texas, and Utah.

Objective: To evaluate OTS' customer-service framework for providing IT service delivery to state agencies.

Overall, we found that OTS needs to strengthen its customer-service framework to better ensure effective delivery of IT services to state agencies. Specifically, we found:

- **OTS has not developed a comprehensive list of the services it offers to state agencies and how much each service costs, as recommended by best practices. State agency management and OTS Agency Relationship Managers (ARMs) both reported not knowing the full range of services provided by OTS.** Clearly communicating services and costs to agencies would increase transparency and improve OTS' service delivery processes.

- **OTS has not defined performance expectations for each of the services it provides or developed formal mechanisms for receiving and responding to feedback, as recommended by best practices. This limits the ability of the state agencies to hold OTS accountable. In our survey of state agencies, 29 (60.4%) of 48 respondents agreed that agency-specific benchmarks or performance measures would help OTS serve their agency better.** OTS should develop and implement formal mechanisms to collect feedback for each service it provides and create a customer feedback repository so that it can analyze this information to make adjustments to its service delivery.

- **OTS has reduced the amount of time it takes to resolve service requests. Service desk teams reduced the overall time it took to resolve tickets from 12.4 business days in fiscal year 2016 to 2.3 business days in fiscal year 2018, and field teams reduced resolution times from 14.9 business days to 4.6 business days during the same timeframe.** However, OTS should monitor compliance with internal targets to ensure all requests are resolved in a timely manner.

- **OTS has not developed procedures for handling complex service requests, and poor internal communication between OTS sections contributes to delays in resolving these types of requests. As a result, OTS does not always respond timely or provide status updates to agencies regarding these service requests.** Cleary defined roles and responsibilities for all OTS sections regarding customer engagement would improve OTS' delivery of IT services and improve relations between OTS and the agencies it serves.

- **OTS does not track all state agencies' IT projects and has not developed a process to manage IT projects, as recommended by best practices. OTS could not provide key documentation such as project plans and schedules, or payment schedules, for projects we reviewed to determine if it managed projects according to best practices.** Effective project management is important because OTS has identified a $959 million backlog for modernizing the most at-risk applications.

- **Staffing challenges, such as the high number of retirements and vacancies, affect OTS' ability to provide IT services effectively and efficiently. According to state agencies and OTS staff, positions are vacant for long periods of time, which negatively impacts agencies' operations.** In addition, OTS' 100% cost-recovery funding model presents challenges in terms of planning for the future IT needs of state agencies.

Our findings are discussed in more detail throughout the remainder of the report, along with recommendations to assist OTS in improving its delivery of IT services to state agencies.

OTS has not developed a comprehensive list of the services it offers to state agencies and how much each service costs, as recommended by best practices. State agency management and OTS Agency Relationship Managers (ARMs) both reported not knowing the full range of services provided by OTS.

ITIL best practices recommend that IT organizations develop a comprehensive list of services, or service catalog, that documents the services an IT organization provides and includes details such as descriptions and functions of services, support provided, cost of services, conditions and levels of services, and how to order services. A clear and comprehensive service catalog can result in increased customer satisfaction, simplified and improved service delivery processes, and improved communication and collaboration. See Appendix D for an excerpt from Utah's Department of Technology Service's service catalog.

OTS has not developed a comprehensive service catalog, as recommended by best practices, to communicate the full range of services it offers to state agencies, including service details, the support provided, and costs associated with each service. Currently, OTS lists some products and services on its webpage, but this list is not comprehensive and services are not organized by business needs or overall service area. Instead, the webpage is a list of 39 specific technologies or applications. Service descriptions, when provided, are brief and technical and most do not clearly indicate service costs, how to request services, and how long it would take OTS to fulfill them. For example, nine (23.1%) of 39 service items on the service catalog do not have a working link to any information regarding the service. In addition, 16 (41%) of 39 service items have no pricing information or directions regarding how agencies can request the services.

State agency management and OTS ARMs[6] both reported not knowing the full range of services provided by OTS or how these services address their business needs. In addition, according to our survey of ARMs, eight (53.3%) of 15 disagreed or strongly disagreed that the current service catalog provides the type of information agencies need to determine the support provided for and cost of each service.   It is important for ARMs to understand the range of

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[6] ARMS serve as liaisons between OTS and state agencies. Agencies usually rely on their ARMs to help them navigate the process of requesting OTS services.

services OTS offers because one of the ARMs' key job duties is to translate agencies' business needs to the IT services they need to purchase from OTS.

Developing a complete and accurate service catalog is important given the wide range of services, applications, and infrastructure OTS now supports for state agencies. Six (85.7%) of the seven[7] states we surveyed have published service catalogs for their state agencies, and these catalogs are organized around key services and include how to order services. While states that have consolidated IT functions may provide different levels of services, ITIL best practices recommend that all IT organizations develop a complete and accurate service catalog and provide it to their customers. Although Deloitte's consolidation plan provided a service catalog template that included an organized listing of services, what is included with the service, and placeholders for the cost and performance metrics, OTS did not implement this service catalog. According to OTS, it did not implement the service catalog developed by Deloitte because of the rapidly changing environment rendering that version of the service catalog obsolete. OTS has created some service catalogs for specific services, such as End User Computing's hardware leasing program. OTS also created a service catalog for its Data Center Operations, which includes service level expectations, but OTS does not provide this catalog to state agencies.

OTS does not publish the cost of each service it offers to state agencies, which hinders transparency. According to our survey, only 17 (40.5%) of 42 agency staff respondents agreed that OTS' pricing is transparent, and seven (17.5%) of 40 respondents agreed that OTS' pricing is competitive. State agencies also stated that they have initiated monthly bill reconciliation meetings with OTS to understand the charges on monthly bills and to ensure they are accurate. Including the prices associated with services would help agencies know in advance how much they can expect to pay for services. Five (71.4%) of the seven states we surveyed[8] publish the costs of their services. For example, Utah charges $61.65 per hour for Tier 1 Application Developers,[9] and Minnesota charges $0.2428 per gigabyte for disk storage. As mentioned above, while Louisiana's consolidation may differ from the states we surveyed, the survey indicates that other states are publishing the costs of the services they provide, in accordance with best practices.

> **Recommendation 1:** OTS should develop a comprehensive service catalog that includes pricing, service components, and how to order services that is easy for state agencies to use and understand.

> **Summary of Management's Response:** OTS partially agrees with this recommendation and stated that while a catalog of services should be provided where appropriate, it does not agree that all services it provides can be relegated to a catalog. OTS also stated that while a service catalog should provide costs and how to procure,

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[7] We surveyed Alabama, Maine, Minnesota, Mississippi, Missouri, Texas, and Utah. Only Missouri did not have a service catalog.

[8] Alabama, Maine, Minnesota, Missouri, and Utah

[9] Utah charges different amounts for each tier based on the complexity of services provided. For example, Tier 1 services are the most basic services so it is the least expensive while Tier 4 services are the most complex and; therefore, the most expensive.

service catalogs alone are not sufficient for an agency to determine the overall cost of their business need. See Appendix A for management's full response.

OTS has not defined performance expectations for each of the services it provides or developed formal mechanisms for receiving and responding to feedback, as recommended by best practices. This limits the ability of state agencies to hold OTS accountable. In our survey of state agencies, 29 (60.4%) of 48 respondents agreed that agency specific benchmarks or performance measures would help OTS serve their agency better.

ITIL recommends that IT organizations develop service level expectations that provide a basis for measuring the quality of the services an IT agency provides. For example, a service level expectations document agreed upon by the IT organization and agencies it serves may outline that servers will be available 99.99% of the time or indicate a certain percentage of help desk tickets be resolved the same day they are generated. IT organizations can define expectations for each service offered in a service catalog or through formal and specific Service Level Agreements (SLAs) with state agencies.

Although recommended by best practices and implemented by other states, OTS has not worked with state agencies to develop performance expectations for all services it provides. In our survey of state agencies, 29 (60.4%) of 48 respondents agreed or strongly agreed that agency-specific benchmarks or performance measures would help OTS serve their agency better. Because OTS has not set expectations regarding what performance levels agencies should receive with purchased services, there is no accountability if OTS does not provide consistent, quality service delivery. As mentioned in the previous finding, the service catalog does not contain enough information to set any general service level expectations for state agencies, and OTS has not yet entered into any SLAs with state agencies to set agency specific expectations.

> **State Agency Employee Survey Comments (November 2018)**
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> "We are mandated to use OTS, but OTS is not mandated to meet our needs."
>
> "There is no motivation for [OTS] to meet our needs, much less do so at a reasonable cost. We have no ability to fire them when they are not providing the services and quality support we need."

One of the deliverables in Deloitte's consolidation plan was for OTS to develop SLAs that define the level of service for each area of service, including the levels of availability, serviceability, performance, operation, and other attributes of the service. In addition, three states – Minnesota, Texas, and Utah – enter into SLAs with state agencies. Minnesota, for example, has a standard SLA that it modifies for each agency. It includes a legal section, a section defining projects and services, and a section on metrics to monitor performance. While OTS has developed some internal service level expectations, it does not communicate these to

state agencies. For example, the service catalog developed by Data Center Operations for internal use by other OTS sections sets monthly uptime levels for virtual servers, mainframes, storage devices, cloud services, and email services at 99.99%. If OTS does not implement SLAs with agencies, it should, at a minimum, develop service level expectations that are published in its service catalog and communicated to state agencies.

OTS does not have formal defined mechanisms for receiving and responding to feedback from state agencies and using this information to adjust and improve its delivery of services. ITIL best practices state that IT organizations should develop mechanisms to collect customer feedback and integrate these mechanisms into every service it provides so that the organization can continuously improve its services and adjust to meet changing customer needs. In addition, according to Deloitte's IT consolidation plan, OTS should develop feedback mechanisms such as incident and problem logs, a customer complaint repository, customer surveys, and service change requests to help OTS identify areas needing improvement.

However, only half (51.8%) of respondents in our survey of state agencies agreed that there was a clear process to submit complaints, feedback, or input. According to OTS, it holds governance meetings with customer agencies quarterly, where agencies can bring their concerns and look for potential avenues to improve services. In addition, OTS periodically surveys agency undersecretaries and sends out customer satisfaction surveys attached to resolved service desk tickets. However, OTS does not have a formal process to respond to issues brought up in these meetings and surveys. One agency undersecretary stated in an OTS quarterly survey that they "appreciate monthly meetings with OTS but they should lead to more actions by OTS." OTS should develop and implement formal, consistent mechanisms to collect feedback for each service it provides and create a customer complaint/feedback repository so that it can analyze this information in order to make adjustments to its service delivery. This formal customer feedback loop, which is recommended by best practices, will not only allow OTS to address specific issues reported by state agencies, but also to determine if changes need to be made across all OTS sections, such as providing training for specific skills or making organizational changes.

> **Recommendation 2:** OTS should develop service level expectations that define metrics for monitoring performance and provide them to state agencies through a comprehensive service catalog or formal SLAs.

> **Summary of Management's Response:** OTS agrees with this recommendation and stated that once all performance level expectations are defined, the service management system will be updated with these metrics for tracking and to ensure compliance. See Appendix A for management's full response.

> **Recommendation 3:** OTS should develop a customer feedback loop to collect, aggregate, and analyze feedback from state agencies and implement procedures to act on services and areas that need improvement.

> **Summary of Management's Response:** OTS partially agrees with this recommendation and stated that in regard to providing a feedback loop, it is critical for

the agencies to include the ARMS early and often in their strategic planning sessions. See Appendix A for management's full response.

OTS has reduced the amount of time it takes to resolve service requests. Service desk teams reduced the overall time it took to resolve tickets from 12.9 business days in fiscal year 2016 to 2.3 business days in fiscal year 2018, and field teams reduced resolution times from 16.1 business days to 4.6 business days during the same timeframe. However, OTS should monitor compliance with internal targets to ensure all requests are resolved in a timely manner.

After the statewide consolidation in 2015, OTS began incorporating 16 different state agency help desk systems of differing maturity and complexity into a single service desk.[10] This service desk is located within OTS' End User Computing (EUC) section and includes service desk technicians who address issues remotely, as well as field technicians who go on site to address issues. Agencies submit tickets through the service desk to report IT issues and request OTS support, such as unlocking accounts, resetting passwords, and reporting network connectivity issues.

OTS' service desk has reduced the amount of time it takes to resolve its service requests, which consist of routine, less complex service requests. Service desk teams reduced the overall time it took to resolve tickets from 12.9 business days in fiscal year 2016 to 2.3 business days in fiscal year 2018. Field teams that go onsite reduced resolution times from 16.1 business days to 4.6 days during the same timeframe. In addition, OTS created internal target timeframes for request resolution in January 2017. Between January 2017 and June 2018, the service desk resolved 30,866 (91.2%) of 33,832 tickets within their internal target timeframes. During the same time period, field technician teams resolved 22,922 (77.9%) of 29,409 tickets within internal target timeframes.

Although OTS created the internal target timeframes and OTS' service desk software has the capability to monitor ticket resolution for compliance with internal target timeframes, OTS does not currently do so. OTS has this function turned off because it has not developed the expected resolution times for all the various types of requests. For example, all service tickets that are considered medium priority have a target resolution of three business days regardless of whether the service desk can remotely resolve the issue. Otherwise, OTS must send out a field technician team to the state agency office. This may explain why field teams resolved fewer

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[10] Between July 2018 and April 2019, the number of service desk calls received decreased by 20.4%, from 17,446 calls in July 2018 to 13,878 calls in April 2019, while the average call abandonment rate was 17.6%. EUC's call center data, such as the number of calls received, completed, and abandoned and the wait times and in-call times, are hosted by a private vendor that only allows access to 90 days of call center data, unless EUC purchases a license to access older data. As a result, OTS only retains three months of call center data. According to EUC management, it started saving call center data in July 2018 so that they can track call center trends in the future.

tickets within their internal target timeframes compared to service desk teams. OTS should develop expectations for all request situations and begin monitoring whether tickets/service requests are meeting internal targets. Although the EUC handles more routine, less complex service requests, not resolving these types of requests in a timely manner still negatively impacts state agency operations. Exhibit 3 shows EUC's service desk ticket resolutions for service desk and field teams by ticket priority.

Exhibit 3 Ticket Resolution By Priority January 2017 - June 2018							
Ticket Priority	Target Timeframe*	Number of Tickets	Met Targets	Percentage Met Targets	Did Not Meet Targets	Percentage Did Not Meet Targets	Average Resolution Time if Did Not Meet Targets*
EUC Service Desk							
Urgent	Within 12 hours	8	5	62.5%	3	37.5%	72.0
High	Within one day	6,269	5,851	93.3%	418	6.7%	6.6
Medium	Within three days	8,079	6,948	86.0%	1,131	14.0%	14.1
Low	Within five days	19,476	18,062	92.7%	1,414	7.3%	19.9
Total		**33,832**	**30,866**	**91.2%**	**2,966**	**8.8%**	
EUC Field Teams							
Urgent	Within 12 hours	34	23	67.6%	11	32.4%	6.5
High	Within one day	1,313	560	42.7%	753	57.3%	9.6
Medium	Within three days	4,233	2,723	64.3%	1,510	35.7%	20.1
Low	Within five days	23,829	19,616	82.3%	4,213	17.7%	20.8
Total		**29,409**	**22,922**	**77.9%**	**6,487**	**22.1%**	
*In business days **Source:** Prepared by legislative auditor's staff using OTS service desk data.							

Recommendation 4: OTS should develop target resolution timeframes for all service request situations and develop procedures to monitor open service desk tickets to ensure that all EUC service desk and field teams meet targets for ticket resolution.

Summary of Management's Response: OTS agrees with this recommendation and stated that further enhancement of the service management system will include tracking of service level expectations. Complex tasks are in the process of being defined for inclusion into the service management system. See Appendix A for management's full response.

OTS has not developed procedures for handling complex service requests, and poor internal communication between OTS sections contributes to delays in resolving these types of requests. As a result, OTS does not always respond timely or provide status updates to agencies regarding these service requests.

While the EUC service desk handles routine service requests, complex service requests are handled by other OTS sections such as Data Center Operations, Applications and Data Management, and Information Security. These requests are received by the EUC service desk and assigned to the appropriate OTS section. Between fiscal year 2016 and fiscal year 2018, Data Center Operations, Applications and Data Management, and Information Security were assigned 15,357 (17.2%) of the 89,458 tickets received by the EUC service desk.[11] It is important for these OTS sections to respond to and resolve user requests in a timely and efficient manner in order to increase customer satisfaction and improve service delivery. In our survey of state agencies, 32 (57.1%) of 56 respondents reported that OTS timeliness in resolving tickets was average or below average.

OTS has not established procedures for how sections should handle complex service requests which leads to service delivery delays. Tickets assigned to Data Center Operations, Application and Data Management and Information Security are for complex issues that need more time to resolve. However, because these sections have not developed formal policies or procedures defining their responsibilities with respect to service requests, including determining the required resolution time for each request, service request resolution is inconsistent across the three sections. For example, Data Center Operations took an average of 6.1 business days to resolve tickets in fiscal year 2018, Application and Data Management took an average of 9.3 business days, and Information Security took an average of 40.5 business days. Exhibit 4 shows the ticket resolution time for these three sections for fiscal years 2017 through 2018.

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[11] In addition, 65,350 (73.1%) tickets were assigned to the EUC service desk and 8,751 (9.8%) tickets were assigned to queues for OTS internal support, temporary or transitional issues, or those logged by the service desk but assigned to agency personnel such as LDH.

Exhibit 4 Ticket Resolution by OTS Sections Fiscal Year 2017 through Fiscal Year 2018							
Section	**Examples of Services**	**Total Number of Tickets**		**Overall Average Resolution Time (in Business Day)**		**Percentage of Tickets Still Open**	
		FY17	**FY18**	**FY17**	**FY18**	**FY17**	**FY18**
Data Center Operations	To request old servers to be sanitized and retired or for agency data to be sent or retrieved from archives	2,679	6,461	9.4	6.1	0.3%	2.3%
Application Development	To request changes to agency applications or reports or to report issues with application functionality	1,549	4,086	15.9	9.3	3.0%	4.2%
Information Security	To request access to agency applications or intranet for remote employees or to report security incidents such as viruses or malware.	Did not use service desk	547	Did not use service desk	40.5	Did not use service desk	66.4%
Source: Prepared by legislative auditor's staff using information provided by OTS.							

Poor internal communication between OTS sections contributes to delays in resolving service requests. In addition, OTS does not always respond timely or provide status updates to state agencies regarding these service requests. In addition to the lack of procedures for handling service requests, OTS management has not clearly defined roles and responsibilities of each OTS section. For example, ARMs, Project and Portfolio Management, Information Security, and Application Development do not have any policies and procedures defining roles, responsibilities, and the flow of internal and external communication. This leads to poor communication between OTS sections, which contributes to delays in resolving service requests. In an OTS survey of agency undersecretaries, respondents reported that ticket resolution by these OTS sections can take a long time. One agency undersecretary stated that OTS needs a "better defined process to communicate requests across OTS verticals and sub-verticals. It has been difficult determining responsibilities and handoffs to respective responsible areas causing time delays."

State agency users reported that OTS sections do not keep users informed of the status of their tickets. As a result, agencies rely on ARMs to monitor their open tickets. Eight (53.3%) of 15 ARMs reported following up on and monitoring open tickets for their agencies as part of their informal job duties. One ARM stated that the "lack of OTS verticals fully owning the service requests" was a challenge in terms of doing their job effectively. We identified two service desk

tickets requesting support from Data Center Operations and Information Security;[12] these sections never updated the agency user or the ARM on the status. Both tickets were still open in the system as of July 2019. The ARM requested multiple updates on the status after one ticket was open for 14 weeks and the other was open for nine weeks but never received any communication back from the Data Center Operations or Information Security sections.

Recommendation 5: OTS should develop formal policies and procedures outlining roles and responsibilities, and processes regarding how Data Center Operations, Application and Data Management, and Information Security sections should handle service requests, including target timeframes for resolution and customer engagement.

Summary of Management's Response: OTS agrees with this recommendation and stated that, in addition to the ongoing development of the service management system, a web redesign committee has been meeting to address communication needs through the implementation of portals for internal and external entities. See Appendix A for management's full response.

OTS does not track all state agencies' IT projects and has not developed a process to manage IT projects, as recommended by best practices. OTS could not provide key documentation, such as project plans and schedules, or payment schedules, for projects we reviewed to determine if it managed projects according to best practices. Effective project management is important because OTS has identified a $959 million backlog for modernizing the most at risk applications.

OTS' mission is to establish competitive, cost-effective technology systems and services while acting as the sole centralized customer for the acquisition, billing, and record keeping of those services. As a result, it is important that OTS have procedures to manage and monitor all state IT projects. Effective project management is important because, according to the 2015 Standish Group report on the state of software development industry, only 29% of IT projects are successful.[13]

OTS does not track information on all state IT projects, including OTS' role on the project, project milestones, project costs, or project outcomes and success. Major IT projects are managed by the Project and Portfolio Management staff, while smaller projects are

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[12] One ticket was requesting that OTS sanitize equipment and one ticket was requesting intranet access for one of the agency divisions.
[13] Standish Group CHAOS report, 2015. The Standish Group is a research advisory organization that focuses on software project performance. This report is a snapshot of the state of the software development industry that studied 50,000 projects around the world, ranging from small enhancements to massive system engineering.

managed by ARMs.[14] Project and Portfolio Management maintains a spreadsheet of the projects it is involved with, but the spreadsheet does not include key information such as the project cost, OTS' role in the project, or what staff is assigned to the project. In addition, the projects managed by the ARMs are not tracked at all and do not follow any best practices. Even if OTS does not serve as the primary project manager on an IT project, it is important for OTS to track the status of IT projects because state agencies no longer have in-house IT staff.

It is especially important for OTS to track IT projects because in January 2018 OTS conducted a risk assessment of the existing IT systems in the executive branch and found a $959 million backlog for modernizing the most at-risk applications.[15] Addressing this backlog will involve OTS providing various project management services for the small to large, complex modernization projects OTS will have to oversee. OTS should be ensuring that IT projects are cost-effective and moving the state toward reducing the backlog of outdated systems. One agency that has several open projects with OTS stated that it would like to see OTS start "providing a clearer picture of on-going projects in terms of a project portfolio, schedule, budget and resources." Exhibit 5 shows the limited project information OTS maintained for a selection of seven projects we requested. Appendix E shows the original listing of projects and related contracts[16] provided to us by OTS.

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[14] According to OTS, Project and Portfolio Management was originally only to oversee large IT projects with budgets over $10 million. As the scope and type of projects expanded and because of Project and Portfolio Management's limited resources, it relies on ARMs to provide project management support for projects that do not meet risk thresholds.

[15] This risk assessment was requested by House Concurrent Resolution 121 of the 2017 Regular Legislative Session.

[16] OTS is the contract holder for any IT contact made for state agencies. Most projects include contracts with vendors to provide services, such as to build new software.

			Exhibit 5			
			Targeted Selection of OTS Project and Portfolio Management Projects			
			Fiscal Years 2015 through 2018			
Agency	**Project**	**OTS Project Management Role***	**Status**	**Est. Start**	**Est. End**	**Total Cost for OTS Services***
DCFS	Comprehensive Child Welfare Information System (CCWIS)	Project Manager	In Progress	2017	2021	$128,910
DCFS	Child Background System	Coordinator, Emergency Purchasing, Issue Resolution	Completed	1/1/2018	12/15/2018	could not provide
DOC	TIGER – Targeted Interventions to Greater Enhance Re-entry	Assist Project Manager	Completed	11/1/2016	12/31/2018	$58,950
DOE	DOE Child Background System	Coordinator, Emergency Purchasing, Issue Resolution	In Progress	8/1/2017	3/1/2019	could not provide
DPS	OMV – Driver's License System	Purchasing	In Progress	4/1/2017	2019	$16,295
LDH	OPH – WIC EBT & MIS	OTS delegated to LDH	Completed	10/1/2014	2019	$14,760
LWC	LWC Fraud System	Developing Requirements and RFP	In Progress	3/1/2017	6/1/2019	$3,150+

*OTS provided this information upon request. It was not part of the list of projects originally provided by OTS.
Source: Prepared by legislative auditor's staff using information provided by OTS.

OTS has not developed a process to manage IT projects, as recommended by best practices. OTS' Project and Portfolio Management section has not developed policies and procedures regarding managing IT projects,[17] including defining the types of project management services[18] it offers, what steps it should take to follow best practices, and what documentation it should retain for each project. We requested all project documentation for seven IT projects but the documentation provided to us did not always include key documents recommended by Project Management Body of Knowledge (PMBOK), such as project plans, project schedules, or payment schedules. In addition, OTS could not provide overall project costs for two projects. According to OTS, the Project and Portfolio Management section follows the PMBOK best practices; however, OTS was not able to provide evidence that it regularly follows these standards. In addition, Deloitte's IT consolidation plan outlines guidelines, tools,

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[17] OTS ARMs also do not have policies and procedures regarding management of IT projects and do not follow PMBOK best practices.
[18] OTS' role in managing IT projects can vary based on the needs of the agency, scope of the project, and OTS staffing availability. For example, OTS may act as the primary project manager, it may only develop RFP documents to contract out the project, or it may only coordinate agency staff and vendors.

and templates that program and project managers should use to manage projects, but OTS has not implemented these or developed policies and procedures regarding managing IT projects.

According to OTS, its inability to hire qualified staff affected its ability to respond to the project management needs of the agencies it supports. However, OTS has worked with the Department of Administration (DOA) and State Civil Service (SCS) and added project management to the staffing areas it can use to augment state resources with outside contractors. OTS said that removing these barriers will provide flexibility in responding to project management needs.

State agency staff and management expressed concern with OTS' ability to manage IT projects.[19] One respondent stated, "In most cases I feel we are leading the project and making determinations because we cannot wait on OTS to make a decision." Another respondent stated, "We have been waiting more than two years for a major project to get off the ground, and have only seen some progress in the last few weeks." This agency instituted a bi-weekly meeting with OTS because of delays in getting projects started. According to our survey results, 21 (39.6%) of 53 respondents stated that OTS projects were completed timely, and 18 (36%) of 50 stated that OTS project management is effective at ensuring deliverables are met. Exhibit 6 shows the results from our survey of state agencies regarding OTS project management services.

Exhibit 6 Survey of State Agencies November 2018						
Survey Question	**Strongly Agree/Agree**		**Neutral**		**Disagree/Strongly Disagree**	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
OTS projects for your agency are completed timely.	21	39.6%	12	22.6%	20	37.7%
OTS' project management is effective at ensuring deliverables are met.	18	36.0%	16	32.0%	16	32.0%
Source: Prepared by legislative auditor's staff using information from a survey of state agencies.						

Recommendation 6: OTS should track all state agencies' IT projects, including project costs, timeframes, and OTS' role in the project.

Summary of Management's Response: OTS partially agrees with this recommendation and concurs that it has not tracked all state agencies' IT projects for ad hoc projects as defined by best practices. However, it stated that all enterprise level projects have followed established project management practices. See Appendix A for management's full response.

Recommendation 7: OTS should develop formal policies and procedures for the ARM function and for Project and Portfolio Management on how to manage IT projects.

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[19] Based on our survey of state agencies and OTS surveys of agency undersecretaries

Summary of Management's Response: OTS agrees with this recommendation and stated that additional training is planned for the ARMs to provide guidance on managing smaller projects. See Appendix A for management's full response.

Staffing challenges, such as the high number of retirements and vacancies, affect OTS' ability to provide IT services effectively and efficiently. According to state agencies and OTS staff, positions are vacant for long periods of time, which negatively impacts agencies' operations. In addition, OTS' 100% cost-recovery funding model presents challenges in terms of planning for the future IT needs of state agencies.

When Louisiana consolidated IT services, OTS took responsibility for the IT services of 21 agencies. OTS encountered several challenges in consolidating, including staffing limitations due to Civil Service rules and challenges retaining and recruiting staff. In addition, OTS' funding model is 100% cost-recovery, which means OTS does not receive any budget allocation to fund administrative functions. This funding model also limits planning for infrastructure improvements.

OTS staffing levels and turnover, often due to retirements and vacancies, are a challenge to effective service delivery. According to interviews with and surveys of state agencies, low staffing levels negatively impacts the ability of state agencies to perform their jobs efficiently. For example, one agency stated that it has been waiting for OTS to hire two programmers for six months but OTS has not even begun the interview process. Another respondent stated, "OTS does not seem to have the resources to adequately manage large scale projects, and often uses lack of resources as a reason the project tasks are late." During fiscal years 2015 through 2018, OTS had a 9.75% turnover rate, and 42% of turnover was due to retirement. High levels of retirements pose a challenge because agencies lose knowledge regarding legacy systems, many of which are not supported anymore, and it is difficult to hire new staff with the appropriate knowledge levels for these systems.

According to OTS, it struggles to recruit and hire staff, often due to Civil Service job titles and structures. OTS inherited a variety of job titles and, prior to consolidation, state agencies often paid IT staff very differently. This poses a challenge to OTS when trying to fill vacant positions and offer competitive salaries that are not disparate to salaries already being paid. OTS is currently working with Civil Service on a comprehensive job study to address additional staffing challenges, such as pay level disparities, additional necessary job titles, and clarifying job qualifications. For example, because of job description limitations, some highly-qualified applicants for project manager positions were deemed not eligible for OTS positions because they did not have IT experience; however, the IT experience required is not fully relevant to the project manager role. OTS is also working to adjust the qualifications to include individuals who are certified in project management.

In addition, OTS maintains high levels of vacancies. As of June 2019, OTS had 70 vacancies, and 27 (38.6%) were vacant for more than six months. More than half (54.3%) of the vacancies were in End User Computing (i.e., help desk/field services) and Application Development. Exhibit 7 shows the age of vacancies as of June 2019. According to state agencies, OTS vacancies cause delays. For example, in our survey of state agencies, one respondent noted, "It took almost six months for OTS to bring in temp workers that had the ability to code projects currently in development. This was a significant delay." According to an OTS ARM, "Hiring processes MUST be streamlined. It often takes 6 months to fill a vacant position." According to OTS management, jobs are sometimes posted six to eight times before it can fill a position. In addition, OTS stated that jobs are hard to fill because new college graduates do not want to work on old legacy systems and can get higher salaries in the private sector.

Exhibit 7 OTS Vacancies by Age As of June 2019		
Age of Vacancy	**Number of Positions**	**Percent of Positions**
< 30 days	10	14.2%
1-3 months	19	27.1%
3-6 months	14	20.0%
6 months - 1 year	17	24.3%
1-2 years	8	11.4%
> 2 years	2	2.9%
Total	**70**	**100.0%**
Source: Prepared by legislative auditor's staff using information provided by DOA HR.		

OTS' 100% cost-recovery funding model presents challenges in terms of planning for the future IT needs of state agencies. Budget restrictions caused state agencies to cut their IT budgets for several years prior to consolidation and continue to drive OTS' economic decisions post consolidation. For example, all IT positions that were vacant at the time of consolidation were eliminated while at the same time, OTS inherited aging IT infrastructure estimated to cost $1.04 billion to replace.

OTS has a 100% cost-recovery funding model, which means they do not receive a general fund appropriation and federal law prevents them from generating a profit from the services they provide to state agencies. In addition, costs associated with some of the services they provide, such as facilitating IT purchases and contract invoices, are "passed on" to state agencies and can result in a loss for OTS because it is not reimbursed for its costs associated with these procurements.

According to OTS, these budget challenges make OTS' financial and administrative processes difficult. OTS has to factor its operating costs into the rates it charges state agencies for the services it provides. As a result, until fiscal year 2020, OTS had to start every fiscal year with seed money from the State Treasury to fund operating costs until they could be recouped through agency billing.[20] In addition, restrictions on federal funding complicate OTS' recoupment of costs on projects that are partially or fully funded with federal funds, and OTS often depends on funds from the shared Louisiana Equipment and Acquisition Fund to make big IT purchases. All of these budget restrictions make it difficult for OTS to plan for and fund staff positions and IT procurements for projects that are high priority but have not been initiated yet.

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[20] Beginning in fiscal year 2020, OTS received a capital advancement that will be retained each year with the goal of maintaining at least two months of working capital.

Recommendation 8: OTS should continue to work with Civil Service to address limitations to recruiting and hiring staff.

Summary of Management's Response: OTS partially agrees with this recommendation and stated that it continues to face staffing challenges with filling vacancies with qualified staff. However, the agency is doing everything possible with available resources and is aggressively recruiting candidates. See Appendix A for management's full response.

APPENDIX A: MANAGEMENT'S RESPONSE

JOHN BEL EDWARDS
GOVERNOR

JAY DARDENNE
COMMISSIONER OF ADMINISTRATION

January 3, 2020

Daryl G. Purpera
Louisiana Legislative Auditor
1600 North Third Street
Baton Rouge, LA 70802

RE: OTS Performance Audit

Dear Mr. Purpera:

Please accept this letter as the Division of Administration Office of Technology Services' official
response to the referenced findings and recommendations presented as a result of a recent
performance audit of the Office of Technology Services. We appreciate the time taken by the
Legislative Auditor staff to attempt to learn the complexity of the organization, however, we
believe that the full depth of this complexity is not fully understood nor has enough credit been
given for the immense progress that has been made since the Office of Technology's inception in
July 2014.

As stated in the report, there were three legislatively mandated roles for OTS. What was not
discussed in depth was what the Office of Technology Services inherited on day one of the
consolidation nor was it clearly understood that the Deloitte plan was a guideline created by a
third party vendor based upon their understanding of the best practices of other governmental
consolidations. Even the LLA auditors, compared the OTS organization to states with
consolidated environments that are not structurally set up like the State of Louisiana's OTS. Some
states referenced simply procure IT technologies and are not responsible for implementation of
the services rendered. While OTS utilized much of the Deloitte plan, several changes in the
environment caused OTS to have to veer from directly following the original plan.   While this
report mentioned staffing challenges, it does not reference historical information regarding what
was inherited from the executive branch agencies. In the 5 years preceding consolidation, there
was an average of 1,263 T.O. dedicated to IT functions. In the 5 years post-consolidation, OTS
has averaged 803 T.O. In addition, OTS had to absorb within those numbers – support staff for

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P. O. Box 94095 ⚜ BATON ROUGE, LOUISIANA 70804-9095 ⚜ (225) 342-7105 ⚜ 1-800-354-9548 ⚜ FAX (225) 219-9465
AN EQUAL OPPORTUNITY EMPLOYER

A.1

Human Resources, Audit, Legal and administrative support. In addition, documentation of technologies, skills of the existing staff, licensing of software, maintenance records, and other items which are necessary to fully understand the breadth of what OTS became responsible for was not clearly known on day one.

In order to overcome these weaknesses, OTS has had to investigate and determine the status of the wide spectrum of technologies it was responsible for in order to ensure that critical services were available, did not go out of compliance, or were maintained at a level to ensure protection of the state's data. As a result of HCR121, a full inventory of technologies and infrastructure was defined. Staffing surveys were conducted and culminated in evaluating the skill sets of existing personnel to enable cross agency training and support. A total reorganization of the staff took almost two years to go through the Human Resources and Civil Service processes. Securing the state's data through investments in firewalls, endpoint protection, and web filtering services were a high priority prior to any cyber-attacks. This prevented the loss of any fiscal and personal data for the state's citizens.

In an effort to add further clarity, the following paragraphs summarize OTS's response to the findings and recommendations outlined in the report.

Page 1, inserted text box:
OTS believes the information presented in the text box is slanted negatively from the State Agency Employee Survey Results. One of the negative statistics included cites 28.7% of those surveyed reporting that OTS's resolution of help desk tickets were below average or poor. That statistic could just as easily have been stated that 71.3% of those surveyed were satisfied with the response time. There was no benefit given to the complex and diverse nature of the tickets submitted within the survey instrument used.

Page 1, second paragraph:
There were three legislatively mandated roles for OTS. OTS added that the intent of consolidation was to save money for the state. In the first year of consolidation the organization saved 75 million dollars due to purchasing power, consolidation of licenses, etc.

Page 6, Finding #1:
OTS partially concurs that it does not have a comprehensive catalog of services. We agree that a catalog of services should be provided where appropriate. We don't agree that all services provided by OTS can be relegated to a catalog. Agencies do not self-provision services. OTS's plan is to evolve the catalog of services to the level of where customer agencies can access the services. While OTS has not developed a single comprehensive catalog of services, there were two service catalogs that were provided for End User Computing and Data Center Operations. OTS, as a managed IT service provider for the executive branch agencies, is responsible for meeting with the executive level staff of the agency and determining their business needs. While a service catalog should provide costs and how to procure, service catalogs alone are not sufficient for an agency to determine the overall cost of their business need. An analysis must include input from the agency, the ARM, and the technical governance groups to fully determine

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what is needed to fulfill the agency's business needs. By gaining this input the transparency issue would be resolved.

Page 8, Finding #2:
OTS concurs that it has not defined performance expectations for each of the services it provides as has been our intention to do so. Once all performance level expectations are defined, the service management system will be updated with these metrics for tracking and to ensure compliance. Receiving and responding to feedback is incumbent on the ARM position. In regards to providing a feedback loop, it is critical for the agencies to include the ARMs early and often in their strategic planning sessions. This information can then be shared across the verticals and with the executive team to provide robust services.

Page 10, Finding #3:
OTS concurs that it has reduced the amount of time it takes to resolve service requests. Further enhancement of the service management system will include tracking of service level expectations. Complex tasks are in the process of being defined for inclusion into the service management system. Executive directors will be responsible for ensuring that established targets are met.

Page 11, Finding #4:
OTS concurs that it has not fully developed procedures for handling complex service requests. This is a work in progress. In addition to the ongoing development of the service management system, a web redesign committee has been meeting to address communication needs through the implementation of portals for internal and external entities. Internal communications between OTS sections will be addressed through frequent meetings, an enhanced website and intranet, and by creating responsibility matrices where possible to clearly define roles and responsibilities

Page 13, Finding #5:
OTS concurs in part that it has not tracked all state agencies' IT projects for adhoc projects as defined by best practices. However, all enterprise level projects have followed established project management practices. All projects are not the same and thus do not require the same level of detail to be maintained. Additional training is planned for the ARMs to provide guidance on managing these smaller projects. ARMs by default were called upon to manage these due to the lack of Project Management resources. OTS has since expanded resources to the project management office.

Page 16, Finding #6:
OTS partially concurs that it continues to face staffing challenges with filling vacancies with qualified staff. However, we do everything possible that we can with the resources that we have available to meet the needs of the customer agencies. As a result, OTS is aggressively recruiting candidates. In addition, OTS is continuing to undergo job studies with Civil Service, in conjunction with the Office of Human Resources to better define the skills and prerequisites needed to perform as expected. Our cost recovery model has no impact on staffing and has more to do with meeting capital and infrastructure needs of

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all the agencies. OTS will continue to involve the agencies in their pursuit of the most qualified staffing, the development of their IT budgets, and planning for future needs.

In conclusion, OTS has successfully accomplished the successful implementations of significant projects such as LaMEDS for Medicaid, LITE for Integrated Eligibility, and resumed implementation of La.gov with limited resources and money. OTS inherited many systems to support that were at the end of life. As such, OTS worked with the agencies to keep the systems operational while developing replacement systems. OTS created a Project Management Office to handle major enterprise projects. We've implemented a cyber-security practice that out of scope agencies (including higher education and municipalities) have come to rely on to better protect data across the state. OTS modernized the information technology infrastructure and data center operations by creating the first State Enterprise Architecture, while standardizing technologies, processes and procedures to allow OTS to successfully meet expectations in the future.

We appreciate the efforts of the LLA staff. As a young organization, OTS has much to learn through this process in order to mature into the organization that will not only meet, but exceed the needs of the executive branch agencies. It's critical that as OTS continues to mature that we be given the latitude and understanding of the depth and breadth of this engagement. OTS has come a long way, but we recognize that there is room for improvement.

Sincerely,

Richard "Dickie" Howze
Chief Information Officer
Office of Technology Services

cc: Barbara Goodson, Deputy Commissioner
        Randy Davis, Assistant Commissioner for Policy and Personnel
        Desiree Honore Thomas, Assistant Commissioner for Statewide Services
        Neal Underwood, Deputy CIO for OTS
        Anthony Hamilton, Internal Audit Manager for DOA

Louisiana Legislative Auditor
Performance Audit Services

Checklist for Audit Recommendations

Agency: Office of Technology Services

Audit Title: Evaluation of Information Technology (IT) Service Delivery to State Agencies

Audit Report Number: 40180023

Instructions to Audited Agency: Please fill in the information below for each finding and recommendation. A summary of your response for each recommendation will be included in the body of the report. The entire text of your response will be included as an appendix to the audit report.

Finding 1: OTS has not developed a comprehensive list of services they offer to state agencies and how much each service costs, as recommended by best practices. State agency management and OTS Agency Relationship Managers (ARMs) both reported not knowing the full range of services provided by OTS.
Recommendation 1: OTS should develop a comprehensive service catalog that includes pricing, service components, and how to order services that is easy for state agencies to use and understand.
Does Agency Agree with Finding? Agree [*] Disagree [ ]
Agency Contact Responsible for Finding: *** PARTIALLY AGREE**
Name/Title: Neal Underwood/Deputy Chief Information Officer
Address:1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number:225-342-7105
Email: neal.underwood@la.gov

Finding 2: OTS has not defined performance expectations for each of the services it provides or developed formal mechanisms for receiving and responding to feedback, as recommended by best practices. This limits state agencies' ability to hold OTS accountable. In our survey of state agencies, 29 (60.4%) of 48 respondents agreed that agency specific benchmarks or performance measures would help OTS serve their agency better.
Recommendation 2: OTS should develop service level expectations that define metrics for monitoring performance and provide them to state agencies through a comprehensive service catalog or formal SLAs.
Does Agency Agree with Finding? Agree [X] Disagree [ ]
Agency Contact Responsible for Finding:
Name/Title: Neal Underwood/Deputy Chief Information Officer
Address:1201 N. 3rd Street

City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: neal.underwood@la.gov
Recommendation 3: OTS should develop a customer feedback loop to collect, aggregate, and analyze feedback from state agencies and implement procedures to act on services and areas that need improvement.
Does Agency Agree with Finding? Agree ☐ *   Disagree ☐
Agency Contact Responsible for Finding: *** PARTIALLY AGREE**
Name/Title: Neal Underwood/Deputy Chief Information Officer
Address: 1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: neal.underwood@la.gov

Finding 3: OTS has reduced the amount of time it takes to resolve service requests. Service desk teams reduced the overall time it took to resolve tickets from 12.9 business days in fiscal year 2016 to 2.3 business days in fiscal year 2018 and field teams reduced resolution times from 16.1 business days to 4.6 business days. However, OTS should monitor compliance with internal targets to ensure all requests are resolved in a timely manner.
Recommendation 4: OTS should develop target resolution time frames for all service request situations and develop procedures to monitor open service desk tickets to ensure that all EUC service desk and field teams meet targets for ticket resolution.
Does Agency Agree with Finding?   Agree ☐ X   Disagree ☐
Agency Contact Responsible for Finding:
Name/Title: Neal Underwood/ Deputy Chief Information Officer
Address: 1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: neal.underwood@la.gov

Finding 4: OTS has not developed procedures for handling complex service requests, and poor internal communication between OTS sections contributes to delays in resolving these types of requests. As a result, OTS does not always respond timely or provide status updates to agencies regarding these service requests.
Recommendation 5: OTS should develop formal policies and procedures outlining roles and responsibilities, and processes regarding how Data Center Operations, Application and Data Management, and Information Security sections should handle service requests, including target time frames for resolution and customer engagement.
Does Agency Agree with Finding?   Agree ☐ X   Disagree ☐
Agency Contact Responsible for Finding:
Name/Title: Neal Underwood/ Deputy Chief Information Officer
Address: 1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802

Phone Number: 225-342-7105
Email: neal.underwood@la.gov

Finding 5: OTS does not track all state agencies' IT projects and has not developed a process to manage IT projects as recommended by best practices. OTS could not provide key documentation, such as project plans and schedules, or payment schedules, for projects we reviewed to determine if it managed projects according to best practices. Effective project management is important because OTS has identified a $959 million backlog for modernizing the most at risk applications.
Recommendation 6: OTS should track all state agencies' IT projects, including project costs, timeframes, and OTS's role in the project.
Does Agency Agree with Finding? Agree ☐ *   Disagree ☐
Agency Contact Responsible for Finding: ***PARTIALLY AGREE**
Name/Title: Neal Underwood/ Deputy Chief Information Officer
Address:1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: neal.underwood@la.gov
Recommendation 7: OTS should develop formal policies and procedures for the ARM function and for Project and Portfolio Management on how to manage IT projects.
Does Agency Agree with Finding?   Agree ☐ X   Disagree ☐
Agency Contact Responsible for Finding:
Name/Title: David Moore, Director for Agency Relationship Managers
Address: 1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: david.moore2@la.gov

Finding 6: Staffing challenges, such as the high number of retirements and vacancies, affects OTS's ability to provide IT services effectively and efficiently. According to state agencies and OTS staff, positions are vacant for long periods of time which negatively impacts agencies' operations.   In addition, OTS's 100% cost-recovery funding model presents challenges in terms of planning for future IT needs of state agencies.
Recommendation 8: OTS should continue to work with Civil Service to address limitations to recruiting and hiring staff.
Does Agency Agree with Finding?   Agree ☐ *   Disagree ☐
Agency Contact Responsible for Finding: **PARTIALLY AGREE**
Name/Title: Neal Underwood/Deputy Chief Information Officer
Address: 1201 N. 3rd Street
City, State, Zip: Baton Rouge, LA 70802
Phone Number: 225-342-7105
Email: neal.underwood@la.gov

APPENDIX B: SCOPE AND METHODOLOGY

We conducted this performance audit under the provisions of Title 24 of the Louisiana Revised Statutes of 1950, as amended. Our audit evaluated the Office of Technology Services' (OTS) delivery of information technology (IT) services to state agencies. The audit covered fiscal years 2016 through 2018. Our audit objective was:

To evaluate OTS' customer-service framework for providing IT service delivery to state agencies.

We conducted this performance audit in accordance with generally-accepted *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. To answer our objective, we reviewed internal controls relevant to the audit objective and performed the following audit steps:

- Researched and reviewed relevant state and federal statutes and regulations related to the state's IT consolidation and the creation of OTS.

- Conducted a survey of 77 agency staff in 18 state agencies in November 2018 regarding how the consolidation has affected their agencies. We received 56 (72.7%) responses.

- Interviewed OTS staff and obtained policies and procedures to gain an understanding of its internal organization, roles and responsibilities of each section, and internal and external communication plans.

- Researched best practices and seven other states that had consolidated IT services. Contacted six states to collect information on their IT consolidations: Alabama, Minnesota, Mississippi, Missouri, Texas, and Utah. We researched Maine's consolidation but could not contact them.

  - Requested documentation recommended by best practices from other states. For example, service catalog, Service Level Agreements and/or Memorandum of Understanding with state agencies, and Continuous Service Improvement plans.

- Obtained agency payments to OTS and OTS expenditures for fiscal years 2016 through 2018.

- Obtained and analyzed OTS service desk data for fiscal years 2016 through 2018 from the HEAT and Ivanti systems.

- Tested the service desk data for reliability. We did not identify significant reliability issues. For minor issues, we adjusted our analyses to exclude these records, if needed.

- Using service desk data, tested the change in average ticket resolution time by the EUC service desk and field teams, and the Data Center Operations, Application and Data Management, and Information Security sections.

- Using EUC's internal ticket resolution timeframe targets, tested to determine the percentage of tickets resolved within target timeframes by the EUC service desk and field teams.

- Requested EUC service desk call center data to calculate call center statistics. However, OTS could not provide call center data for our scope.

- Conducted a survey of all 15 ARMs in May 2019 to learn more about their day-to-day job duties and the challenges they face as liaisons between OTS and state agencies. We received 15 (100%) responses.

- Requested and reviewed the responses to OTS' surveys of agency undersecretaries to determine if OTS was meeting their agency's needs. OTS conducted these surveys in August 2017, November 2017, and July 2018.

- Requested and obtained from OTS documentation for a targeted selection of seven projects from OTS' list of state agency projects and tested them to see if OTS was managing projects as recommended by best practices. Our testing included comparing OTS project management documents for each of the seven projects to documentation standards/best practices recommended by the Project Management Body of Knowledge (PMBOK), Sixth Edition, by the Project Management Institute; and Deloitte Consulting's State of Louisiana Office of Information Technology IT Consolidation – Project and Portfolio Management document.

- Requested policies and procedures for the types of documentation OTS' Project Management Office must maintain for each level of project management services it provides.

- Obtained data on OTS staffing levels and vacancies for our scope using ISIS HR reports.

- Discussed the results of our analysis with OTS management and provided OTS with the results of our data analyses.

APPENDIX C: STATE AGENCY PAYMENTS TO OTS

State Agency Payments to OTS, Fiscal Years 2016 through 2018					
Agency	FY 16 Payments	FY 17 Payments	FY18 Payments	Total	Percent
Louisiana Department of Health	$41,235,245	$59,729,519	$63,887,242	$164,852,005	19.8%
Department of Child and Family Services	38,935,337	36,218,495	72,260,468	147,414,299	17.7
Division of Administration	43,485,741	43,044,747	49,227,388	135,757,876	16.3
Public Safety and Corrections	39,839,030	32,267,103	37,861,977	109,968,110	13.2
Department of Revenue	14,369,201	15,242,577	25,839,944	55,451,721	6.7
Department of Education	17,794,177	18,793,106	19,833,596	56,420,879	6.8
Department of Transportation and Development	16,532,520	13,861,550	16,325,277	46,719,347	5.6
Louisiana Workforce Commission	7,757,948	8,774,675	8,908,364	25,440,986	3.1
Department of Environmental Quality	4,470,520	4,642,597	7,109,999	16,223,116	1.9
Office of Group Benefits	274,134	4,000,691	5,191,988	9,466,813	1.1
Wildlife and Fisheries	2,635,801	3,274,225	3,967,173	9,877,199	1.2
Non-OTS Agencies	14,198,149	8,303,691	3,652,433	26,154,273	3.1
Homeland Security and Emergency Preparedness	2,406,000	1,998,135	2,036,055	6,440,189	0.8
Department of Natural Resources	8,845,915	2,830,393	1,751,354	13,427,662	1.6
Coastal Protection and Restoration	474,546	1,357,993	1,041,703	2,874,242	0.3
Louisiana Economic Development	639,160	742,625	873,018	2,254,803	0.3
Office of Financial Institutions	610,751	597,633	812,463	2,020,847	0.2
Veterans Affairs	604,262	826,597	753,920	2,184,778	0.3
Elderly Affairs	188,852	202,705	219,660	611,217	0.1
Inspector General	46,535	61,812	53,012	161,359	0.0
Total	$255,343,822	$256,770,868	$321,607,031	$833,721,721	100.0%

Source: Prepared by legislative auditor's staff using payment information from OTS.

APPENDIX D: EXCERPT FROM UTAH'S SERVICE CATALOG

Application Services

This product encompasses three services: Application Development, Basic Application Support, and Dedicated Application Support.

Application Development

This service includes the full range of application development activities including:
- Application design
- Application programming
- Database design
- Internal design
- Integration with existing systems
- Data conversions
- Data receiving and transmissions
- Batch job scheduling
- Unit testing

We build applications that are web based or standalone. Our designs can use a variety of technologies, including Java, .NET, PHP, and others. We use the best technologies for your purpose.

Customers can use our services in a variety of ways. Some examples are:
- End-to-end product development
- Co-development
- Mentoring for specific technologies
- Data modeling and design
- Specialized component construction for large applications

Features and Descriptions

Web Application Development

We have considerable expertise in creating web based software that is compliant with State Standards for both intranet and public facing solutions. Our designs integrate authentication and authorization, and meet business requirements.

Java Development

Java and industry accepted open source products are the primary tools we use to develop applications. Examples of our tools are Spring, MyBatis, Hibernate, JSP, JavaScript, and Jasper Reports. If you have an established development shop, we will work with your standards and tools to conform to your current technical direction.

.NET Development

We can provide development resources for your .NET projects. We use best practice and Microsoft standards. We put those together with your specific development standards, and you get high quality solutions.

PHP Development

We provide PHP development services that include the use of MVC frameworks. We'll help you use PHP for small to medium sized application development, or as a supplement to websites or other applications.

Rate

Web Development, including Java, .NET, etc.

FY20 Rates:
Tier 1: $67.80 / hr
Tier 2: $85.13 / hr
Tier 3: $95.28 / hr
Tier 4: $107.23 / hr
Master Engineer/ Consultant/Other: SBA

Order Product /Service

Call To Order:
(801) 391-7779

Responsive Design

We design and build web pages that detect users screen size and orientation then change their layout accordingly; whether that be full screen, laptop, tablet or phone.

ADA Compliant

ADA or Americans with Disabilities Act Compliant applications is something we take very seriously. We use best practice designs that enable your application to be use by everyone whether they have a disability or not.

Application Support after Deployment

Once an application is developed and deployed, let us help with ongoing support and create an ongoing and separate maintenance agreement.

DTS Responsibilities

DTS will assist customers in capturing requirements in the form of a Project Proposal or Statement of Work. Once work is approved, DTS is accountable for the delivery of the features and functionality described by the document within the agreed timeframe and for the agreed cost. If the customer requirements change, and scope, timeline or cost is affected, DTS will prepare a Change Request and present it to the customer for approval.

Agency Responsibilities

The customer will supply the necessary information and resources for project definition and also participate in testing and approval as agreed upon in the Project Proposal or Statement of Work.

Features Not Included

Project Management

The Project Management Office (PMO) provides Project Management services as outlined in their product offering. We require a project manager either from the PMO or the customer, unless it is a small project. (Less than 100 hours.)

User Documentation

This can be included if requested by the customer, but it is not routinely provided.

User training and training materials

This can be included if requested by the customer, but it is not routinely provided.

Ordering and Provisioning

An organization may engage Application Development for service by contacting:

- DTS Solutions Delivery – Chad Thompson (801) 514-7508
- The DTS Project Management Office (801) 538-3585
- Your IT Director

Our team will help clarify the request and engage other resources as necessary (Business Analysts, Project Managers, Systems Engineers, etc.). We provide written project proposals and cost estimates. We can also develop a Statement of Work and serve a customer on a time and materials basis.

D.2

APPENDIX E: PROJECTS AND CONTRACTS MANAGED BY OTS PROJECT MANAGEMENT OFFICE

Project and Contract Listing Provided by OTS Project Management Office* Fiscal Years 2015 through 2018				
IT Projects				
Agency	Project	Status	Est. Start	Est. End
DCFS	Acess replacement	In Progress	2017	2018
DCFS	CCWIS	In Progress	2017	2021
DCFS	Child Background System	Completed	1/1/2018	12/15/2018
DCFS	DCFS - Statewide Call Center	In Progress	1/2/2019	4/1/2019
DCFS	IE - DSNAP	In Progress	4/3/2017	11/18/2019
DCFS	Integrated Eligibility (IE) - STATEWIDE	In Progress	4/3/2017	11/18/2019
DOC	TIGER - Targeted interventions to Greater Enhance Re-entry	Completed	11/1/2016	12/31/2018
DOE	Birth thru Grade 12 solution	In Progress	1/1/2018	6/30/2020
DOE	DOE Child Background System (CBC)	In Progress	8/1/2017	3/1/2019
DOTD	Epermitting and Payment System	In Progress	7/1/2016	6/30/2019
DOTD	Influence Line Analysis	In Progress	7/17/2017	5/30/2019
DOTD	La Geaux Oversize Overweight Permitting	In Progress	7/1/2015	4/30/2019
DPS	LSP – AFIS System Upgrade	In Progress	1/19/2015	4/1/2019
DPS	OMV - Bankruptcy on Cancellations	Completed	11/3/2017	12/15/2017
DPS	OMV - CSD Scanning Contract	Completed	7/1/2017	4/30/2018
DPS	OMV - Driver's License System	In Progress	4/1/2017	2019
DPS	OMV - Modernization	In Progress	10/30/2017	6/30/2023
DPS	OMV - Nat'l Medical Examiners Registry	On Hold	1/2/2017	6/22/2018
DPS	OMV - ODR Letters	Completed	7/1/2018	11/19/2018
DPS	OMV - Partial Pay - NOV	On Hold	2/5/2018	4/24/2018
DPS	OMV - State-to-State	On Hold	11/13/17	10/18/2018
LDH	Medicaid Eligibility and Enrollment	In Progress	12/1/2015	11/30/2019
LDH	OPH - WIC EBT & MIS	Completed	10/1/2014	2019
LDH	Provider Management Integration	In Progress	1/5/2018	TBD
LDH/OTS	Enterprise Architecture	In Progress	2/1/2016	2/28/2020
LWC	Change Management	Completed	6/1/2016	9/1/2016
LWC	Ciber AWS System	On Hold	8/1/2017	4/1/2018
LWC	LWC Fraud System	In Progress	3/1/2017	6/1/2019
OGB	FileNet Upgrade	On Hold	4/1/2018	12/1/2018
OGB	2015 Annual Enrollment	Completed	7/1/2014	4/1/2015

Agency	Project	Status	Est. Start	Est. End
OGB	2016 Annual Enrollment	Completed	8/1/2015	1/1/2016
OGB	2017 Annual Enrollment	Completed	8/1/2016	1/1/2017
OGB	2018 Annual Enrollment	Completed	8/1/2017	2/1/2018
OTS	Google/Microsoft 365 Pilot	Completed	3/1/2016	6/1/2016
PSS	Check Conversion	Completed	8/1/2017	7/31/2018
PSS	Enterprise Printing Consolidation	Completed	7/1/2016	6/30/2018

Contracts				
Agency	RFP/Contract	Status	RFP Date	Contract Date
ATC	Permit Replacement System	In Progress	4/1/2017	7/1/2019
DCFS	CCWIS	In Progress	2017	2021
DCFS	Integrated Eligibility	Completed		4/3/2017
DOE	Gemalto Criminal Background Checks	Completed		2/1/2019
DOE	LEAP Solution with DRC	Completed	11/1/2015	4/4/2016
DOE	B-12 System - TCC	Completed		1/1/2018
DOE	B-12 System - RFP	In Progress	4/1/2019	8/1/2019
DOE	Data Warehouse/Reporting Tools	In Progress		4/1/2019
DPS	LSP - Kologik CCH Maintenance Contract	Completed		7/18/2018
DPS	LSP - IGT Video Gaming System	Completed		6/30/2018
DPS	LSP - Idemia AFIS Upgrade	Completed		10/1/2015
DPS	LSP - Peak CJIS Software Purchase	Completed		4/10/2018
DPS	OMV - IRP System CEA	Completed		12/1/2017
DPS	OMV - IRP Support EnvocMoves	Completed		12/1/2017
DPS	OMV - Vehicle Registration Solution	Completed	5/1/2015	8/21/2017
DPS	OMV - Idemia Driver License System Upgrade	Completed		10/2/2017
DPS	OMV - Potomac - Unisys Mainframe Replacement ITB	Completed		12/23/2014
DPS	LOSCO - TEI Oil Spill Tracking	Completed	3/1/2018	7/1/2018
DPS	OSF - DBSysgraph Phase 4	Completed		6/25/2018
DPS	OJJ - SAS Staff Augmentation	Completed	11/1/2014	5/15/2015
DPS	OMV - Vehicle Registration and Kiosk RFP	Completed	5/1/2015	12/1/2016
DPS	OMV - MV Solutions Real Time insurance	Completed		7/21/2015
LDH	OPH - IDRIS LEEDS System Enhancements	Completed	7/23/2015	9/28/2015
LDH	Alpine Tech Group - POP System Enhancements	Completed	4/1/2016	9/16/2016
LDH	Mediware Inventory System	Completed	7/7/2016	9/1/2016
LDH	Enterprise Architecture	Completed	5/6/2015	2/29/2016
LDH	LaMEDS	Completed	2/14/2015	12/1/2015
LWC	Ciber Staff Augmentation	Completed		3/1/2019
LWC	OnPoint Fraud Prevention Solution	Completed	6/26/2017	2/19/2018

Agency	RFP/Contract	Status	RFP Date	Contract Date
OGB	MCSI Sole Source Purchase	Completed		11/16/2017
WLF	S3 Licensing System RFP	Completed	5/15/2016	11/29/2017
WLF	USGS Blackbear CEA	Completed		12/29/2017
*Listing does not include projects and contracts managed by OTS ARMs. **Source:** Prepared by legislative auditor's staff using information provided by OTS.				