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**Fiscal Year 2022 Data Center Services**

**Consolidation Measurement Report**

Texas Department of Information Resources

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# Executive Summary

## Data Center Services Program Background

As the state’s information technology (IT) agency, the Texas Department of Information Resources (DIR) serves Texas government by leading the state's technology strategy, ​protecting state technology infrastructure, and ​offering innovative and cost-effective solutions ​for all levels of government.​ As Texas experiences rapid population and economic growth, state government entities must deliver more constituent services with greater efficiency. As a result, the state is continuously investing in IT to accomplish many goals. These goals include improving business operations support, pursuing cost efficiencies, providing secure and innovative ways for Texans to interact with government, enhancing the digital experience of government services, and supporting open data initiatives to improve transparency. As governments are challenged to do more with less, the ability to outsource and optimize infrastructure and IT services becomes increasingly necessary to achieve economies of scale. DIR’s Data Center Services (DCS) Program – now known as the Shared Technology Services (STS) Program – enables government entities to meet these demands by providing a strong best-of-breed foundation for an ever-growing and enhanced set of IT services. The model that DCS operates is the closest thing in state government to privatized IT services.

Eligible customers of the STS program are Texas state agencies, institutions of higher education, and local government entities.

Services include fully and semi-managed public cloud, private cloud, mainframe, managed security, application development and maintenance, and bulk print-mail services. The program currently invoices 110 state and local entities. DIR, through its service provider vendors, provides the hardware, software, tools, and technical staff to fully support IT infrastructure.

## History

In 2005, the 79th Legislature passed House Bill 1516, which directed DIR to consolidate and standardize the IT infrastructure, products, and services across state agencies with large IT investments to reduce statewide costs, modernize aging state infrastructure, increase overall security, and strengthen disaster recovery capability. Additionally, lawmakers sought to stay current with IT best practices and reduce risks associated with disaster recovery, security, and critical state data and system assets backup.

In 2006, 29 state agencies were selected to participate in the data center consolidation. DIR then released a Request for Offer (RFO) to outsource the management of these designated agencies’ IT infrastructure, while consolidating more than 31 disparate, legacy agency data centers into two highly secure, redundant data centers operated by DIR in Austin and San Angelo. In 2007, with designated agency participation, DIR entered into a seven-year contract to operate the Data Center Services program. In 2010, DIR re-procured and re-structured DCS into a service integration model with multiple Service Component Providers (SCP) and a Multi-Sourcing Services Integrator (MSI) that positioned the state to achieve more flexibility, accountability, and functionality.

DIR continuously seeks to provide customers with new technologies and stronger security tools through contracts offering additional services. In 2016, DIR met the consolidation goal of the enacting legislation by fully consolidating mainframe, print-mail, and service desk services. In 2017, DIR executed two optional Managed Application Services contracts, one for application development and maintenance, and a second for application services-rate card. These contracts allow customers to reinvest infrastructure consolidation savings to continue modernizing legacy applications. In 2017, DIR executed a Managed Security Services (MSS) contract to provide customers with access to security monitoring and device management, incident response, and risk and compliance services. In 2018, DIR executed two contracts to support Texas.gov services, one for application development and maintenance within Texas.gov and one for payment processing. That same year, DIR executed a digital MSI model and renamed the DCS Program the Shared Technology Services Program. In 2020, DIR awarded multiple contracts for the Next Generation of Data Center Services incorporating new services into the STS model under the MSI. DIR also introduced Technology Solution Services (TSS) and Security Operation Services further enhancing the program’s technical solutioning and security operations capabilities.

## Consolidation Measurement Report

In 2013, the 83rd Texas Legislature amended Texas Government Code Section 2054.062[[1]](#footnote-2) requiring DIR to measure and report on the financial performance and progress of the data center consolidation effort. Specifically, DIR is tasked with:

* Developing a method of measuring costs for the data center consolidation initiative;
* Developing a method for collecting and validating data to determine a baseline assessment of costs;
* Evaluating costs and cost savings for consolidation based on the methodology;
* Coordinating assessment with DIR’s internal auditor for guidance;
* Developing a method of measuring progress for the data consolidation initiative;
* Evaluating progress for consolidation initiative;
* Reporting annually to primary stakeholders; and
* Posting consolidation reports on the DIR website.

To meet the statutory reporting requirements, in 2014, a contracted third party developed the cost measurement methodology and worked collaboratively with customer agency representatives to review and refine the proposed methodology. The initial DCS Consolidation Report was published on February 27, 2015.

Multiple contract re-procurements and the program’s adoption of fixed contractual pricing resulted in necessary changes to the fiscal year (FY) 2021 reporting period methodology. As agreed upon by customers, DIR used the modified methodology for the FY 2021 report which provided multiple views of the program’s financial performance. This report again excludes voluntary customers that are currently contracting with DIR to retain the flexibility to consume services in the future but that are not currently being invoiced.

This consolidation measurement report provides analysis and insight into the following program elements:

1. Baseline Assessment of Financial Performance.
   * A comparison between the amount that legislature appropriated to agencies for the program versus actual customer spending on the program.
   * Total customer spending by service category.
2. FY 2022 Contractual Rate Adjustments.

* Changes to methodology and impact on unit rate impact analysis.

1. Data Center Infrastructure Consolidation Progress.
   * Status of infrastructure consolidation initiatives.
   * Description of the program’s accomplishments.

# Baseline Assessment of Financial Performance

## Program Performance

The highly complex program has experienced dynamic growth resulting from expansion of and changes to services, as well as strategic investments supporting the ongoing consolidation effort. The following section provides insight into FY 2022 program costs.

The 37 agencies spent $75.9 million more than the legislature’s original appropriation for the program services due primarily to increased demand for security services, application development and maintenance, and server instances related to COVID-19 response.

Note: Although DIR renamed the DCS program to STS in 2019, the General Appropriations Act uses the term “Data Center Consolidation Capital Budget” to refer to the funds that the Texas Legislature appropriates to state agencies to use for the STS program’s services. For purposes of this section, the below chart uses “DCS appropriations” to refer to funds appropriated for the STS program, to be consistent with the General Appropriations Act.



In FY 2022, the legislature appropriated approximately $323 million for agencies to use on the program’s services, but actual expenditures totaled approximately $397.8 million. This spending increase is primarily attributable to a 6.6% percent increase in usage of public cloud services and a 64% percent increase in usage of managed application development services over FY 2021, offset by reductions in usage mainframe and managed security services. Customer agencies may spend more than originally appropriated for an individual line item in their budget if they transfer budget from other expenditure categories, but this analysis does not capture those appropriation transfers. Appendix A provides individual customer agency analyses.

The following services comprised the majority of customer agencies’ spending for FY 2022:

* **Public Cloud Services:** The Public Cloud Manager provides cloud computing operational support, technical and security assurances, and onboarding of public cloud services through Amazon Web Services (AWS), Microsoft Azure, and Google.
* **Technology Solution Services**:Technology Solution Services (TSS) provides technical strategy management, solution design, application development and maintenance, and hourly rate card services (staff augmentation) and project delivery for applications residing on DIR’s public and private cloud infrastructure.
* **Texas Private Cloud:** The Texas Private Cloud provides consolidated private cloud and non-consolidated virtual and physical compute processing for customer applications, data storage and backup services, software service charges for specific third-party software categories, and rate card hours for service provider-supplied project personnel on an hourly basis.
* **Mainframe Services:** Mainframe Services provides compute processing, storage, and backup services for applications hosted on mainframes.
* **Multi-sourcing Services Integrator (MSI) Services:** The MSI provides service component provider (SCP) integration and management, including the portal, service desk support, application portfolio and hosting, service level and capacity monitoring, financial management, major incident management, training, process and quality management, outreach, and growth.
* **Print-Mail Services:** Print-Mail Services provides bulk printing and mailing services, digitization services, courier services, paper, and envelopes.
* **Security Operations Services:** Security Operations Services provides consistent, modern, and flexible cybersecurity services protecting DIR infrastructure environments including DIR security program policies, baselines, and standards, operations, monitoring, and security incident command and coordination activities through a 24-7 Security Operations Center (SOC).
* **Managed Security Services**: Managed Security Services provides security monitoring and device management, incident response, and risk and compliance services.
* **Network Services:** Network Services fees are charges for Data Center Network (DCN) expenses and connectivity to the public cloud.
* **Transition and Transformation Services**:Transition and Transformation Services are costs associated with moving from one outsourced environment to another outsourced environment, including knowledge transfer, process documentation, and operational readiness testing.



\*Note: Appropriated amounts reflect the original DCS Services Capital Budget appropriations and do not include subsequent transfers.

The $74.6 million variance between the appropriated amount and the amount that agencies spent on services is largely driven by increased utilization in the following areas:

Optional security and application services

* 1. $10.5 million in Managed Security Services, including rate card services in risk and compliance for incident response services and SOC monitoring and alerting services.
  2. $99.8 million in Technology Solutions Services primarily related to increased spending for application development and maintenance and staff augmentation services.

Table 3 below reflects FY 2022 spending for the 104 voluntary agencies, higher education college and universities, and local government entities participating in the program. Table 4 reflects the profile of services being utilized, which consist primarily of Microsoft email services, disaster recovery services, Managed Security Services, print/mail services, and geographic information systems services.





# Fiscal Year 2022 Program Cost Avoidance and Savings Analysis

## Aggregate Volume Discount

Prior to FY 2021, the program’s pricing methodology was a consumption-based variable pricing model where monthly rates were calculated against a base volume, which allowed for a unit rate savings analysis comparison to be performed. In FY 2021, as part of the next generation (NextGen DCS) procurements, DIR converted the pricing methodology to a fixed-rate model per service per fiscal year with support rates decreasing one to twenty percent year over year as performance efficiencies are achieved. Additionally, five service provider contracts contain volume discount tiers enabling additional discounts to be achieved when aggregate consumption meets certain contractual thresholds.

Most service provider contracts have built-in aggregate volume discount tiers which, based upon overall consumption of a vendor’s services, offer a discount at set thresholds. In FY 2022, total aggregate volume discounts achieved were $500,690 across four vendor contracts. The discounts will increase as the program continues to grow, lowering the cost for customers consuming the services.

## Program Cost Savings

DIR also negotiated significant cost savings for customers in the areas of public cloud discounts and software.

**Cloud Service Provider/Hyperscaler discounts:** Customers receive a 10% discount off market rates for most public cloud services consumed from AWS, Azure, and Google.

Additionally, the public cloud service provider developed a cost optimization program to continuously evaluate public cloud environments and identify further reduced spending opportunities. In FY 2022, the program identified $3.77 million in annual estimated cost savings opportunities for 19 customers.

**Software Savings:** DIR negotiated discounts on software products such as Software AG and Microsoft Unified Support for customers. As part of the NextGen DCS contracts procurements, DIR worked with the private cloud vendor and Software AG to provide a four-year enterprise agreement for mainframe and server software products used by five customers.  After five months of negotiations, DIR saved customers 5% (approximately $1 million) in overall costs while also rightsizing the software products and quantities. Additionally, DIR negotiated with Microsoft through a cooperative contract reseller, Software One, for a five-year Microsoft O365 email Enterprise Agreement.  This agreement provided 5% to 32% discounts on MSRP and Cooperative Contract pricing for multiple mailbox types.

# Data Center Infrastructure Consolidation Progress

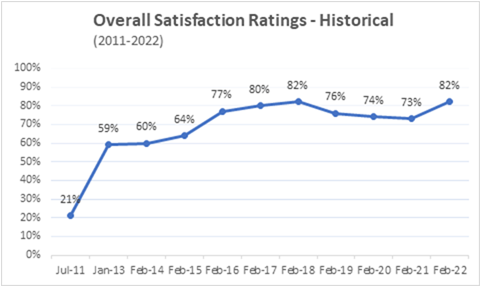
## Consolidation Status

Since its inception in 2007, the DCS Program has met many of its objectives including:

* **Mainframe.** The program is 100% consolidated into the two state data centers with full redundancy and tested disaster recovery capability. The initial consolidation replaced 14 mainframes with seven new machines, and in FY 2022, further consolidation reduced the total to four modern and state-of-the-art machines.
* **Print-Mail.** The program is 100% consolidated providing high speed print and bulk mail technology, resulting in reduced postage rates. In FY 2022, the program printed over 348 million images, mailed 83 million items, and delivered 37 million digital documents.
* **Server.**  As of the end of FY 2022, the program server consolidation rate was 89%.The remaining 11% of servers are continuously evaluated as part of the hardware refresh program to ensure the state’s assets remain current and supportable, and to determine if additional consolidation opportunities exist.

## Program Progress

DIR measures customer satisfaction annually through an independent third-party firm. The FY 2022 customer satisfaction survey showed overall business executive and IT staff satisfaction was 92%. The monthly customer satisfaction scorecard results averaged 95% satisfied for the fiscal year.



# Conclusion

As required by Government Code section [2054.062](https://statutes.capitol.texas.gov/Docs/GV/htm/GV.2054.htm#2054.062), DIR prepares this Data Center Consolidation Measurement Report annually. This report presents multiple views of the program’s financial performance to capture the complexity and dynamic nature, while also reporting on the status of consolidation.

Having exceeded the initial 75% server consolidation target, DIR continues to research and implement flexible and reliable hybrid cloud infrastructure services through the private and public cloud, and new optional managed services to support customer application and security requirements.

# Appendix A – Customer Agency Analysis[[2]](#footnote-3)

The tables below provide a view of agency performance of FY 2022 appropriations versus actual expenditures with a variance. A positive variance for this view indicates the agency’s actual spend was less than the FY 2022 appropriations amount, and a negative variance indicates the actual spend was more than the FY 2022 appropriations amount. Subject to the limitations contained within the General Appropriations Act, Article IX, Sec. 14.03, agencies have varying levels of authority to address amounts spent in excess or less than the individual DCS capital budget line-item amounts.

Commission on State Emergency Communications (CSEC)



Department of Family and Protective Services (DFPS)



Texas Department of Information Resources (DIR)



Department of State Health Services (DSHS)



General Land Office (GLO)



Texas Health and Human Services Commission (HHSC)



Health Professions Council (HPC)



Office of the Attorney General-Admin/Legal (OAG-AL)



Office of the Attorney General-Child Support (OAG-CS)



Public Utility Commission of Texas (PUC)



Railroad Commission of Texas (RRC)



Texas State Securities Board (SSB)



State Office of Administrative Hearings (SOAH)



Texas Secretary of State (SOS)



Texas Alcoholic Beverage Commission (TABC)



Texas Commission on Environmental Quality (TCEQ)



Texas Department of Agriculture (TDA)



Texas Department of Criminal Justice (TDCJ)



Texas Department of Housing and Community Affairs (TDHCA)



Texas Department of Insurance (TDI)



Texas Department of Licensing and Regulation (TDLR)



Texas Education Agency (TEA)



Texas Facilities Commission (TFC)



Texas Historical Commission (THC)



Texas Higher Education Coordinating Board (THECB)



Texas Juvenile Justice Department (TJJD)



Texas Library Commission (TLC)



Texas Military Department (TMD)



Texas Parks and Wildlife Department (TPWD)



Teacher Retirement System of Texas (TRS)



Texas State Library and Archives Commission (TSLAC)



Texas Veterans Commission (TVC)



Texas Workforce Commission (TWC)



Texas Water Development Board (TWDB)



Texas Department of Motor Vehicles (TXDMV)



Texas Department of Transportation (TXDOT)



Texas Department of Public Service (TXDPS)



Voluntary Customers4

|  |  |
| --- | --- |
| **Agencies (with no DCS Capital Budget Appropriation)** | **Actual Consumption** |
| Texas Comptroller of Public Accounts | 1,298,525 |
| Office of the Governor | 27 |
| Office of Public Utility Counsel | 72,642 |
| Texas Board of Chiropractic Examiners | -$8,863 |
| Texas Behavioral Health Executive Council | 38,199 |
| Board of Law Examiners | 1,863 |
| Texas Board of Nursing | 56,949 |
| Texas Commission on Fire Protection | 1,049 |
| Texas Commission on Jail Standards | 8,873 |
| Texas Commission on Law Enforcement | 20,023 |
| Texas Ethics Commission | 4,792 |
| Texas State Board of Pharmacy | 41,393 |
| Texas State Board of Plumbing Examiners | 13,248 |
| Texas Racing Commission | 89,195 |
| **TOTAL:** | **$1,637,914** |

|  |  |
| --- | --- |
| **Self-Directed and Semi-Independent Agencies** | **Actual Consumption** |
| Credit Union Department | 28,290 |
| Office of Consumer Credit Commissioner | 15,570 |
| Department of Savings and Mortgage Lending | 111,133 |
| Texas Board of Architectural Examiners | 13,095 |
| Texas Board of Professional Engineers | 17,066 |
| Texas Real Estate Commission | 39,596 |
| Department of Banking | 101,479 |
| **TOTAL:** | **$326,230** |
|  |  |
| **Higher Education: Colleges and Universities** | **Actual Consumption** |
| Kilgore College | 385 |
| Texas A&M Forest Service | 15,625 |
| Texas Tech University Health Sciences Center (El Paso) | 23,420 |
| Trinity Valley Community College | 2,308 |
| The University of Texas at Dallas | 21,483 |
| University of Texas System | 15,625 |
| **TOTAL:** | **$78,846** |
|  |  |
| **Local Government Entities** | **Actual Consumption** |
| City of Abilene/Taylor County, TX | 6,000 |
| Austin County Emergency Communications District | 6,000 |
| Atascosa County | 20,278 |
| Bell County | 8,244 |
| Blanco County | 7,288 |
| Bailey County | 17,305 |
| Bowie County | 26,055 |
| Brazos River Authority | 15,000 |
| Brown County | 10,063 |
| Brewster County | 27,160 |
| Bastrop County | 14,960 |
| City of Allen | 49,731 |
| Capital Area Council of Governments | 18,850 |
| City of Buda | 6,000 |
| City of Carrollton | 6,000 |
| City of Denison | 5,877 |
| City of Fate | 18,943 |
| City of Georgetown | 1,693 |
| City of Universal City | 6,000 |
| Culberson County | 11,494 |
| Comal County | 4,095 |
| Capital Metropolitan Transportation Authority | 1,210,459 |
| Concho County | 11,878 |
| Cochran County | 27,142 |
| City of Fair Oaks Ranch | 6,000 |
| Collin County Government | 40,727 |
| Crockett County | 18,649 |
| Carson County | 21,297 |
| City of San Antonio | 6,000 |
| City of San Angelo | 66,595 |
| City of Temple | 6,000 |
| Travis County | 105,491 |
| City of Wolfforth | 6,000 |
| Dallas Area Rapid Transit | 6,000 |
| Denton County | 35,817 |
| Edwards County | 11,295 |
| Ellis County | 27,185 |
| El Paso County 911 District | 6,000 |
| El Paso Water Utilities/Public Service Board | 6,000 |
| Glasscock County | 17,658 |
| Gregg County | 27,151 |
| Hays County | 6,000 |
| Harris County Municipal Utility District #162 | 8,711 |
| Hidalgo County | 18,013 |
| Houston Parks Board LGC, Inc. | 6,000 |
| Hardin County | 28,712 |
| Harmony Public School | 17,489 |
| Haskell County | 27,148 |
| Irion County | 19,843 |
| Jim Wells County | 22,730 |
| Kerr County | 23,535 |
| Lower Colorado River Authority | 15,000 |
| Lavaca-Navidad River Authority | 6,000 |
| Lower Rio Grande Valley Development Council | 15,000 |
| Metropolitan Area EMS Authority (MedStar) | 104,484 |
| Nolan County | 4,539 |
| North Texas Municipal Water District | 15,000 |
| Ochiltree County | 23,098 |
| Polk County | 19,446 |
| Presidio County | 12,888 |
| Prosper Independent School District | 16,071 |
| Reagan County | 27,170 |
| Real County | 12,874 |
| South Plains Regional Workforce Development Board | 25,880 |
| San Patricio County | 19,518 |
| Sutton County | 9,980 |
| Travis Central Appraisal District | 2 |
| Texas Municipal Courts Education Center | 13,925 |
| Tarrant Regional Water District | 15,000 |
| TechShare Local Government Corporation (CUC) | 198,844 |
| VIA Metropolitan Transit | 6,000 |
| Valverde County | 30,395 |
| Ward County | 6,664 |
| Williamson County | 123,994 |
| **TOTAL:** | **$2,834,260** |
| 4 Voluntary Data Center Service customers that purchase email, print mail, or other optional services only and do not receive DCS capital budgets | |

# 

# Appendix B – Definition of Terms

| Term | Definition |
| --- | --- |
| Data Center Services (DCS) | Data Center Services, a DIR program offering data center services to state agencies, local government entities and universities. The program is now called Shared Technology Services or STS. |
| DIR | Texas Department of Information Resources |
| Fiscal Year (FY) | FY 2022 references the Texas state fiscal year, which runs from September 1, 2021, through August 31, 2022. |
| IT | Information Technology |
| Multi-sourcing Services Integrator (MSI) | A third-party service provider that coordinates and integrates the service delivery in an environment that uses multiple internal and external service providers for the delivery of IT and business process services. |
| NextGen DCS | In 2021, DIR redesigned and re-procured the original DCS contracts that expired August 31, 2020, and awarded six new contracts to seek innovative shared technology solutions. The six new contracts include:   * Public Cloud Manager Services * Mainframe Services * Texas Private Cloud, Facilities, and Computing Services * Technology Solution Services * Print, Mail, and Digitization Services * Security Operations |
| Service Component Providers (SCPs) | The third-party service providers that provide STS services. |
| Shared Technology Services (STS) | Shared Technology Services is a set of managed IT services that Texas government organizations can use to accelerate service delivery including Data Center Services, Managed Security Services, and Texas.gov. |
| Transition and Transformation | As used in this document, Transition costs are associated with moving from one outsourced environment to another outsourced environment. Transformation costs are the costs associated with upgrading the IT operating environment. |

# Acknowledgements

DIR would like to thank working group members for their participation, collaboration, and support in developing and maintaining the cost measurement methodology.

1. The full reference of the Texas Government Code can be located via the link [Texas Government Code Chapter 2054](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.statutes.legis.state.tx.us_Docs_GV_htm_GV.2054.htm&d=AwIFAg&c=qRq7a-87GiVVW7v8KD1gdQ&r=-UCHe6J4u6alDkGq8ampREipepFh2EpKJlhXE32aBR8&m=LKrn7JBLHOCSmXU2WkxvpobIFChz4PlI8a3VybGL5Zc&s=H4y8csyduEENvdhirYWXwJF7fmllXrHt0flZ9Z7MBR8&e).062 or www.statutes.legis.state.tx.us/Docs/GV/htm/GV.2054.htm [↑](#footnote-ref-2)
2. Initial methodology provided by Gartner for DIR pursuant to DBITS Contract Number DIR-SDD-2042, Engagement 330024351. FY 2021 methodology revisions provided by DIR and customer work group members. [↑](#footnote-ref-3)