INFORMATION TECHNOLOGY
CYBERSECURITY
CLOUD COMPUTING

PRESENTED TO HOUSE APPROPRIATIONS COMMITTEE

LEGISLATIVE BUDGET BOARD STAFF

APRIL 2018

Statement of Interim Charge

Monitor the ongoing implementation of Article IX, Sec. 9.13 of the General Appropriations Act and determine if state agencies are realizing cost savings and/or security enhancements in state operations related to cybersecurity, information technology, and cloud computing. Study trends in cloud computing and IT delivery services, and identify whether additional cost efficiencies, economies of scale, or IT modernization could be achieved.

Presentation Overview

- General Appropriations Act, (2018-19 Biennium) Article IX, Section 9.13

- Information Technology (Major Information Resources Projects)

- State Operations Related to Cybersecurity

- Cloud Computing Services

Article IX, Section 9.13
General Appropriations Act

- State agencies shall consider cloud computing service options, including any cost savings associated with purchasing those service options from a service provider or a statewide technology center established by DIR when making purchases for a major information resources projects.

- DIR is required to report to the Governor, Lieutenant Governor, and Speaker of the House of Representatives on the use of cloud computing service options by state agencies on or before November 15 of each even-numbered year.

- The report must include use cases that provide cost savings and benefits, including security enhancements. Agencies are to assist DIR in the creation of the report.

Information Technology (IT)

- In FY 2017, Department of Information Resources (DIR) provided a report to the Legislative Budget Board (LBB) on prioritization of state agencies' cybersecurity projects and projects to modernize or replace legacy systems.

- SB 1 85(R), Article IX, Section 9.10 requires the continuation of the report.

- DIR also is working with state agencies to introduce an Application Development Decision Framework. This is designed to guide agencies toward best practices in areas such as the identification of user needs, purchasing and development, deployment of cloud technologies, and staffing models.

- SB 532, 85 R requires DIR to collect certain information from state agencies on the status and condition of information technology infrastructure and report no later than November 15 of each even-numbered year to the Governor, Lieutenant Governor, Speaker of the House of Representatives, and staff of the LBB.

Major Information Resources Projects

- The Quality Assurance Team (QAT), which includes representatives of the Comptroller of Public Accounts (CPA), DIR, LBB, and the State Auditor's Office (advisory member), is charged with overseeing the development of major information resources projects.

- QAT is currently overseeing 79 major information resources projects with current estimated costs of $1.5 billion over the life of the projects.

- SB 533, 85 R, requires a state agency assessment of proposed technical architecture for project to ensure agency is using industry accepted architecture standards in planning for implementation.

- With major information resource projects, some agencies are beginning to use an Agile methodology for major Information Technology projects. Agile uses incremental, iterative work sequences known as sprints.

State Operations for Cybersecurity Controls

- For FY 2018-19, DIR was appropriated $21.5 million in All Funds to provide security policy, assurance, education, and awareness; and assist state entities in identifying security vulnerabilities.

- Additionally, DIR:

  - Provides a monthly online Cybersecurity Newsletter;

  - Hosts the Information Security Forum; and

  - Created the Texas Cybersecurity Strategic Plan for FYs 2018-2023 that establishes policy and governance security standards for agencies and institutions of higher education; which are closely aligned with the Federal Information Security Management Act.

- In addition to the $21.5 million appropriation to DIR for on-going cybersecurity services, in FY 2018-19 other agencies received $24.0 million for new cybersecurity projects and initiatives.

Cybersecurity in the State Budget

Cybersecurity costs are included in various strategies, projects, and programs in the budget, including:

- State Agency Staff (FTEs)

- Data Center Services (DCS)

- Centralized Accounting and Payroll/Personnel System (CAPPS)

- Capital Budgets

- Ongoing Maintenance (Daily Operations)

- Major Information Resources Projects

Cloud Computing Services

Three types of Cloud Computing Service Models:

- Infrastructure as a service

- Platform as a service

- Software as a service

Four types of Cloud Computing Deployment Models:

- Private Cloud

- Community Cloud

- Public Cloud

- Hybrid Cloud

Cloud Computing Services

- 76 percent of servers in the Data Center Services (DCS) program are using a private or public cloud service, allowing for improved operational efficiency, optimized delivery services and cost-savings.

- The DCS program has the ability to meet the growing technology needs for cloud services. The two state data centers offer storage, disaster recovery in fully managed facilities that include uninterrupted power source, networking, business continuity, and enhanced physical security.

- In 2015, DCS implemented hybrid cloud services with two major public cloud providers, Amazon Web Services (AWS) and Microsoft's Azure, for computing and storage.

Cloud Computing Services

- Cloud services offer alternatives to traditional IT delivery models, and are intended to reduce the burden of aging infrastructure and provide flexible, lower-cost, IT service delivery.

- In 2016, Department of State Health Services estimated a cost savings of 40 percent over three years using AWS. This estimate is self-reported by DSHS and has not been independently verified.

- CPA used a cloud-based commerce platform to replace legacy application architecture with TxSmartBuy2.0 (TSB2). Since the implementation of TSB2, CPA has reduced its maintenance costs to less than $3.3 million annually, a 64 percent annual savings. These savings are not necessarily indicative of what other agencies may experience.

- SB 532, 85 R requires DIR to submit a report to the Legislature and Governor's Office no later than November 15 of each even-numbered year on the use of cloud computing service options by state agencies.

Contact the LBB

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