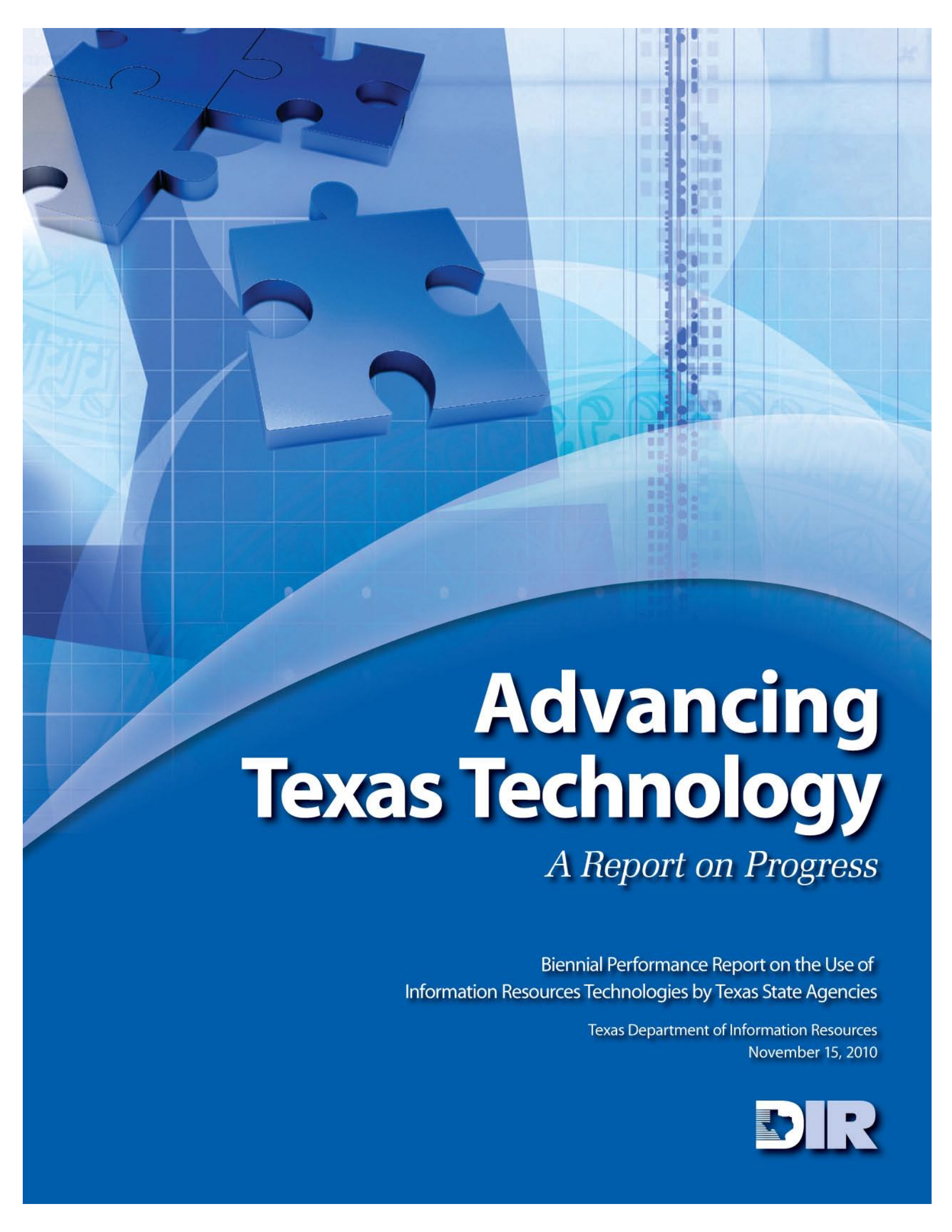




Advancing Texas Technology

A Report on Progress

Biennial Performance Report on the Use of
Information Resources Technologies by Texas State Agencies

Texas Department of Information Resources
November 15, 2010



FROM THE STATE'S CHIEF TECHNOLOGY OFFICER

Every day the media report on the difficulties that states face in balancing budgets that are long on citizen demand and short on revenue. Fortunately, decisions made over the past decade place Texas in a better financial position than most; however, with looming budget constraints, every opportunity to reduce expenditures and increase revenue must be explored.

In light of the complex issues facing the state, why should additional resources for technology be considered? The answer is simple. Strategic investment in technology can produce greater efficiency, often at a lower cost than other delivery methods. Additionally, technology enables citizens to more effectively interact and conduct business with government. Some innovative solutions implemented by state agencies in the last biennium include

- iTunes U, a free multimedia content site for educators, students, and parents;
- A GIS mashup that allows citizens to check on the conditions of Texas beaches;
- Web conferencing that reduces the need for travel and training dollars;
- A complete learning management system that gives job seekers access to online courses; and
- MyTexasBiz, a one-stop application process for starting a business in Texas.

Within DIR, the focus on technology service delivery at an enterprise level offers real solutions at significant savings. In the last biennium,

- Texas public sector organizations realized more than \$430 million in cost savings by leveraging their combined buying power for technology goods and services.
- DIR initiated the repurchase of consolidated data center services to address existing challenges, improve service delivery, and achieve operational efficiencies.
- DIR initiated procurement of the next generation of voice and data communications services to offer new opportunities for advanced technologies at significant savings for state and local governments.
- Texas.gov, the official state portal, was launched, enabling agencies to leverage its platform for application development and content management while generating an anticipated \$170 million to the State Treasury over the next seven years.

As you review the 2010 Biennial Performance Report, I believe you will see the depth and breadth of technology solutions throughout Texas government. These solutions demonstrate open and transparent government, secure access to data, fiscal responsibility, and the spirit of collaboration. Texas has made great strides in realizing a vision for technology. We recognize the challenges ahead require the dedication and talent of our technology professionals across the state. Through collaboration and partnerships we can leverage technology to enhance the business of government and better serve citizens.

Karen Robinson

Executive Director

Texas Department of Information Resources

ABOUT THIS REPORT

The Information Resources Management Act requires the Texas Department of Information Resources to prepare and submit to the Governor and to the Legislature a biennial performance report on the use of information resources technologies by state government (Texas Government Code §2054.055).

Copies of this publication have been deposited with the Texas State Library in compliance with the State Depository Law (Texas Government Code §441.101–106).

Note: For the purposes of this report, the term “state agency” is generally used to indicate a state agency or a state institution of higher education; and the term “technology” is used to indicate “information and communications technologies.”

THE REPORT ONLINE

Find this report online at www2.dir.state.tx.us/management/strategy/bpr/Pages/home.aspx.

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Texas agencies continue to work together to strengthen the foundation of the state's technology infrastructure. The 2010-2014 State Strategic Plan for Information Resources Management (State Strategic Plan) focused on serving citizens, reducing costs, promoting transparency, and securing information. The plan proposed statewide technology goals and strategies to sustain and transform government technology over a five-year span. One year has elapsed since the State Strategic Plan was introduced, and the progress against the plan is highlighted in this report.

Texas has made significant strides toward achieving the goals from the State Strategic Plan, but many initiatives are still in the early stages of implementation. This report provides a summary of recommendations for the 82nd Texas Legislature and state agency technology leaders. These recommendations are intended to promote the state's ability to achieve its technology goals and improve the use and management of information resources technology.

As mentioned above, this report describes the progress of each of the initiatives outlined in the State Strategic Plan. These initiatives are organized by the following goals and strategies.

Enterprise Goals and Strategies

Goal 1 – Strengthen and Expand the Use of Enterprise Services and Infrastructure

State agencies are engaged in consolidation efforts and shared services to gain operational efficiencies, improve quality and reliability of services, and simplify their software environments through reduction, standardization, and streamlining.

- Strategy 1.1 – Enhance Capabilities of the Shared Infrastructure
- Strategy 1.2 – Leverage Shared Applications
- Strategy 1.3 – Leverage the State's Purchasing Power

Goal 2 – Secure and Safeguard Technology Assets and Information

A consistent, enterprise approach to information technology security is needed to protect government assets and personal information along with their associated infrastructure.

- Strategy 2.1 – Align the State's Approach to Enterprise Security with Other State and National Strategies
- Strategy 2.2 – Integrate Identity Management, Credentialing, and Access Privileges

Goal 3 – Serve Citizens Anytime, Anywhere

Texas state agencies increasingly offer a variety of means for citizens and businesses to access state information and services. Technology expands opportunities for citizen interaction with government and fosters increased customer satisfaction. Citizens expect state

government to provide the same individualized, accessible online services and prompt customer service that they receive from the private sector.

- Strategy 3.1 – Expand and Enhance Access to Agency Services
- Strategy 3.2 – Facilitate Open and Transparent Government

Goal 4 – Pursue Excellence and Foster Innovation across the Enterprise

State agencies have employed various strategies leveraging emerging technologies to improve how government communicates and collaborates with citizens; transform internal business processes to gain efficiencies and to develop and deploy applications more efficiently; improve information asset management and adopt and promote data-sharing standards while preserving the confidentiality of client information.

- Strategy 4.1 – Link Technology Solutions to Workplace Innovations
- Strategy 4.2 – Pursue Leading-Edge Strategies for Application Deployment
- Strategy 4.3 – Optimize Information Asset Management
- Strategy 4.4 – Promote the Use and Sharing of Information

Finally, this report contains seven additional reports that address progress and achievements on specific technology areas required by statute:

- Report on State Technology Expenditures
- Report on EIR Accessibility
- Report on the Use of E-Learning
- Report on the Consolidated Network Security System
- Report on TexasOnline
- Report on Telecommunications Performance
- Report on Project Management Practices

Recommendations

This Biennial Performance Report has identified several challenges in achieving the goals outlined in the 2010–2014 State Strategic Plan for Information Resources Management. These challenges require continued coordination among agencies and DIR to define and implement best practices in information resources management. Through a coordinated effort and leveraging technology solutions, DIR anticipates that some of these challenges can be effectively addressed without the need for legislative action.

During this biennium DIR underwent its scheduled review by the state's Sunset Commission. Based on the Commission's findings, DIR anticipates that certain statutory changes that impact its operations will be considered by the 82nd Texas Legislature. In response to the Sunset review, DIR has begun implementing many of the Commission's recommendations.

The recommendations in this report serve to strengthen accountability for the state's technology investment. DIR strongly supports the objective of ensuring oversight, accountability, and transparency for the efficient use of taxpayer funds. DIR will work closely with the Commission and Legislature to ensure that statutory provisions consider the requirements and circumstances that influence the agency's business and funding model.

Legislative Recommendations

DIR recommends that the Legislature consider the following changes to the Government Code.

- **Allow Data Center Services Cost-Recovery Fees to be Authorized by the DIR Board.** As a provision in Rider 9 of the General Appropriations Act, DIR is required to obtain approval by the Legislative Budget Board and the Office of the Governor to adjust its administrative cost-recovery fees for the Data Center Services program. In its recent report, the Sunset Commission recommended that the DIR Board fully review and approve all administrative cost-recovery fees, including the fee for the Data Center Services program.

Recommendation: To establish clear authority with regard to this action, DIR recommends that the provision in Rider 9 be deleted if this recommendation is approved in DIR's final Sunset bill.

- **Change TexasOnline Project Reference in Law.** Chapter 2054.252 of the Government Code established the TexasOnline Project in 2001. Over the last biennium, the state conducted a repurchase of the official state portal, which has since been rebranded and renamed Texas.gov. Today,
 - TexasOnline refers to the organizations and historic documentation rooted in the origin of the program that supports the official portal of the State of Texas.

- Texas.gov refers to the official online brand for the State of Texas. Texas.gov is a domain name and the name of the product produced and supported by the TexasOnline program.

An amendment to statute is recommended to eliminate confusion resulting from the continued use of two branded names that reference the official state portal. By changing the statutory reference from “TexasOnline” and “TexasOnline Project” to a generic name, such as “the official state portal,” term usage can more appropriately be applied to the circumstance.

Recommendation: DIR recommends that Chapter 2054 of Government Code be amended to replace “TexasOnline” with “the official state portal.”

Agency Recommendations

In addition to recommendations to the 82nd Texas Legislature, DIR anticipates that through administrative rule, policymaking, service delivery alignment, and technology leadership, the agency can address the other challenges identified in this report. These challenges include Multi-Channel Access, Best Practices for Information Access, and Cloud Computing.

Multi-Channel Access

Social media is in the forefront of emerging technologies being explored by agencies. State government recognizes the overall value of social media, but challenges remain in its implementation, specifically around policy (both internal and external) and strategy.

DIR has assessed emerging social media technologies and implemented an internal policy regarding their use as communication tools for conducting official state business. This policy is the guiding document for the multiple social media initiatives on Texas.gov.

Recommendation: DIR recognizes the strong interest from agencies looking for guidance to launch these initiatives. Work is needed to ensure that state agencies align social media initiatives with their business goals. DIR is developing a plan to

- continue evaluating trends in state government use,
- highlight successful examples of social media deployments,
- share examples of agencies' and other states' policies,
- develop a statewide social media policy,
- share best practices and implementation strategies, and
- continue discussions and training in conferences and webinars.

Best Practices for Information Access

As the public gains more experience with the vast data resources that are being made available through open data initiatives, greater demand for machine-readable, raw datasets will become more evident.

Recommendation: Agencies should continue investigating methods to increase transparency within their organizations.

- To facilitate citizen access to their public datasets and open data initiatives, state agencies that are currently publishing raw datasets should make links available to Texas.gov. Texas.gov maintains a registry of open data in the state, which enables constituents to access these resources through a single portal.
- To gain a greater understanding of what constitutes high-value data in their organizations, state agencies should conduct outreach and stakeholder surveys.

DIR will work with state agencies and the Texas.gov service provider to develop strategies and technology solutions to advance open and transparent government.

Cloud Computing

Public, private, and hybrid cloud computing solutions continue to gain momentum in the private and public sectors. State agencies remain cautious due to concerns over security, contractual terms of use, and reliability and availability

Recommendation: DIR is working with agencies to explore and establish private, cloud-based computing options within the state's shared infrastructure. Agencies that are interested in evaluating the effectiveness of cloud-based options may wish to implement a pilot that addresses augmented technical resources during peak periods or augmented business functionality as a means to evaluate this technology.

For agencies interested in seeking a public cloud computing provider, DIR recommends finding one with provisions that have already been evaluated by government. This would include

- heightened security and privacy services,
- amenable terms of use,
- disaster recovery capabilities,
- reliability and availability, and
- sufficient customer support.

Enhance Capabilities of the Shared Infrastructure

Data Center Services

The Texas Data Center Services (DCS) program provides consolidated server, mainframe, bulk print and mail, security, and disaster recovery services for some of the largest state agency processing environments. Traditionally, these services have been provided in legacy data centers within agencies. Consolidating these services within the two state data centers offers the opportunity for cost-efficiency, equipment refresh, and enhanced services.

As of June 2010, bulk print and mail operations have fully migrated to state data centers, enabling the 12 agencies receiving these services to use state-of-the-art equipment and obtain high-volume bulk mail discounts. Additionally, 14 legacy mainframes have been replaced with nine new models split between the two data centers, offering significantly faster processing capacity and greater redundancy. Approximately 12 percent of the state's complex server environment has been consolidated, including servers for DIR, the Texas State Library and Archives Commission, the Texas Veterans Commission, the Texas Facilities Commission, and the Texas Higher Education Coordinating Board.

Reprocurement

Service delivery deficiencies and server consolidation delays have caused the state to change its service delivery model and reprocure all services under the DCS contract. The reprocurement encompasses two Requests for Offers (RFO):

- Service Integration RFO – to acquire services of a Multisourcing Service Integrator (MSI).
- Service Delivery RFO – to acquire five IT service delivery components: Mainframe, Server, Data Center Facilities, Network, and Print and Mail.

As described in the RFO instructions, the service delivery components may be awarded separately and a single service provider is prohibited from managing both the MSI role and any service delivery components.

The MSI will have a critical role in coordinating and integrating operations; ensuring seamless, end-to-end service delivery across the service delivery components. The MSI will work closely with DIR, participating agencies, and governance committees to

- measure, monitor, and manage performance,
- stabilize operations, and
- consolidate the state data centers.

The service component provider(s) will have responsibility for delivery of their service areas and coordination with the MSI.

Through the reprocurement process, the state expects to address current service delivery issues to achieve the intended efficiency, security, disaster recovery, and savings benefits of the consolidation program. The selected service providers will work closely with DIR, agency customers, and the governance committees to deliver on the promise of shared infrastructure.

Governance

To support the new service delivery model, the state has launched a new owner-operator governance structure. This structure establishes agency customers—including business executives, IT executives, and technical subject matter experts—as key decision makers on DCS governance committees. The governance committees, including solution groups and leadership committees, make strategic decisions and resolve escalated issues using a collaborative, consensus-driven approach.

The new governance model was designed by a cross-agency group and formally launched in June 2010. Since that time

- Solution groups have been engaged in addressing service delivery issues, establishing technical standards for the enterprise, and prioritizing applications for transformation.
- Leadership committees have addressed scope issues and are actively engaged in the RFO strategy and process.

All committees are currently engaged in issue resolution and strategic direction setting for the DCS program and will have an ongoing role with the new contract(s).

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Communications Technology Services

The Texas Agency Network (Tex-AN) provides voice and data services to over 700 state agencies, higher education institutions, municipalities, schools, and assistance organizations throughout Texas. In fiscal 2011, the Tex-AN service contracts are due to expire and will be replaced by Tex-AN Next Generation service agreements that will enhance services and reduce costs.

In preparation for the Tex-AN Next Generation procurement, DIR conducted research on similar large-scale communications services procurements at the state and federal level. In addition, DIR met with major IT consulting firms to determine the latest trends in communications services and business practices. DIR also held outreach meetings with vendors and Tex-AN customers to discuss the procurement process and receive input.

Procurement

The Tex-AN Next Generation Request for Offers (RFO) was released in August 2010. The objective for the procurement is to obtain competitive and comprehensive voice and data

network solutions for the state. DIR anticipates awarding multiple service agreements for communications services.

Tex-AN Next Generation procurement goals are to

- establish competition to drive pricing down and expand offerings;
- protect and improve the customer experience;
- establish flexible contracts to take advantage of new technologies;
- increase transparency into service and performance; and
- evolve the DIR business structure to support these goals.

The scope of the RFO includes

- highly scalable network node switching that supports multiple types of traffic,
- voice and data services,
- security operations center services, and
- quality assurance requirements to ensure contractors' systems, processes, and procedures effectively support end-to-end delivery and management of communications services to the state.

Responses to the RFO were received through October 2010. The evaluation process is currently underway and includes participants from

- Health and Human Services Commission,
- Texas Parks and Wildlife Department,
- Texas Department of Public Safety,
- Texas Workforce Commission,
- Texas Legislative Council,
- Commission on State Emergency Communications,
- Office of the Attorney General, and
- Texas A&M University.

DIR anticipates the evaluation and negotiation processes will continue through December 2010, when initial contracts will be awarded. Subsequent contracts will be awarded throughout fiscal 2011.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

State Portal

In July 2009, DIR transitioned the operation of the state portal to a new service provider under a seven-year contract. With oversight from DIR, the service provider immediately introduced a number of important initiatives to upgrade and expand the state portal infrastructure.

New Website

In May 2010, DIR revealed a rebranded website with a new name—Texas.gov—and logo.

Enhanced features of the portal include

- an improved search engine that is prominently displayed on every page.
- a simplified navigation reduced to four user-centric and action-oriented categories: Do, Discover, Connect, and Ask.
- a clean, simple, and usable interface.
- a new, contemporary, and attractive logo.
- new ways to engage Texas.gov and Texas government entities with social media and Web 2.0 technologies.
- a section highlighting prominent achievements and services within Texas government.
- a page showing up-to-date transaction metrics for popular services.
- a dynamic community forum for the public to ask questions and contribute new ideas.
- multilingual site support.

New Content Management Platform

The foundation of the rebranded site is the content management platform. This platform provides the framework for public-facing websites as well as agency intranet portals. In addition to content management, many agencies and other customers subscribing to these services will receive website hosting for free or low cost. The website hosting provides a secure infrastructure for intranet and Internet websites. A pilot of the intranet offering is underway and the Internet offering is planned for 2011.

The content management platform provides

- high-fidelity websites with consistent branding.
- controls that automatically render site navigation.
- browser-based web authoring to easily create content.
- content publishing and deployment with customizable and flexible workflows.
- templates for pages and entire websites.
- multilingual site support.

New Payment Infrastructure

The portal implemented a new payment engine with PCI-compliant security features as well as additional enhancements and benefits. From January to July 2010, all 448 existing Texas.gov applications and services migrated to the new payment system. Features and benefits of the new system include

- lower credit card fees, which result in more revenue to the state.
- additional payment options, which provide greater choices for making payments.
- reporting and analytic tools, which offer agencies better data to evaluate their programs.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Enterprise Resource Planning

The Texas Comptroller of Public Accounts (CPA) leads ProjectONE, the state's enterprise resource planning (ERP) initiative.

The 81st Texas Legislature authorized eight agencies to proceed with ERP implementations during fiscal 2010–2011. Seven of these agencies are within scope of the first phase of implementation of ProjectONE, including

- Health and Human Services agencies – Human Resources Management/Payroll (HR/Payroll) system upgrades,
- Texas Department of Transportation (TxDOT) – ERP Financials and HR/Payroll, and
- Department of Information Resources – ERP Financials and HR/Payroll

During this biennium, the CPA brought together subject matter experts from each of the participating agencies and has

- issued a Request for Offers for implementation services that included
 - requirements development services,
 - fit-gap and analysis services,
 - design and build services, and
 - implementation services;
- selected project implementation and management vendors, which included
 - a prime vendor to work on both the HR upgrade and the implementation of HR and Financials and
 - a vendor to provide project management oversight services;
- acquired hardware, software, and services that included
 - a statewide license for Oracle/PeopleSoft ERP software for use by all agencies,
 - hardware, training, and hosting services between participating agencies and the CPA;
- engaged subject matter experts from the stakeholder agencies in both the financial and human resources disciplines to gather the agencies' requirements and perform fit-gap analysis, totaling more than 2,300 hours, 9,600 approved requirements, 5,000 fits, and 4,000 gaps; and
- leveraged existing knowledge of older and partial ERP toolsets already deployed at participating or other state agencies to augment requirements gathering.

The current project timeline calls for

- design, development, testing, and implementation of all ERP Financials modules with certain customizations by August 2011, with DIR as the pilot agency;

- completion and deployment of the HR/Payroll modules including certain customizations by April 2012, with the Health and Human Services agencies as the pilot agencies;
- deployment of ERP Financials modules including additional customizations, within TxDOT by September 2012; and
- deployment of HR/Payroll modules with additional customizations within TxDOT and DIR by September 2012.

As ProjectONE progresses, it will encompass other initiatives to integrate data and processes into more cohesive and standardized systems for the highest levels of efficiency to

- increase transparency,
- provide seamless access to state data, and
- reduce the labor-intensive efforts that currently exist in key business processes such as asset management and procurement.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Email Messaging

In November 2010, DIR will issue a solicitation to contract with one or more hosted email solution providers to deliver enterprise-wide hosted email and related services for desktop, webmail, and mobile device use for state agencies and other eligible customers.

Features of the hosted email solution and related services will include email, calendar function, data migration, archival and retrieval business continuity and disaster recovery, security, integration services, support, and collaboration.

The hosted email solution will provide significantly discounted pricing and offer integration services to assist agencies in the migration process. Agencies that elect to participate in this service will be able to provision and configure their accounts, offering the benefits of local control without the burden of maintaining a complex infrastructure.

Some of the goals of the hosted email solution are to integrate with the official state portal, Texas.gov, to establish a statewide “White Pages” directory for state and local employees, and provide a means of authentication.

The White Pages system is still in the early stages of system design. The selected vendor(s) will be required to support a synchronized process with the portal’s directory.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Leverage the State's Purchasing Power

Product and Services Portfolio Expansion

DIR's information and communications technology (ICT) Cooperative Contracts program has realized substantial savings for state agency, local government, higher education, and K–12 customers.

In fiscal 2010, the ICT Cooperative Contracts program

- offered 895 contracts,
- generated more than \$1.59 billion in sales,
- delivered more than \$261 million in savings.

In addition to direct cost savings, customers are able to avoid the soft costs and time associated with the procurement process. Consistent growth of this program has enabled DIR to reduce administrative fees from 2 percent to 1.25 percent on approximately 50 contracts, saving the state an estimated \$1.2 million.

DIR's ability to provide high value, assess potential contracting opportunities, and deliver effective contract monitoring is enhanced by a business intelligence system. The Revenue and Sales Reporting system examines customer spend and demand for specific products and services, benchmarks contract pricing, and provides the tools to monitor vendor performance. Using this information, DIR has been able to transform its ICT Cooperative Contracts program from a simple, transaction-based procurement option to a knowledge-based procurement system. This system includes thorough market research, analytics, and pricing benchmarks that prepare DIR's contract management team with the tools and information to negotiate the most cost-effective contracts for customers.

New Website

During fiscal 2010, DIR redesigned the ICT Cooperative Contracts website to make it easier to find products, services, and information. The new site provides

- quick links to locate products and services and
- improved product search functionality, including
 - the ability to search by contract number,
 - the ability to search by keyword (vendor, brand, product) with hint capabilities, and
 - improved search by IT commodity code.

New Products and Services

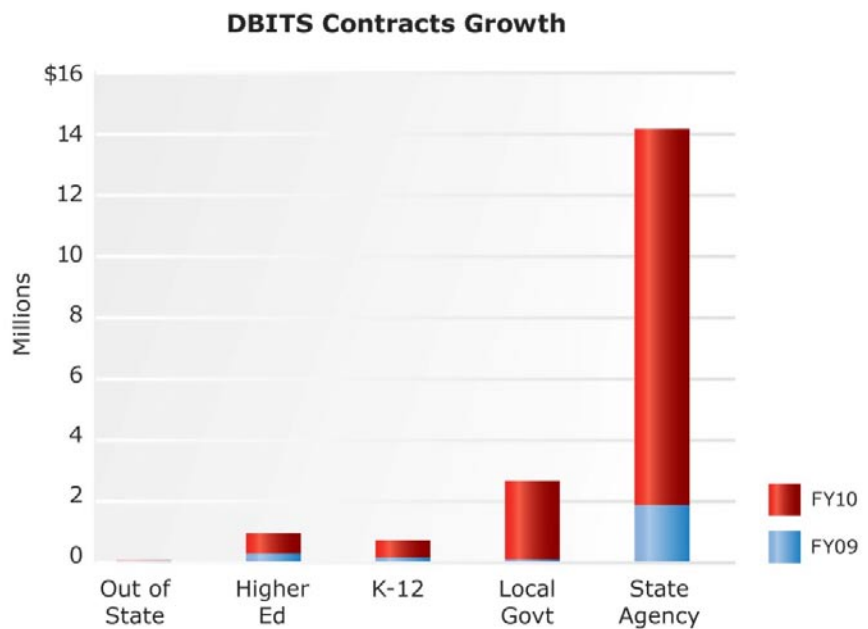
DELIVERABLES-BASED INFORMATION TECHNOLOGY SERVICES

During this biennium, DIR established a set of deliverables-based information technology services (DBITS) contracts for technology projects that do not exceed \$10 million. DIR collaborated with state agencies to develop the requirements and issue an RFO that provided the means to prequalify vendors in eight technical areas:

- application maintenance and support,
- business intelligence and data warehouse,
- enterprise resource planning,
- project management,
- technology migration/ upgrade and transformation,
- information technology assessments and planning, and
- application development.

DBITS contracts allow customers to develop specific requirements through a statement of work. Vendors respond to these statements of work with innovative solutions at set prices determined by project milestones detailed in the contract. DBITS contracts are the result of strong

customer demand. The demand for services provided through these contracts has increased significantly, with approximately 600 percent growth in sales realized between fiscal 2009 and 2010.



COMPREHENSIVE WEB DEVELOPMENT AND MANAGEMENT SERVICES

In fiscal 2010, DIR awarded 35 contracts for comprehensive web development and management services. Utilizing a deliverables-based pricing model, these contracts provide

- website design and development,
- web hosting,
- domain name system management,
- business tools,
- email hosting,
- electronic and information resources (EIR) accessibility,

- web content management,
- future customization,
- maintenance, training, and support, and
- turnkey solutions.

Other Contracting Initiatives

Additional ICT contracting initiatives were implemented in fiscal 2009–2010:

- Mobile Digital Video Products, Accessories, and Related Services;
- Technology-Based Conferencing Products and Services;
- Emergency Preparedness Solutions, such as
 - mobile computers,
 - mobile printers,
 - tracking and positioning devices,
 - power solutions,
 - radios and pagers,
 - satellite and wireless communications,
 - emergency response vehicles,
 - emergency alerting,
 - software, and
 - other products and services, from biometric identity management to remote monitoring and control.

New ICT contracting initiatives that began in fiscal 2010 and will be implemented in fiscal 2011 include the following products and services:

- printers, scanners, and document management hardware and software;
- telecommunications and technology interpreter services;
- research and advisory services; and
- subscription services.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Align the State's Approach to Enterprise Security with Other State and National Strategies

State Enterprise Security Plan

The state's cyber security efforts are guided by goals and objectives that are consistent with the Texas Homeland Security Strategic Plan 2010–2015 and highlighted in the State Enterprise Security Plan for 2007–2012.

As the designated technology office for the state, DIR develops security policies, maintains an emergency alert system, and provides state guidance on information security issues.

DIR also operates the shared state telecommunications network and provides security services through the Network and Security Operations Center (NSOC). Information on the accomplishment of service objectives and performance measures can be found at the Report on the Consolidated Network Security System.

During this biennium, state agencies and DIR have developed information-sharing partnerships and collaborated on

- education and training,
- policy and best practices development and promotion, and
- emergency preparedness planning.

Education and Training

Through DIR's annual Information Security Forum and DIR-sponsored technical training opportunities, agencies were offered advanced security education to enhance their information security skills. Over 3,000 state and local government participants gained additional training in information security at over 60 events from fiscal 2009 through fiscal 2010. During this same time frame, over 130 security specialists participated in DIR's Computer Security Incident Response Team (CSIRT) training and certification classes.

Policy and Best Practices

In fiscal 2010, DIR amended administrative rules (1 TAC 202) to enhance security controls, encryption standards, and incident reporting. To safeguard network hardware and software purchased by the state after December 1, 2010, DIR adopted 1 TAC 217, which requires an independent certification of vulnerability testing under maximum load conditions in accordance with published performance claims of the network hardware or software.

In addition, DIR's security division refined contract language specific to all products and services equipped with hard disk drives. Provisions within these contracts require that all applicable products and services have the capability to securely erase data written to the hard drive prior to final disposition, in accordance with 1 TAC 202.

Emergency Preparedness Planning

During this biennium, DIR

- developed a Cyber Security Incident Response Plan that the Texas Department of Public Safety, Texas Division of Emergency Management (TDEM), accepted for cyber security emergency response planning, and
- coordinated with TDEM and supporting agencies in revising Annex B, Communications, of the State of Texas Emergency Management Plan.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Vulnerability to Cyber Attacks

DIR and state agencies have collaborated to identify security risks and vulnerabilities, increased awareness and information sharing, and facilitated best practice refinement.

Through shared responsibilities, DIR and state agencies continue to address the goals of preventing cyber attacks and reducing vulnerabilities. Through the Network and Security Operations Center, DIR performs ongoing monitoring, alerting, and analysis of network security.

During fiscal 2009–2010, the number of technical security assessments for state agencies, institutions of higher education, and local governments increased by 98 percent over the previous biennium.

DIR's Security Incident Management (SIM) system provided continuous 24-hour network security monitoring, data gathering, and protocol analysis for detecting network security threats. In addition, state agencies reported security incidents on a monthly basis through the Security Incident Reporting System (SIRS) to enhance awareness of the number of threats and types of vulnerabilities.

Working with Texas A&M University, DIR updated and expanded an Information Security Awareness, Assessment, and Compliance (ISAAC) web-based risk assessment tool that allows agencies to conduct risk analysis, reduce cyber vulnerabilities, enhance planning, and track IT assets.

Security staff from state agencies and higher education collaborated with DIR to develop online tools for enhancing security practices. Online products created by the state agency and higher education working group include

- encryption best practices policy template
- data classification best practices policy template
- encryption requirements matrix and product comparisons

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Response and Recovery Capabilities

Through the NSOC, DIR and state agencies continue to strengthen the state's ability to respond to and recover from computer security incidents while promoting awareness and accountability requirements.

To develop statewide incident response capabilities, DIR's security division and state agencies organized and participated in state and federal cyber security exercises. The objectives of the exercises were to explore inter- and intra-governmental coordination and to highlight available tools and technologies for cyber incident response and recovery.

DIR collaborated with the TDEM and the federal Department of Homeland Security in conducting the following cyber exercises during this biennium:

- Defend the Flag (fiscal 2010)
- Dark Screen (Texas exercise, fiscal 2010)
- Cyber Storm II (6 state agencies, fiscal 2009)
- Cyber Storm III (11 state agencies, 1 Texas community, fiscal 2009–2010)

More Information Online

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Integrate Identity Management, Credentialing, and Access Privileges

Identity Management Services

The state continues to explore options to leverage enterprise solutions for managing secure access, by employees and other users, to multiple applications hosted on disparate systems and platforms.

Every Texas state agency deals with multiple usernames and passwords on a regular basis; for workstations, email, office productivity applications, and financial and benefits accounts, among others. As workplace solutions become more complex and diversified, the need to integrate identity management also increases.

Agency Solutions

Most state agencies have implemented one or more systems that control access and privileges for their internal network, systems, and applications. Several state agencies have expanded or are planning to expand identity management services to include their external customers.

At present, credentialing is most often application-specific; however, some agencies have implemented enterprise solutions that support provisioning, de-provisioning, and user access management for multiple applications within their enterprise.

Enterprise Solutions

As the official state portal, Texas.gov has the potential to provide an enterprise-level identity management solution for interested public entities across Texas. Currently, Texas.gov provides a secure identity verification service that establishes electronic signatures by authenticating individuals against a database.

To authenticate and verify the identity of the user, the TexasOnline Authentication System allows Texas.gov to collect user data, which is then matched against four personal data elements stored within the authentication database, including

- a Texas driver license or identification card number,
- a current driver license or identification card audit number,
- date of birth, and
- the last four digits of a social security number.

The state will continue to explore opportunities to advance identity management for government employees and for citizens and businesses that engage with their government online. As a first step, the state's recent solicitation for an enterprise-wide hosted email solution is intended to integrate with Texas.gov, to establish a statewide directory of state and local employees, and provide a means of authentication.

Over the next several months, Texas.gov will pilot hosted intranet sites for two state agencies. Authentication and credentialing are primary components that will allow the agencies to customize intranet applications such as contract monitoring, project management, report monitoring, and document collaboration with appropriate privileges and access for users.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

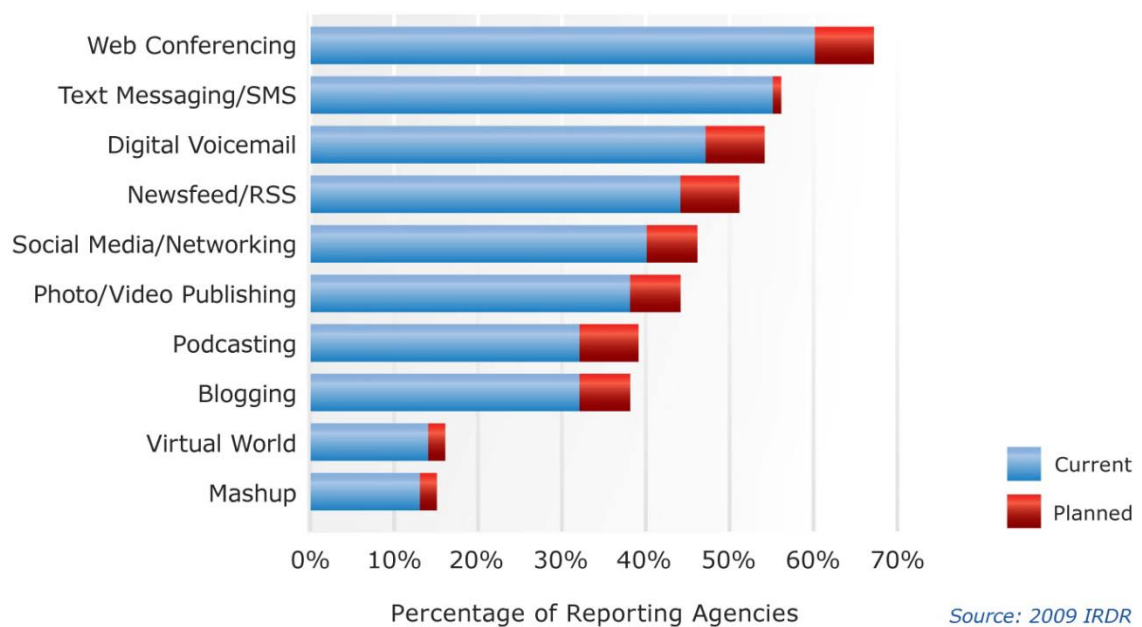
Expand and Enhance Access to Agency Services

Multi-Channel Access

Citizens expect individualized services and timely response through multiple channels, and Texas agencies are striving to provide access—anytime and anywhere—to meet this demand. During this biennium, state agencies have extended citizen interaction through advancements in

- web development (mobile applications and multimedia),
- social media (blogs and online communities),
- transaction options (online applications and kiosks), and
- telecommunications (interactive voice response systems).

Agency Current and Planned Use of Emerging Technologies



Web Conferencing

During this biennium, agencies have significantly expanded their outreach to constituents through web conferencing. With 60 percent utilization in agencies, web conferencing has been widely adopted to

- deliver educational briefings, workshops, and training,
- decrease customer calls for support, and
- provide alternate methods for delivering or exchanging information with citizens.

Website Improvements

In their strategic plans, many agencies discussed upgrading their websites as a core component to improve access to citizens. Some agencies addressed essential improvements like updating outdated information or incorporating accessibility; while others added new functionality like social media, open data, and Web 2.0 technologies, enabling them to serve content more dynamically.

Expanded Use of Social Media

Agencies have begun to explore social media as a means to communicate with their constituents. Based on the 2009 Information Resources Deployment Review (IRDR)

- 40 percent of agencies are using social media,
- 38 percent of agencies are publishing photos and videos,
- 32 percent of agencies are presenting podcasts,
- 13 percent of agencies are using mashup technology.

As part of its launch, Texas.gov introduced several new social media channels in May 2010, including

- Facebook page to broadcast announcements and connect with constituents,
- Twitter feed to broadcast announcements,
- YouTube channel containing videos relevant to Texas.gov,
- Flickr group for uploading Texas-themed photos to be showcased on Flickr.com and Texas.gov,
- accessible version of Get Satisfaction to generate new ideas and answer questions from the public,
- iPhone application and mobile version of Texas.gov for access on smartphones,
- live online chat for any Texas.gov related question.

Increased Transaction Options

Citizens primarily use government websites to conduct online transactions; so improving the transaction experience is a logical focal point for many agencies. Some agencies have resources to develop and expand their own applications, while others rely on Texas.gov to build customized applications or integrate payment processing into existing applications. Additionally, Texas.gov extended payment processing for over-the-counter transactions, simplifying the experience for citizens and streamlining the backoffice work for agencies.

Challenges

Providing alternate channels to government services and information benefits citizens; however, challenges remain with certain technologies such as social media due to

- statutory requirements (EIR accessibility, security, privacy, and records retention, among others),
- lack of policy development on the proper use of these technologies; for example, while 40 percent of agencies use social media, only 11 percent have social media policies,
- lack of personnel with the necessary skill set to create and manage these channels,
- inability to align activities with agency mission and goals,

- lack of support from executive management.

As a result, state agencies have adopted a cautious approach when adding new channels to government services.

Recommendations

DIR recognizes the strong interest from agencies looking for guidance to launch these initiatives. Work is needed to ensure that state agencies align social media initiatives with their business goals. DIR is developing a plan to

- continue evaluating trends in state government use,
- highlight successful examples of social media deployments,
- share examples of agencies' and other states' policies,
- develop a statewide social media policy,
- share best practices and implementation strategies, and
- continue discussions and training in conferences and webinars.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Rural Broadband Expansion

As more governmental and educational services are offered online, citizen access to broadband connectivity must be available so all Texans can efficiently obtain information, interact with government, and leverage educational opportunities. To support states in their efforts to promote broadband opportunities, particularly in unserved rural areas, the federal government introduced significant funding programs as part of the American Recovery and Reinvestment Act of 2009.

Texas institutions, local governments, and business submitted more than 150 proposals to the federal funding programs. The Texas proposals, coordinated by the Texas Department of Agriculture (TDA), Public Utility Commission, and Texas Department of Public Safety, have secured a number of grants and loans.

Mapping Texas Broadband

In July 2009, TDA announced a partnership with a national nonprofit organization to develop a statewide broadband map identifying the type and density of broadband connectivity throughout the state. In January 2010, the National Telecommunications and Information Administration awarded Texas \$2.5 million as part of the State Broadband Data and Development Program, and \$500,000 for broadband planning activities. The first report from the state's mapping and planning program was released in June 2010, and showed that while 96 percent of the state had access to a broadband provider, a quarter of a million households

lacked broadband service—primarily in rural regions of the state.¹ The broadband map will be updated as more data is gathered.

Broadband Technology Opportunities Program and Broadband Infrastructure Program

The State of Texas has been awarded more than \$175 million in grants and loans to expand rural broadband infrastructure throughout the state through the U.S. Department of Agriculture's Broadband Infrastructure Program.

In addition, Texas institutions, businesses, and nonprofits will benefit from more than \$283 million in Broadband Technology Opportunities Program grants that

- support deployment of broadband infrastructure,
- enhance and expand public computer centers,
- encourage sustainable adoption of broadband service, and
- develop and maintain the state public map of broadband service capability and availability.

Broadband Technology Opportunities Program grants awarded for Texas, or in partnership with other states, include Comprehensive Community Infrastructure, Public Computer Centers, and Sustainable Broadband Adoption.

COMPREHENSIVE COMMUNITY INFRASTRUCTURE

Projects deploying new or improved broadband infrastructure:

- Eastern New Mexico Telephone Cooperative | \$16,460,815
Providing broadband to underserved west Texas and eastern New Mexico
- University Corporation for Advanced Internet Development | \$62,540,162
A comprehensive 50-state network interconnecting 30 existing research networks with 121,000 community anchor institutions
- Expanding Broadband Access Across Texas | \$4,677,788
Expanding Level 3's existing broadband network to offer affordable high-speed services to underserved areas
- Valley Telephone Cooperative | \$15,697,856
Enhancing the Rio Grande Valley Fiber-Optic Network to connect 23 higher education anchor institutions improving instruction, research, and health services in the region
- Texas A&M University System | \$6,550,775
Bringing state-of-the-art communications capacities to underserved schools and community institutions across Texas

¹ Texas Department of Agriculture, "Commissioner Staples Releases Statewide Map to Identify Broadband Needs Across Texas." Retrieved from www.texasagriculture.gov/agr/media/media_render/0,1460,1848_17053_39242_0,00.html on 13-Nov-2010.

- People's Telephone Cooperative | \$28,825,356
Expanding the East Texas Medical and Educational Fiber-Optic Network to educational, healthcare, and governmental organizations across eastern Texas
- Region 18 Education Service Center | \$11,946,728
Expanding broadband to K–12, higher education institutions, and Texas DPS locations in southwest Texas

PUBLIC COMPUTER CENTERS

Projects establishing new public computer facilities or upgrading existing facilities, which provide broadband access to the public or to specific vulnerable populations:

- Mission Economic Development Agency | \$3,724,128
As part of a national network of Latino-serving development organizations, will fund computer centers in Laredo and San Antonio
- Deaf Action Center of Louisiana | \$1,380,513
AccessAmerica Video Remote interpreting project enhances and expands stations to serve deaf or hard-of-hearing individuals in northwest Louisiana, Alabama, California, and Texas
- City of Brownsville | \$865,000
Connect Brownsville project will expand broadband and computers at public library, and develop mobile lab with Texas Southmost College
- Texas State Library and Archives Commission | \$7,955,941
Technology Expertise, Access and Learning for all Texans (TEAL) project will add and enhance public computer centers at libraries, community colleges, public schools, recreation centers, and health facilities across the state
- City of El Paso | \$8,395,752
The city's Virtual Village project engages hundreds of agencies, community institutions, and local organizations by expanding and enhancing public computing capacity
- Technology for All | \$9,588,279
Expanding and enhancing public computer centers to low-income and vulnerable populations in more than 60 centers across southwest Texas, Houston, Austin, San Antonio, Duval County, and small rural communities in the Brazos Valley

SUSTAINABLE BROADBAND ADOPTION

Projects that focus on increasing broadband adoption and usage, particularly among vulnerable populations where broadband use has been underutilized:

- One Economy Corporation | \$28,519,482
A comprehensive program of computer training, wireless Internet access, broadband awareness marketing, and online content and applications will be available to residents of 159 public housing developments and low income communities across 31 states, including Texas

- **Community Services for the Deaf | \$14,988,657**
A nationwide outreach initiative that includes online tools, discounted broadband services, specialized computers, videophones, and support center to serve deaf and hard-of-hearing individuals
- **Mexican Institute of Greater Houston | \$2,015,025**
Creating a broadband outreach and training program targeting Hispanic and minority communities in the Greater Houston, Beaumont, and San Antonio areas
- **Learner Web Partnership | \$3,318,031**
A multi-state support system for broadband adoption by vulnerable adults

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Facilitate Open and Transparent Government

Best Practices for Information Access

In Texas, the goal of the state's open data initiative is to facilitate the publishing of agencies' high-value datasets and to make them readily available to the public. In so doing, Texans can gain insight into rich sources of data to analyze, evaluate, and integrate according to their needs.

Texas state agencies continue to explore methods to increase transparency by expanding access to public information. Many state agencies have created a presence on their websites that provides access to searchable, machine-readable datasets. Several agencies have indicated plans to improve their websites and will consider this initiative within the scope of their redesign efforts. Some agencies have made significant accomplishments in this area while others require more resources and guidance on this topic.

Texas.gov Open Data Page

According to a recent NASCIO report, state government often generates public data that is difficult to discover and not available in a raw format to be consumed and reused.² Through its open data page, Texas.gov provides links and information on datasets maintained by state agencies. As of September 2010, there were 31 links from 14 agencies on the Texas.gov open data page.

As agencies and other public entities continue to make data available on their websites, Texas.gov can become a comprehensive single point of contact for the state. Texas.gov has engaged agencies' interests in deploying a shared solution and will continue to work with stakeholders to advance a common architecture, processes, and tools to facilitate data publishing.

Challenges

The ability for state agencies to readily publish data on their websites is often constrained by their database and data management systems. To address these and other operational constraints, agencies have expressed the need to

- upgrade legacy systems,
- build data warehouses,
- implement business intelligence tools,
- streamline enterprise architecture, and
- restructure data management.

² NASCIO: *A Call to Action for State Government: Guidance for Opening the Doors to State Data* (PDF, 18 pages). Retrieved on 11-Nov-2010 from [hwww.nascio.org/publications/documents/NASCIO-DataTransparency.pdf](http://www.nascio.org/publications/documents/NASCIO-DataTransparency.pdf).

In addition, since this is an evolving topic, there is a need to define what it means for agencies to be open and transparent. Some agencies have identified routine activities like improving customer service, responding to email inquiries, or posting meeting minutes as a fulfillment of this initiative. As more agencies use the Internet to publish data and proactively inform the public on their operations, more models of transparent government will be established that define, contextualize, and set best practices for agencies to follow.

Recommendations

Agencies should continue investigating methods to increase transparency within their organizations

- To facilitate citizen access to their public datasets and open data initiatives, state agencies that are currently publishing raw datasets should make links available to Texas.gov. Texas.gov maintains a registry of open data in the state, which enables constituents to access these resources through a single portal.
- To gain a greater understanding of what constitutes high-value data in their organizations, state agencies should conduct outreach and stakeholder surveys.

DIR will work with state agencies and the Texas.gov service provider to develop strategies and technology solutions to advance open and transparent government.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Link Technology Solutions to Workplace Innovations

Workplace Productivity and Collaboration

Texas agencies have implemented technology solutions to meet their business needs, drive productivity improvements, and develop a greater capacity for innovation.

In their strategic plans, agencies plan to or have deployed various technologies to improve workplace productivity. Examples include

- simple collaboration tools (wikis, social media, instant messaging),
- more advanced, customized software (intranet tools, Google Apps, web conferencing),
- mobile solutions (smartphones, laptops, VPN),
- enterprise solutions (content management system),
- workforce development (cost-effective training, internships, methods to attract and retain new workforce).

Collaboration Tools

There are many solutions to increase communication and collaboration within organizations at low or no cost. These applications might be web-based and require all data to reside on third-party servers. Other tools might be open source software that can be deployed internally, but require technical staff to customize, maintain, and support users. Some common tools include

- Wikis – A simple tool for groups to institute knowledge management, develop ideas, and define processes.
- Instant messaging applications – An additional communication channel to reduce the need for meetings and email.
- Social media – Tools to promote services, reach specific demographics, and distribute information quickly and efficiently.

Advanced Customized Software

Agencies have also invested in more advanced solutions that are integrated throughout the enterprise. These applications can reside in the cloud or be deployed internally and include

- Content Management System – software used for creating, managing, and organizing websites.
- Web conferencing – licenses to hold web meetings, allowing a presenter to show his/her desktop to the entire team.

Mobile Solutions

Agencies continue to recognize the need to empower employees with mobile solutions, as evidenced by nearly 20,000 mobile devices currently in use across state agencies (reported in the 2009 IRDR). Common examples include

- Smartphones – Small portable devices are becoming indispensable for business.

- Laptops and Tablets – Many state employees work in the field or closely with customers, requiring mobile computing devices to complete their jobs efficiently.
- Virtual Private Network (VPN)/Remote Desktop Service – This technology allows employees to securely access the agency's private network from any Internet connection.

Enterprise Solutions

Texas.gov provides Internet and intranet web hosting services. As part of the web hosting service, Texas.gov provides a content management system, which enables non-technical staff the ability to publish content to their agency's website. Additionally, Texas.gov web hosting offers a secure infrastructure, multilingual site support, and a library of templates and related tools, including forums, wikis, blogs, video conferencing, document management, project management tools, and webinars.

Workforce Development

One of the challenges facing government is an aging workforce. Baby boomers are nearing retirement age and it is challenging to attract and retain young talented IT personnel to state government employment. Agencies must build up their workforce by finding ways to attract young workers while optimizing in-house talent. Examples include

- internships and networking programs to generate interest in public service,
- webinars and online training as cost-effective alternatives to classroom training,
- non-monetary incentives to retain talent,
- social media used as an outreach tool.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Strategy 4.2

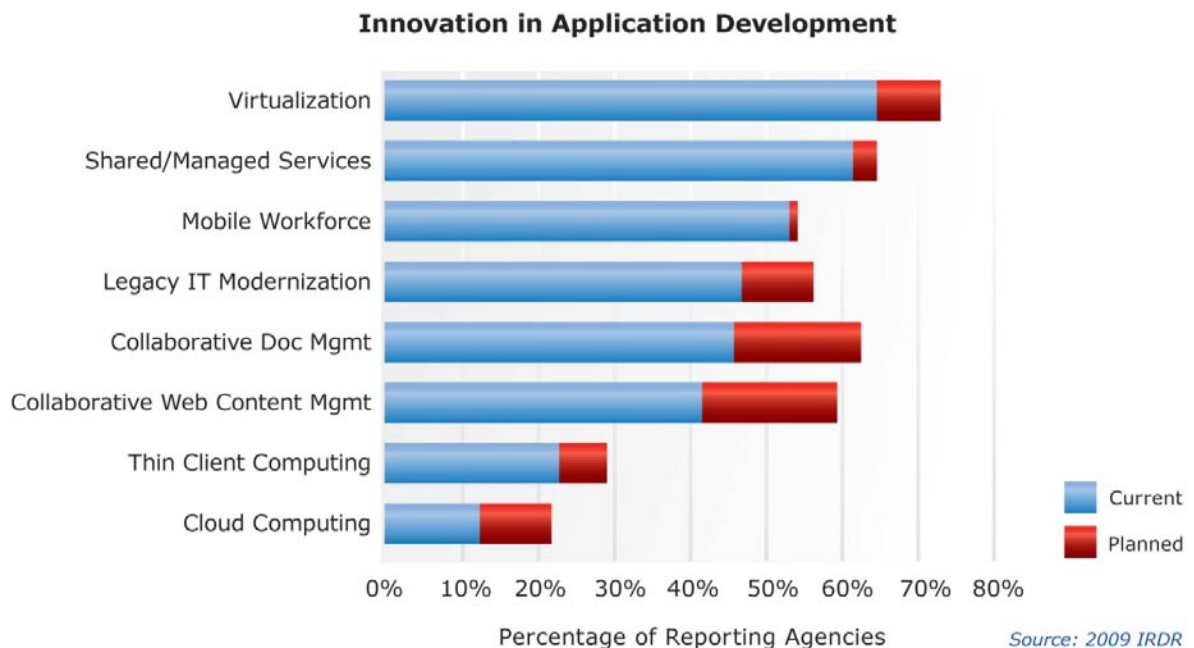
Pursue Leading-Edge Strategies for Application Deployment

Cloud Computing

Cloud computing offers computing resources that are scalable, dynamically provisioned, and often rely on a virtual infrastructure. The cloud architecture can either be private (hosted within an organization's firewall) or public (hosted on the Internet), such that developers and users do not need to have control over or even knowledge of the infrastructure in the cloud. Cost savings and the ability to provision and de-provision resources—networks, servers, storage, applications, and services—on demand are key benefits of cloud computing.

Cloud computing services are becoming increasingly popular at the federal level and within various government jurisdictions. Texas state agencies are currently evaluating the advantages and disadvantages of using enterprise cloud computing and certain agencies have initiated limited deployments of cloud computing solutions within their organizations.

A few state agencies have incorporated these technologies—from cloud-based email and office productivity software to customer relationship management solutions—as a means to control costs and improve service. In their strategic plans, several agencies indicated that they have subscribed to these services through Texas.gov, which hosts agency license application and renewal systems for their regulated communities. These organizations are seeking to expand services through Texas.gov to improve customer-facing, as well as back-end processing, functions.



Additionally, state agencies have expressed a need to supplement computing resources for short-term, on-demand services that support application development and testing.

While state agencies have indicated an interest in cloud computing, overall planned adoption of this technology is limited, as reported in the 2009 Information Resources Deployment Review. Reasons include

- Concerns exist about security within a public cloud infrastructure.
- Budget cuts make it difficult to take on new initiatives of this magnitude.
- Agencies do not feel the need to change (if it's not broken, don't fix it).

DIR recognizes the need to provide an enterprise cloud computing solution that fits agency business requirements and is committed to examine and provide service offerings. During this biennium, the ICT Cooperative Contracts program has added contracts that provide Software as a Service (SaaS) offerings.

Challenges

For public cloud computing, the largest challenge continues to be centered on the security of data. Because the data resides outside of the state's infrastructure, for many agencies, the risk of confidential and mission-critical information getting lost or hacked still outweighs the performance and efficiency gains from moving to the cloud.

However, there are certain business functions, applications, and software that could be better served in the cloud, and the challenge for agencies is to evaluate the benefits of maintaining the infrastructure or provisioning services.

Another challenge when considering cloud computing is from the legal and policy standpoint. All third-party solutions have terms of service, some of which might conflict with legislation or present unacceptable risk to the agency. How a provider handles sensitive data or disaster recovery are legal and policy issues requiring agency attention.

Recommendations

DIR is working with agencies to explore and establish private, cloud-based computing options within the state's shared infrastructure. Agencies that are interested in evaluating the effectiveness of cloud-based options may wish to implement a pilot that addresses augmented technical resources during peak periods or augmented business functionality as a means to evaluate this technology.

For agencies interested in seeking a public cloud computing provider, DIR recommends finding one with provisions that have already been evaluated by government. This would include

- heightened security and privacy services,
- amenable terms of use,
- disaster recovery capabilities,
- reliability and availability, and
- sufficient customer support.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Specifications, Toolkits, and the Application Marketplace

To facilitate application development and deployment, state agencies have adopted development platforms that integrate or will integrate with currently available or planned statewide solutions that provide

- Specifications – the common technology standards and strategies for deploying applications.
- Toolkits – reusable components that assist developers in building software efficiently for a specified platform.
- Application marketplace – a community within Texas.gov that provides access to documentation libraries and toolsets to facilitate the development of new ideas, applications, and services.

Agency and Enterprise Solutions

State agencies continue to evolve their development frameworks to enable rapid deployments, allow re-use, and minimize long-term maintenance costs. Agencies are seeking to standardize their environments, incorporate single sign-on authentication, and deliver multi-platform capabilities.

During this biennium, Texas.gov

- released specifications and a software development kit for interfacing with the Transaction Processing Engine, the banking industry-compliant payment service utilized by Texas.gov.
- released specifications for interfacing with the TexasOnline Authentication System, which provides a simple, unified interface for all agencies to electronically and securely authenticate driver license information.
- chartered the Third Party Application Council to provide governance and oversight over the application marketplace. The Council began examining processes and legal guidelines necessary to run the marketplace. The plan is to first open the marketplace to state agencies and eventually include third-party offerings.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Legacy Systems Modernization

Lack of funding continues to be a primary challenge that limits state agencies' ability to effectively modernize their legacy systems. In the 2009 Information Resources Deployment Review, 61 percent of state agencies indicated they had fewer than 10 percent legacy

applications. While this is a significant finding, 15 percent of state agencies indicated their legacy application portfolio ranges between 70 and 100 percent.

Of the identified legacy systems, 21 percent were determined to be mission critical, while 45 percent of the identified systems did not include any mission-critical systems.

Several agencies indicated in their strategic plans that they intend to leverage their legacy system modernization efforts through 2009 American Recovery and Reinvestment Act funding opportunities.

In the 2009 Information Resources Deployment Review, state agencies identified the following concerns related to their legacy systems.

Percent	Legacy System Concerns
38%	Extensibility, Adaptability, Agility – inability to enhance or revise
30%	Technical support – unavailable or difficult to obtain
29%	Software maintenance upgrades – limited or unavailable
21%	Security – inability to enhance/revise to meet changing security guidelines (e.g., passwords)
20%	Documentation – non-existent or out-of-date
19%	Application development tools – limited expertise (“dead” languages)
16%	Hardware maintenance – limited or unavailable
16%	Software – no longer available or difficult to obtain
9%	Hardware – no longer available, limited or no support
9%	Recoverability – uncertain how or where to recover

State agencies identified the following obstacles exist that limit their capabilities to modernize their legacy systems.

Percent	Obstacles to Modernizing Legacy Systems
65%	Funding
32%	Staff support
30%	Data migration
21%	Resistance from internal end users
14%	Lack of documentation
11%	Risk of failure versus tolerance or appetite for failure
8%	Outside vendor support
8%	System availability during transition period
2%	Lack of source code

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Optimize Information Asset Management

Best Practices for Managing Digital Information

The convergence of rapid data growth, the need to use information strategically, increased focus on transparency, and the legal requirements to retain, manage, and protect information have created significant challenges for agencies.

In October 2009, DIR and the Records Management Interagency Coordinating Council conducted a study to identify practices for managing data and information. Results revealed that agency practices vary widely, however, most agencies seem to be addressing the problems at some level and some agencies have made substantial progress.

Trends

- Valuable information is increasingly difficult to locate among multiple independent data repositories.
- Information and asset management practices vary widely across agencies.
- Costs and risks can be reduced by controlling the amount of data and information.
- Some agencies are establishing teams of IT, business, and records management staff to develop policies and procedures.
- Email management continues to be a challenge for many agencies.
- Few agencies have implemented enterprise information management systems.

The ability to manage digital assets is hindered by the quantity of information being created and stored uncategorized in multiple repositories. Information systems need to be designed and implemented to manage the full life cycle of data and information from creation to disposition. Agencies are required to have records retention schedules, however, applying retention periods to electronic information is very difficult to implement.

Technology changes faster than policies and procedures can be established. Information created through social media, text messages, document scanners, and cloud computing is posing new, significant records management challenges for agencies.

For enterprise information management strategies to be effective organizations need to

- initiate cross-agency data and information management governance workgroups,
- consider an enterprise information architecture and infrastructure to increase sharing and re-use,
- determine methods for retaining and disposing of information during the early stages of project planning,

- establish routine practices for purging data and information that have met retention requirements in coordination with records management staff,
- leverage application capabilities for enhancing data and information management,
- identify all forms of electronic data (social media, text messages, among others) and address use of and retention requirements for each in the policy manual.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Promote the Use and Sharing of Information

Health Information Technology

The Health and Human Services Commission (HHSC) coordinates and oversees numerous health information technology initiatives, including

- health information exchange – establishing and promoting the use of electronic health information exchange networks across which health care providers can share health information electronically.
- electronic health records – promoting the adoption and use of electronic health records by doctors and hospitals.

HHSC established the Office of e-Health Coordination to provide statewide coordination across these and other health IT initiatives. The office

- provides a collaboration and coordination infrastructure,
- identifies and prioritizes IT initiatives,
- serves as the single point of contact for state funding opportunities,
- supports the Texas Health Services Authority,
- collaborates with the Electronic Health Information Exchange System Advisory Committee.

Statewide Health Information Exchange Planning and Implementation Program

During this biennium, HHSC received a \$28.8 million federal grant to plan and implement a statewide health information exchange network. HHSC contracted with the Texas Health Services Authority, a legislatively created public-private partnership, to coordinate the planning effort.

HHSC worked with the Governor's office, the Texas Health Services Authority, and stakeholders to develop the state health information exchange plan, which was submitted to the Office of the National Coordinator for Health Information Technology in September 2010. It is anticipated that the Texas Health Services Authority will be involved in the implementation of the state health information exchange plans.

Medicaid-Based Health Information Exchange System

The Texas Legislature directed HHSC to develop a Medicaid-based health information exchange system to support improved quality of care by offering providers more and better information about their Medicaid patients.³ At the federal level, significant new health IT policy was established through the 2009 American Recovery and Reinvestment Act (ARRA), which also authorized and funded these initiatives.

³ House Bill 1218, 81st Legislature, Regular Session, 2009.

HHSC plans to develop the Medicaid-based health information exchange system as a component of the broader Medicaid Eligibility and Health Information System. Through this system, HHSC will replace the current paper Medicaid identification form with a permanent plastic card and will develop a web-based health information exchange platform for Medicaid patients and providers. The Medicaid Eligibility and Health Information System, which is scheduled for implementation by May 2011, will

- automate eligibility verification,
- provide an electronic health record for all Medicaid clients,
- introduce e-prescribing functionality for Medicaid clients through a web interface, and
- establish a foundation for future health information exchange use for improved efficiency, continuity of care, and improved health outcomes.

Additionally, with the advice of the Electronic Health Information Exchange System Advisory Committee, HHSC will establish a pilot program with regional health information exchange organizations. The committee held its first meeting in February 2010, and implementation of the pilot will begin in 2010.

Medicaid Electronic Health Record Incentive Program

During this biennium, HHSC submitted an Advanced Planning Document to the Centers for Medicare and Medicaid Services to support the development of a state Medicaid Health IT Plan. The plan, approved by the federal agency, will focus primarily on the administrative structure for the new Medicaid electronic health record incentive program, authorized and funded through the ARRA.

The Medicaid Health IT Plan provides a common understanding of the health IT activities that the state's Medicaid program will be engaged in over the next five years. The initial plan focuses primarily on the new Medicaid electronic health record incentive program, but will be updated annually or more frequently if necessary, to include additional health IT initiatives and projects. Priority areas for the initial plan include how Medicaid will

- make provider incentive payments,
- monitor the payments,
- coordinate with the Statewide Health Information Exchange planning initiative and Regional Extension Centers supported by the federal Office of the National Coordinator for Health Information Technology, and
- integrate other Medicaid health IT projects and initiatives.

Federally Funded Health IT Initiatives

Texas health IT initiatives funded through ARRA include health information exchange planning and implementation, health IT regional extension centers, and health IT workforce programs.⁴

- State Health Information Exchange Cooperative Agreement Program | \$28.8 million
 - HHSC/Office of e-Health Coordination

⁴ Presentation to 2010 TASSCC Annual Conference: Health Information Technology – The Texas Landscape (PowerPoint), Nora Belcher, Executive Director, Texas e-Health Alliance.

- Medicaid Health IT Plan/Electronic Health Record Incentive Payment Program | \$4.5 million/planning
 - HHSC/Medicaid
- Health IT Regional Extension Centers | \$35.7 million
 - North Texas Regional Extension Center
 - West Texas Health Information Technology Regional Extension Center
 - Gulf Coast HITECH Regional Extension Center
 - CentrEast Regional Extension Center
- Strategic Health IT Advanced Research Projects | \$15 million
 - UT Health Science Center, Houston
- University Based Training Grant | \$5.4 million
 - Texas State University, San Marcos
- Community College Consortium | \$3.4 million
 - Midland College
 - Dallas Community College District
 - Houston Community College
- Health Information Technology Implementation Grants | \$6.9 million
 - Texas Association of Community Health Centers
 - Lone Star Circle of Care
 - Barrio Comprehensive Family Health Care Center

Moving forward, HHSC's Office of e-Health Coordination will work across all health and human services agencies to integrate and leverage health IT planning efforts to ensure that federal and state funding and investments are leveraged to obtain maximum benefit across the enterprise, improve interoperability across health information systems, and avoid unnecessary redundancies.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Statewide Communications Interoperability

According to the Department of Homeland Security, "Communication interoperability among emergency first responders across the state is a vital strategy to meet the goals of the National Emergency Communications Plan, allowing public safety agencies to communicate as needed, on demand, and as authorized, at all levels of government, across all disciplines."

The Texas Statewide Communications Interoperability Plan, developed by the Texas Radio Coalition, serves as a roadmap to achieve communications interoperability that allows first

responders anywhere in the state to have radio communications with each other using their own equipment on established channels.

The Texas Radio Coalition is a voluntary association of representatives from local, state, tribal, and federal government and response organizations that serves as a member of the Governor's First Responder Advisory Council.

In the 2010 Texas Statewide Communications Interoperability Plan (Version 1.5), the Texas Radio Coalition expressed a vision that by the end of 2015 all public safety and critical infrastructure responders at all levels of government will be provided the highest level of real-time direct interoperable voice and data radio communications utilizing standards-based systems. To achieve this vision, Texas has adopted the Project 25 suite of standards as the interoperability technology solution for public safety communications.

During this biennium, the Texas Radio Coalition

- developed a standard operating procedure template for common regional and local agency communication,
- submitted a proposal to Border Interoperability Demonstration Project Grants to promote the communications interoperability plan with Mexico,
- adopted a regional governance structure,
- submitted a preliminary report to the Texas Legislature in August 2010, with a detailed report to be submitted by June 2011,
- coordinated state and regional grant proposals for Department of Homeland Security and other federal grants,
- assisted regions in developing Regional Migration Plans for standards-based systems,
- initiated a gap analysis with the Communications and Asset Mapping tool to determine where interoperability needs to be improved,
- enhanced training with 17 classes completed since 2008, training over 300 Texas professionals, and
- offered four major Rapid Response Task Force exercises in 2010, to enhance reliability of coordinated communication in emergency disaster response.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Justice Information Systems Integration

The National Information Exchange Model (NIEM) is a collaborative effort of the U.S. Department of Justice and the Department of Homeland Security. Its goal is to enable timely, secure information sharing across the justice, public safety, and homeland security communities. NIEM is an XML-based information exchange framework that facilitates the development of enterprise-wide information exchange standards.

The Texas Department of Public Safety (DPS), Office of Court Administration, and Texas Department of Criminal Justice (TDCJ) partnered with the Texas Integrated Justice Information Systems (TIJIS) advisory group to create the Texas Path to NIEM Project.

The Texas Path to NIEM has worked to

- map out a strategy for reaching NIEM compliance for justice, homeland security, and other disciplines in Texas,
- provide governance for the identification of appropriation opportunities for data exchange, and
- develop Information Exchange Package Documentation and a data reference model of selected exchanges.

NIEM adoption has increased steadily within the justice, public safety, and homeland security agencies across state and local government. With the delivery of Information Exchange Package Documentation for 28 critical information exchanges, some Texas state and local agencies have begun implementing systems that incorporate these exchanges. Others will join in as circumstances permit.

During this biennium

- TDCJ implemented the TDCJ Integrated Justice Information System to accept the electronic Penitentiary Packet (Pen Packet).
- DPS is finalizing the rap sheet standard so that the agency will be able to pass NIEM-based XML in response to law enforcement computerized criminal history requests. For those agencies that cannot accept or process XML, DPS will continue to support a text-based rap sheet.
- Office of Court Administration has developed the automated registry to deliver data from disparate state systems to the judge's desktop.
- TIJIS members participated in outreach events, such as the 2010 Courts and Local Government Technology Conference, which provided a forum to discuss the benefits of NIEM compliance and to identify and leverage resources that will provide guidance in adopting NIEM standards.

DPS maintains the Texas Data Exchange system, which compiles law enforcement incident records and other non-intelligence criminal justice information into a central state repository for sharing across jurisdictional lines. With connections to federal data collection and exchange systems via a NIEM-based interface, DPS's authorized users are able to directly access these databases from within the Texas Data Exchange system, avoiding the need to log on to the other systems.

Examples of the exchanges that have been documented in Information Exchange Package Documentation (IEPD) through the Texas Path to NIEM project are presented in the table below.

Exchange Name	Sending Agency	Receiving Agency	Document Type/IEPD Elements
Delinquent Child Support Notification	Office of the Attorney General, Court, Child Support Office	Multiple (Family code 232.002)	Delinquent Child Support Notification
Consolidated Digital Photograph Notification	Agencies with photo capabilities	All Other Agencies	Demographic information and chronologically sequenced photographs
Standard Citation (Traffic/Ordinances)	Law Enforcement	Court, District Attorney, Probation, Fusion Center, State Law Enforcement Agencies	Uniform Citation
Criminal History Notification to Licensing Agency	Courts	Licensing Agencies (State Board for Educator Certification, Department of Insurance, Nurse Examiners Board)	Criminal Conviction or Deferred Adjudication for certain offenses
Prosecutor Action Report	District Attorney	DPS	Prosecutor Actions
Disposition Report from the Clerk	Court	DPS	Computerized Criminal History Disposition Report
Pen Packet	County	TDCJ	Includes the required elements such as Standardized Felony Judgment, Indictment, Arrest Report, etc.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Enterprise Geospatial Services

Texas has a considerable investment in geographic information systems (GIS). Geospatial data—computerized maps and imagery—is currently estimated to exceed 300 terabytes of active data for all state agencies. In the 2009 Information Resources Deployment Review, 42 state agencies reported using GIS technologies, of which 50 percent indicated they have or soon will deploy sophisticated GIS technology such as geodatabases and web services.

While state agencies' geospatial strategies have advanced their ability to meet their core missions, as an enterprise, a shared, interoperable geospatial infrastructure has not been a priority. Improved enterprise opportunities including shared geospatial web services will continue to be explored through various channels, including

- the state's GIS clearinghouse, operated by the Texas Natural Resources Information System, a division of the Texas Water Development Board,
- the state web portal, Texas.gov,
- the Texas Geographic Information Council, and

- revisions and updates to the state's GIS standards.

During this biennium

- The Council on Competitive Government established a state master contract for High Priority Imagery and Data Sets (HPIDS). High priority data sets are digital map layers used for emergency management, economic development, and as a resource in making informed policy decisions. The Texas Water Development Board oversees the HPIDS contracting process through the Texas Natural Resources Information System. HPIDS has already demonstrated that it can lower costs of acquiring digital map layers while also streamlining procurement and improving the shared use of the data.
- DIR collaborated with state agency and other geospatial stakeholders to assess the current state of GIS as a means to develop a set of options that could provide greatest value in supporting state government uses of the geospatial technologies, including
 - leading a collaborative effort to identify and adopt consensus standards for appropriate geospatial components,
 - procuring enterprise licenses for software,
 - providing a shared environment for developing and deploying map services,
 - provisioning virtual storage services,
 - establishing a sandbox within Texas.gov that provides basic geospatial development capabilities under enterprise licenses or other favorable terms, and
 - extending current statewide clearinghouse services beyond data acquisition and dissemination to provisioning web services and other GIS services in collaboration with the official state portal.
- The Texas Geographic Information Council submitted its biennial plan in November 2010, to the Texas Water Development Board, DIR, the Governor's office, and the Texas Legislature.

More Information Online

To learn more about agency technology initiatives aligned with this strategy, see the DIR website at www2.dir.texas.gov/management/strategy/data/asp/Pages/strategies.aspx.

Additional Reports

The following reports are included in the Biennial Performance Report:

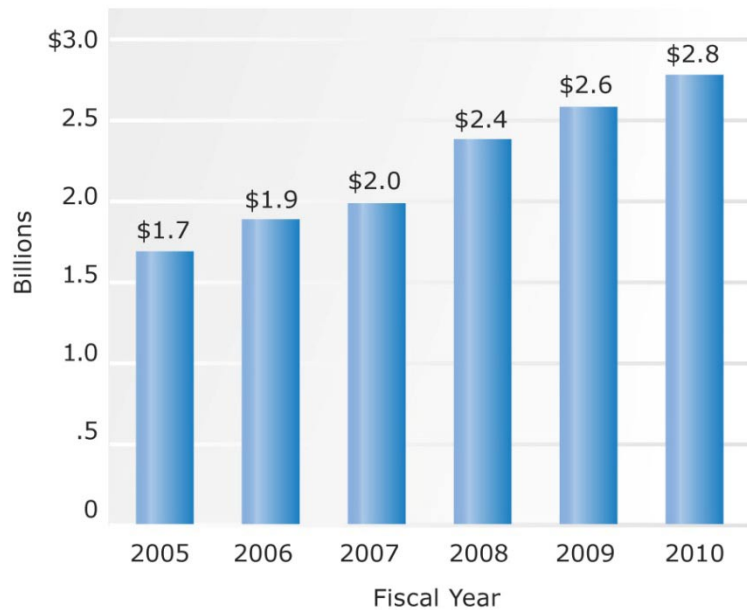
- Report on State Technology Expenditures
- Report on EIR Accessibility
- Report on the Use of E-Learning
- Report on the Consolidated Network Security System
- Report on TexasOnline
- Report on Telecommunications Performance
- Report on Project Management Practices

Report on State Technology Expenditures

This report addresses Section 2054.055(b)(4) of the Texas Government Code, which requires DIR to provide a summary of the total expenditures for information resources technologies by the state.

DIR analyzed information resources expenditure and payroll data from the Comptroller of Public Accounts (CPA), as well as data collected from state institutions of higher education, to estimate the state's annual technology expenditures. These expenditures include the purchase of technology goods and services and the total compensation of all staff that perform primarily technology-related functions.

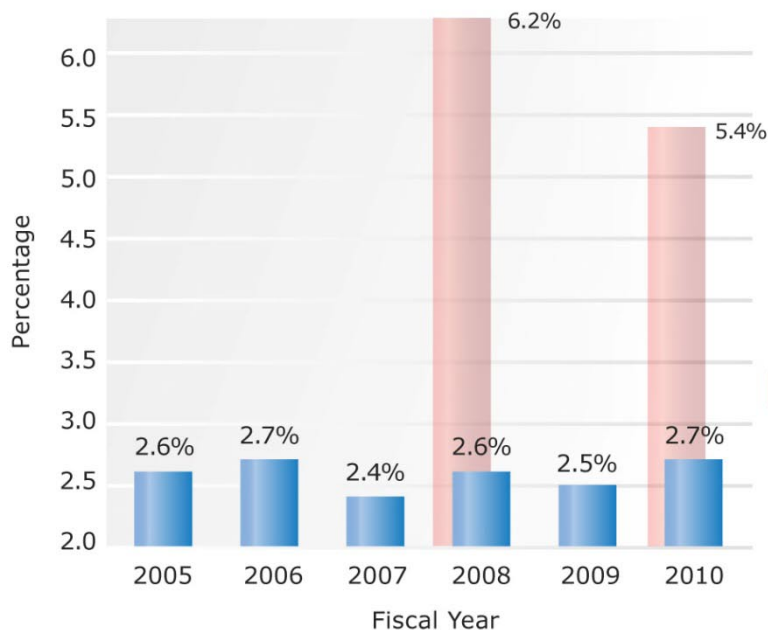
Estimated State Technology Expenditures



DIR estimates that the state's technology expenditures totaled approximately \$2.6 billion in fiscal 2009 and \$2.8 billion in fiscal 2010. These charts reflect trends in technology spending

in the past six years and the trend relative to total state expenditures. While technology spending in the state has increased slightly over the past six years, it has remained roughly constant as a percent of total state spend.

Technology Expenditures as Percentage of Total State Spend



Government average as percentage of total operating budgets.

Sources:
Gartner, Inc. (2008)
CIO Magazine (2010)

Technology spending in Texas falls below national averages. In 2008, Gartner Inc., reported that the average technology spending in government was 6.2 percent of operational budgets.⁵ In January 2010, *CIO Magazine* reported the average technology spending in government was 5.4 percent of total operating budgets.⁶

Analysis

The following sections provide additional detail about DIR's technology expenditure analysis. Technology expenditures for state agencies are divided into two categories: (1) staff compensation and (2) goods and services. However, because higher education expenditures are tracked differently than state agency expenditures, each group was analyzed separately. Note: Amounts in the following tables may not total due to rounding.

State Agencies – Staff Compensation

State agency payroll data is tracked by the CPA in the Uniform Statewide Payroll/Personnel System (USPS) and in the Standardized Payroll/Personnel Reporting System (SPRS). Texas has 882 job classifications, 54 of which are categorized as Information Technology. Some state technology workers have non-technology job classifications, thus the figures from the payroll systems slightly understate the true payroll expenditures.

State Agencies – Goods and Services

Purchases of goods and services are recorded in the CPA's Uniform Statewide Accounting System (USAS). Technology expenditure estimates based on USAS are approximate because certain object codes used to describe goods and services in USAS do not precisely differentiate between technology and non-technology items.⁷

The following table shows fiscal 2005–2010 state agency technology expenditures for total staff compensation and goods and services, by category.

STATE AGENCY TECHNOLOGY EXPENDITURES BY CATEGORY, FISCAL 2005–2010
(DOLLARS IN MILLIONS)

State Agencies	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Total, Staff Compensation	\$196.165	\$208.719	\$203.992	\$240.625	\$305.728	\$261.104
Computer Hardware	186.229	203.642	206.368	205.684	137.354	155.765
Computer HW Maintenance	22.403	24.038	20.716	34.917	36.785	53.667
Contract Services	467.762	533.425	413.771	427.999	510.267	553.190
Data Center Services	0	0	7.722	153.274	172.077	190.941
Software	55.053	65.967	51.569	55.817	42.988	80.292
Software Maintenance	57.760	63.318	68.201	66.729	84.070	90.887
Telecom Hardware	13,792	19.614	18.870	14.622	27.835	31.011
Telecom HW Maintenance	5.767	8.818	11.989	21.345	24.888	22.329

5 "IT Key Metrics Data 2008: Key Industry Measures: Historical Trends: Government Analysis." Gartner, Inc., December 10, 2007.

6 "2010 State of the CIO Survey," p. 36, CIO.com, December 15, 2009/January 1, 2010.

7 Expenditures coded as "7253-Other Contract Services" were analyzed at the individual transaction level to determine whether they should be counted as technology expenditures.

State Agencies	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Telecom Voice Services	130.812	130.173	135.223	168.814	115.463	160.453
Telecom Data Services	23.456	33.037	43.623	51.658	54.378	57.912
Supplies	73.561	83.843	17.594	19.594	19.670	19.325
Training	25.826	28.617	11.023	12.124	13.942	14.307
Total, Goods and Services	1,062.423	1,194.492	1,006.668	1,232.576	1,239.718	1,430.079
GRAND TOTAL	\$1,258.587	\$1,403.211	\$1,210.660	\$1,473.201	\$1,545.446	\$1,691.183

Institutions of Higher Education

The best available higher education technology expenditure data—both staff compensation and goods and services—comes from the annual Core Data Survey conducted by EDUCAUSE, Inc.⁸ Some Texas institutions do not participate in the survey; these expenditures were estimated by extrapolation based on institution size.

The following table shows estimated technology expenditures for higher education institutions for fiscal 2005–2010 for both staff compensation and goods and services. Goods and services are not itemized by category, as this information is not available.

HIGHER EDUCATION ESTIMATED TECHNOLOGY EXPENDITURES, FISCAL 2005–2010 (DOLLARS IN MILLIONS)

Higher Education	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Total, Staff Compensation	\$271.075	\$288.422	\$431.122	\$473.737	\$473.437	\$522.467
Total, Goods and Services	\$166.695	\$188.663	\$406.957	\$501.549	\$539.168	\$621.958
GRAND TOTAL	\$437.771	\$477.084	\$838.079	\$975.286	\$1,012.605	\$1,144.426

Total Expenditure Estimate

Combining results from the previous two tables, the following table shows DIR's estimate of statewide technology expenditures for fiscal 2005–2010.

ESTIMATED STATE TECHNOLOGY EXPENDITURES, FISCAL 2005–2010 (DOLLARS IN MILLIONS)

State Agencies and Higher Education	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Total, State Agencies	\$1,258.587	\$1,403.211	\$1,210.660	\$1,473.201	\$1,545.446	\$1,691.183
Total, Higher Education	\$437.771	\$477.084	\$838.079	\$975.286	\$1,012.605	\$1,144.426
GRAND TOTAL	\$1,696.358	\$1,880.295	\$2,048.740	\$2,448.487	\$2,558.052	\$2,835.609

Technology Percent of Total State Expenditures

The CPA's *Texas Annual Cash Report* identifies the total state-funded expenditures by fiscal year.⁹ To calculate the percentage of state expenditures for information technology, only state-funded IT expenditures are included.

⁸ CPA payroll data cannot be used to calculate higher education technology staff compensation because the data is not available by job class. CPA USAS data is incomplete for higher education because many higher education expenditures are paid for with local (not state-appropriated) funds.

⁹ Comptroller of Public Accounts, Texas Annual Cash Report, referenced 10/19/2010 for fiscal 2009 and 2010.

TECHNOLOGY PERCENT OF TOTAL STATE EXPENDITURES, FISCAL 2005–2010
(DOLLARS IN MILLIONS)

State Expenditures	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010
Technology Expenditures	\$1,696.358	\$1,880.295	\$1,782.289	\$2,145.156	\$2,219.180	\$2,428.060
All Expenditures	\$64,693.009	\$68,833.164	\$74,500.816	\$81,935.832	\$88,575.635	\$90,434.143
TECHNOLOGY PERCENT	2.62%	2.73%	2.39%	2.62%	2.51%	2.68%

This report addresses Section 2054.055(b)(9) of the Texas Government Code, which requires DIR to provide a summary of state agencies' progress on providing access to electronic and information resources to individuals with disabilities.

Background

Accessibility to the state's electronic and information resources (EIR) was strengthened when the 79th Texas Legislature required state agencies to develop, procure, maintain, and use electronic information resources that are accessible to Texas citizens with disabilities, including state employees.

More than four million Texans have disabilities that can affect their interaction with the Internet, the telephone, and other means of electronic communication. By focusing on making agency EIR accessible, citizens seeking information, working for the state, or applying for services will be able to perform the functions regardless of disability.

Through administrative rulemaking, DIR has adopted statewide standards for EIR accessibility of state websites and technologies. Texas Administrative Code, Chapter 206, addresses state websites. Texas Administrative Code, Chapter 213, addresses electronic and information resources technologies. Working in collaboration with a variety of organizations, DIR

- monitors federal and state legislation to identify changes in laws that have statewide impact on agency EIR accessibility policies, standards, and guidelines.
- evaluates and recommends revisions to statewide standards, rules, and guidelines.
- identifies and communicates best practices for EIR accessibility and usability compliance issues.

Progress

Over the last biennium Texas state agencies have strengthened their efforts in enhancing access to information and services for citizens. DIR has worked with state agencies to

- develop and facilitate education and training forums,
- charter the EIR Accessibility Council of Texas, and
- redesign DIR's EIR Accessibility website to improve navigation and presentation of resources, including standards, guidelines, templates, FAQs, and training opportunities.

State agencies have collaborated and shared resources to ensure statewide information resources are accessible. Examples of agency support include the following:

- The Department of Assistive and Rehabilitative Services provided specific accessibility mentoring to
 - assist agencies with developing accessibility policies,

- share accessibility training programs and course material with other agencies,
 - support ProjectONE and contractors to evaluate PeopleSoft accessibility and develop strategies for implementation,
 - lead the creation of the Health and Human Services EIR Accessibility website, which provides a one-stop resource for model policies, procedures, checklists, procurement guidance, and training, and
 - provide statewide leadership and share resources on accessibility by serving as a charter member of the EIR Accessibility Council of Texas.
- The Texas Commission on Environmental Quality (TCEQ) collaborated with other state agencies to
 - support implementation of EIR accessibility initiatives, policies, and training programs,
 - share and train on the use of TCEQ-customized toolbars for Microsoft Word 2003 and 2007, which simplify the development of accessible documents, and
 - provide accessibility experts to present topics of interest at the monthly Public Electronic Services On the Internet (PESO) meetings.

Throughout the biennium, state agencies have collaborated with the vendor community to promote barrier-free technology solutions.

- Members of the EIR Accessibility Council, Governor's Committee on People with Disabilities, nonprofit organizations, and major national companies were invited to participate in IBM-sponsored events that focused on how government organizations can lead the way in promoting and meeting the electronic and information needs of their disabled employees and citizens.
- More than 38 state agency and higher education institution personnel across 12 state agencies have participated in web accessibility design competitions in fiscal 2009–2010. Accessibility Internet Rally (AIR-Austin and AIR-Interactive) events are hosted annually by an Austin-based nonprofit organization, Knowbility. These events increase awareness of the tools and techniques needed to enable websites to be accessed by people with disabilities.

Agency compliance with EIR accessibility standards is reported in the Information Resources Deployment Review (IRDR). An agency that is not in compliance is required to develop a corrective action plan that describes the strategies it will implement to remediate instances of non-compliance. The following findings are based on a statewide analysis of state agency and institution of higher education responses to the 2009 IRDR.

This report compares the 2009 responses with those reported in 2007. The 2007 IRDR was the first time that agencies addressed accessibility compliance in their deployment reviews. Agencies have since demonstrated significant improvement, reporting increased compliance levels in the 2009 IRDR.

- Agencies reported compliance with 92 percent of EIR accessibility requirements. Many agencies became aware of accessibility requirements for the first time through the 2007 IRDR process. Agency responses to the 2009 review indicate a significantly higher compliance rate than the 54 percent reported in 2007.
- Compliance levels are similar between state agencies and institutions of higher education. For state agencies, compliance with accessibility requirements is 93 percent, while institutions of higher education reported 91 percent compliance.
- Agencies reported a significant improvement in employing automated tools to test accessibility of their websites and web-based applications. Sixty-nine percent of agencies reported using accessibility validation tools. This is a 51 percent increase from the 2007 IRDR.
- Agencies have increased the frequency of assessing websites and web-based applications for accessibility. Agencies most frequently check web content for accessibility when their website undergoes a design change or in response to a problem report. In 2007, only 2 percent of agencies reported having a regular review cycle for accessibility testing. In 2009, 22 percent reported that they have scheduled reviews to proactively identify accessibility flaws in existing web content.
- Ninety-one percent of reporting agencies indicated that they have a designated accessibility coordinator.

Next Steps

- Monitor and analyze proposed federal legislation for impact on Chapter 2054 of the Texas Government Code and Chapters 206 and 213 of the Texas Administrative Code:
 - U.S. Access Board update of the 508 Standards and the Telecommunications Act Guidelines,
 - U.S. Department of Justice revision of title III of the Americans with Disabilities Act.
- Award comprehensive web development contracts through DIR's ICT Cooperative Contracts program that provide EIR accessibility products and services that support testing and remediation.
- Collaborate with the EIR Accessibility Council to promote ongoing improvement of the methods by which agencies make electronic information resources accessible to all state employees and the public, including people with disabilities.

Report on the Use of E-Learning

This report addresses Section 2054.055 (b)(8) of the Texas Government Code, which requires the Department of Information Resources (DIR) to provide a summary of the amount and use of Internet-based training conducted by each state agency and institution of higher education.

Report findings are based on a targeted survey of all agencies and universities as well as relevant industry research. The term *e-learning* refers to instructional content or learning experiences delivered, enabled, or enhanced by electronic technologies.

Background

A growing number of Texas state agencies are relying on technology-based solutions for training their employees and constituents. E-learning, which comprises all forms of electronically supported learning and teaching, includes Internet and multimedia technologies as well as CD-ROM, DVD, or audio conferences. E-learning training opportunities range from live, interactive sessions to archived files that can be accessed on demand.

Progress

Over the last biennium, Texas state agencies continued to incorporate e-learning practices into their organizations. State agencies and higher education institutions were surveyed on their existing e-learning practices as part of the 2009 Information Resources Deployment Review (IRDR).

The following table identifies the current and planned delivery methods used by state agencies.

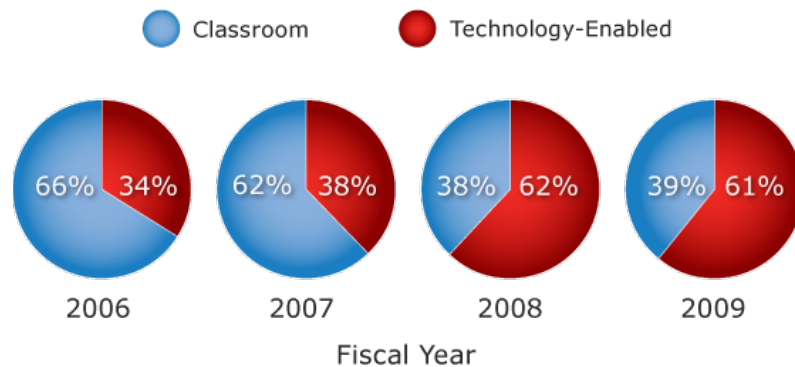
TRAINING DELIVERY METHODS USED BY STATE AGENCIES

Delivery Method	FY2008-2009 (Actual)	FY2010-2011 (Planned)
Traditional Classroom	88%	90%
Computer-Based Training	72%	74%
Web Conferencing	56%	66%
Video Conferencing	43%	45%
Audio Conferencing	35%	40%
Computer Simulations	16%	18%
Podcasting	13%	15%
Satellite	5%	6%
PDA/Smart Phone	4%	7%
Correspondence (no-tech)	6%	6%

Respondents also identified how many completions occurred for each of the primary delivery methods stated above. A completion consists of one employee completing one class.

For the more than 2.2 million completions where a delivery method could be identified, 62 percent used technology-related methods and only 38 percent utilized traditional face-to-face classroom. This shows a significant increase from the previous biennium where technology-enabled courses represented only 34 percent in fiscal 2006 and 38 percent in fiscal 2007.

Traditional Classroom vs. Technology-Enabled Training Completions



E-Learning Resources

State agencies are individually making progress in employing technology-based training solutions. Many challenges remain, however, particularly for small- and medium-sized agencies due to

- Lack of resources and staff
- Limited budgets
- Ensuring EIR accessibility requirements
- Browsing and operating system dependencies
- Appropriateness of the training content for an e-learning delivery method
- Bandwidth limitations

There is no central resource coordinating e-learning projects across the state; however, Texas agencies informally share information and participate in various forums. In fiscal 2010, some of these efforts included

- *Podcasting 101 Clinics* – a set of classes organized by volunteers from Texas government that provided training and practical guidance on developing and publishing podcasts
- *Future of Mobile Learning* – an educational webinar on trends and best practices
- *Inter-Agency Training Expo* – an annual event where best practices on many training issues, including e-learning, are shared

DIR worked with agency representatives and the vendor community to facilitate and coordinate these educational events. Additionally, DIR

- implemented a host of technology-based training contracts through the ICT Cooperative Contracts program. Products and services include

- development tools
- web and video conferencing
- staffing services to augment expertise needed for development projects
- subscription-based online training courses
- facilitated opportunities for agencies to share expertise, including
 - hosting an email discussion list of 500+ government staff involved in training
 - serving on the advisory board of the E-Learning Council
 - serving on the State Agency Coordinating Committee (SACC) Training and Development subcommittee
 - promoting e-learning topics at IT conferences such as GTC, InnoTech, and other programs

One important forum for information sharing is the E-Learning Symposium, hosted by the E-Learning Council. This interactive annual conference is designed to help professionals and key decision makers learn how to execute e-learning programs within their own organizations.

Agency Solutions

Examples of how agencies are utilizing e-learning solutions include

- The Texas Commission on the Arts is providing workshops and training to constituents via webinars to reduce the cost of conducting workshops and training events across the state.
- The Texas Commission on Law Enforcement Officer Standards and Education is upgrading its existing Distance Education Learning website to industry best practices to decrease customer calls for support.
- The State Preservation Board is enhancing its statewide distance learning education program to provide high-quality, cost-effective learning opportunities for school groups and educators who are not able to visit the Bob Bullock Texas State History Museum. Planned enhancements include the use of live, interactive two-way video conferencing as a teaching tool.

Additional examples of innovative technology-based training and collaboration solutions are described under section 4.1—Link Technology Solutions to Workplace Innovations.

Next Steps

- Continue collaboration among agencies through
 - SACC Training and Development subcommittee;
 - The E-Learning Council;
 - The annual Inter-Agency Training Expo; and
 - Various users groups and forums.
- DIR will consult with the SACC Training and Development subcommittee as it develops training and e-learning survey questions for the 2011 Information Resources Deployment Review.

Report on the Consolidated Network Security System

This biennial report meets the requirements of Texas Government Code Section 2059.057 (TGC 2059.057). It describes the consolidated network security system's accomplishment of service objectives and performance measures, including financial performance.

Background

Cyber security is an ongoing process that requires continuous, coordinated, and focused effort. The Department of Information Resources (DIR) has continued to develop and expand its ability to monitor, assess, and safeguard the State of Texas' information infrastructure from external cyber attacks.

DIR established the Network and Security Operations Center (NSOC) in September 2007, as a means to protect the state's information assets from unauthorized external intervention or improper use. The NSOC is a secure and resilient facility that provides a cost-effective, first-priority source of network security services.

The NSOC offers network security services to all state agencies and other eligible state entities as specified in TGC 2059. Security operations are co-located and integrated with statewide network management functions in the NSOC. Security services offered through this facility include

- monitoring, alerting, and analysis,
- controlled penetration testing (CPT),
- vulnerability assessment,
- network visibility and discovery,
- enterprise intrusion prevention,
- disk sanitization, and
- training and policy support.

Progress

During this reporting period, DIR delivered network security services through the NSOC that included agreements with a private vendor under amendments to the Tex-AN 2000 Master Agreement, extending NSOC security services through August 2011.

NSOC Physical and Environmental Security

In fiscal 2009 and fiscal 2010, an independent contractor conducted a SAS-70 audit of the physical and environmental security of the NSOC facility. The fiscal 2009 audit findings identified one exception regarding an outdated security and awareness policy. DIR updated this policy during the period of the audit (August 2009) and the auditor found the action to be acceptable. The results of the fiscal 2010 SAS-70 audit are pending.

During this reporting period, DIR

- provided intrusion prevention services for state entities that are connected to the consolidated statewide network.
- implemented a criminal justice security enhancement program in April 2009 at the request of the Texas Department of Public Safety (DPS). This transitional program addressed specific network intrusion prevention and vulnerability assessment requirements as DPS worked to improve its network security posture through fiscal 2010.
- renewed managed security service contracts for 18 vendors. These Security Services (DIR-SDD-TMP-100) include 79 different service categories. These contracts enable DIR to provide readily available security service options for all state entities.

In the event a state agency seeks to obtain security services that may not be available through the NSOC, an online Security Service Determination Form allows state agencies to obtain security services through DIR's managed security contracts. During this reporting period, DIR responded to state agency requests as follows:

Biennium	Requests Received	Requests Approved	Requests Withdrawn	Requests Denied
FY2007–2008	2	2	0	0
FY2009–2010	17	16	1	0

In fiscal 2009–2010, DIR approved all 16 requests within two business days. One agency voluntarily withdrew its request since DIR was able to provide the requested services at no additional cost to the agency.

Agency compliance with statewide security requirements is measured with the Information Resources Deployment Review (IRDR). An agency that is not in compliance is required to develop a corrective action plan that describes the strategies it will implement to remediate instances of non-compliance.

The 2009 IRDR indicates that most eligible state agencies (71 percent) are in compliance with the requirement to use services available through the NSOC. Of those state entities claiming exemption (28 percent), all are institutions of higher education. One state entity indicated non-compliance, and cited a compliance exemption based on TGC 825.103 (e) related to TGC 2054 and 2055.

NSOC Services and Support

The state's Chief Information Security Officer (CISO) exercises policy direction for NSOC security operations and collaborates closely with the Deputy Executive Director of Statewide Technology Services, who exercises policy direction for NSOC network operations. The CISO monitors state agency information security officers' awareness of and adherence to state IT security rules, standards, and guidelines.

RISK ASSESSMENTS

DIR, in partnership with Texas A&M University, developed an Information Security Awareness, Assessment, and Compliance (ISAAC) risk assessment tool for state entities. DIR provides this

web-based risk assessment tool at no cost to state agencies. ISAAC facilitates centralized information assurance through statewide risk analysis, cyber vulnerability reduction, planning, and tracking of IT assets.

Biennium	ISAAC Participants	ISAAC Risk Assessments Started*	ISAAC Risk Assessments Completed*
FY2007–2008	33	22	5
FY2009–2010	41	89	67

* Individual agencies may start and complete more than one assessment.

TECHNICAL ASSESSMENTS

The number of technical security assessments for the current biennium (452) represents a significant increase over fiscal 2007–2008 (228). There are two primary factors for this improvement. First, DIR provided Web Application Vulnerability (WAV) assessments for the entire period. Second, an increased number of state agencies, institutions of higher education, and local governments have recognized the benefits of regular security assessments. Of note, participating state entities have demonstrated improved security postures with considerable security breach cost avoidance.

Biennium	WAVs	CPT– State Agency	CPT– IHE	CPT– Local	Other	Total
FY2007–2008	49	131	40	6	2	228
FY2009–2010	224	155	60	7	6	452

SECURITY INCIDENT MANAGEMENT

DIR's Security Incident Management (SIM) system provides continuous external monitoring and alerting for customer-designated, external-facing network components, e.g., firewalls, and intrusion detection and prevention systems. This program has experienced significant growth as indicated below.

Biennium	Agencies Monitored	Devices Monitored
FY2007–2008	2	5
FY2009–2010	45	164

In collaboration with other state entities and federal cyber security organizations, the NSOC receives timely indications and warnings of network security incidents. DIR's SIM system also provides continuous, 24-hour network security monitoring, data gathering, and protocol analysis for assessing and defeating network security threats. To provide state entities with timely Computer Security Incident Response Team (CSIRT) analysis in containing and remediating these incidents, DIR

- added an Incident Response coordinator,
- added a security analyst,
- added a vendor security analyst, and
- provided CSIRT training.

DIR's state agency CSIRT training and certification initiative with Carnegie Mellon University includes a series of three one-week training courses with participation as listed below.

Biennium	Number of Classes	Number of Students
FY2007–2008	2	44
FY2009–2010	6	132

To test and develop statewide incident response capabilities, DIR regularly organizes and participates in major cyber security exercises. These exercises have included the following DHS-funded events:

- “Defend the Flag” exercise (fiscal 2010)
- “Dark Screen” Texas Community exercises (fiscal 2010)
- Cyber Storm II (6 state agencies, fiscal 2009)
- Cyber Storm III preparation (fiscal 2009–2010, 11 state agencies, 1 Texas community)

DIR conducts statewide exercises according to the Cyber Security Incident Response Plan, which will be incorporated into the State Emergency Management Plan, in fiscal 2011. DIR also collaborates with other state agencies, communities, and the Texas Department of Public Safety, Texas Division of Emergency Management.

State agencies also report security incidents to DIR on a monthly basis via the Security Incident Reporting System (SIRS). Statewide participation in this program is closely monitored and averaged between 84 and 91 percent of approximately 150 state entities reporting each month during fiscal 2009–2010.

DIR uses the results and input from SIM network monitoring, SIRS incident reports, controlled penetration tests, and daily interaction with agency information security officers to

- assess annual training and awareness requirements
- reduce the number and types of vulnerabilities
- improve the efficiency of future testing
- protect state networks from outside attacks

Educational Services

DIR, through the CISO, sponsors or cosponsors no-cost and low-cost training and certification. These include DIR's annual Texas Information Security Forum and advanced technical training provided via the SANS Institute, the DHS-funded cyber security Sentinel Project, and the Government Forum of Incident Response and Security Teams. Other educational events that are not included in the hourly totals include presentations at conferences and workshops.

DIR also organizes vendor-neutral training from major security software and consulting firms to help state agencies of all sizes access the expertise and continuing education credits that are needed to improve the state's IT security posture. These training and certification opportunities are available to employees of all state government agencies, including local government and law enforcement entities.

Biennium	Events	Attendees	Hours
FY2007–2008	26	2,015	23,372
FY2009–2010	63	3,139	27,003

Network Security Guidelines and Standards

In fiscal 2009–2010, DIR amended 14 of 18 rules within Texas Administrative Code, Chapter 202, Information Security Standards (1 TAC 202). These updates, effective September 2009, focused on

- security controls,
- encryption standards,
- incident reporting, and
- administration and definitions.

In fiscal 2010, DIR also amended 1 TAC 217 to adopt the administrative rules as directed by the 81st Texas Legislature (Regular Session). In accordance with TGC 2059.060, the rules are effective for all contracts entered into on or after December 1, 2010, and require

- certified independent vulnerability testing of network hardware and software,
- specific testing conditions (with exemptions and standards if needed).

In July 2010, DIR updated statewide contract templates to address the “Secure Erasure of Hard Disk Products and/or Services.” This initiative responded to concerns about security controls for managed service devices such as printers and addressed compliance with 1 TAC 202.28/78 (Removal of Data from Data Processing Equipment).

DIR incorporates appropriate elements of TGC 2059 into the IRDR process for state agencies. The IRDR has proven to be a useful report in allowing state agencies to perform self assessments, identify and address their security shortfalls, and increase their compliance and audit readiness.

Biennium	Total Deficiencies	Security Deficiencies	Percent of Total
FY2007–2008	612	125	20%
FY2009–2010	337	71	21%

In fiscal 2009–2010, the total number of agency-reported security deficiencies was significantly reduced (from 125 to 71).

Financial Performance

DIR has determined that all state agencies that are part of the consolidated state network are paying their proportional cost of baseline NSOC security services provided under the Amendment Agreements to the Tex-AN 2000 Master Agreement.

A comprehensive consolidated IT security budget and system of billing for network security services based on proportionate usage has been incorporated into the Tex-AN network security services contract and amendments that are currently in effect.

- *Revolving Fund Account* – DIR maintains sufficient funds to pay the liabilities of the center and related network security services.
- *Grants* – DIR received \$250,000 in Homeland Security Grant Program funding via the Texas State Administrative Agency in fiscal 2007 to assist with TGC 2059 implementation. DIR did not receive any grant funding in the fiscal 2009–2010 biennium.

Next Steps

- As the NSOC enters its fifth year of operation, DIR anticipates updating its State Enterprise Security Plan to account for new threats, increased demands, and more cost-effective business models. DIR will continue to cooperate with federal, state, and local counterparts for preventing, preparing for, and responding to any disruption in service delivery.
- DIR will continue to work collaboratively with state entities to provide quality network security services that maintain a high level of trust in the privacy and security of state information resources.

This report addresses Section 2054.055 of the Texas Government Code, which requires the Department of Information Resources (DIR) to report on the status, progress, benefits, and efficiency gains of TexasOnline, including any significant issues regarding contract performance and to provide a financial summary of TexasOnline, including project costs and revenues.

Background

Texas.gov (formerly known as TexasOnline.com) is the official e-government portal for the State of Texas.

Note: TexasOnline refers to the organizations and historic documentation rooted in the origin of the program that supports the official portal of the state of Texas. Texas.gov is the domain name and the name of the product produced and supported by the TexasOnline program.

As the primary resource for government web-based services, Texas.gov provides customers the capability to deliver government information and services through interactive online applications for citizens and businesses.

The mission of Texas.gov is to provide a single point of access to Texas government information and services that is

- private,
- secure,
- convenient,
- efficient,
- service-oriented, and
- accessible to people of all abilities and disabilities.

Texas.gov is operated as a self-funded, public-private partnership. DIR provides contract management, strategic and operational oversight, enterprise-level coordination, and advocacy. The private partner provides all other aspects of program management.

Texas.gov hosts more than 1,000 online services for more than 100 publicly funded customers. Examples of services include

- driver license renewals and driver record review,
- vehicle registration renewals and specialty license plates,
- vital records (birth, death, and marriage certificates),
- state licenses and permits, and
- local utility bill payments.

Progress

New Contract

The original TexasOnline contract ended on December 31, 2009. Through a repurchase process, a new vendor was awarded the contract on July 31, 2009. To ensure a successful transition, the Texas.gov partnership

- successfully completed cutover on January 1, 2010,
- executed customer agreements (formerly known as service level agreements),
- published a Policies and Procedures Manual,
- developed and approved a comprehensive set of management plans, and
- established governance councils and boards to provide guidance and oversight.

New Website

On May 22, 2010, DIR revealed a rebranded website—Texas.gov—and new logo. Read more about the new website at Strategy 1.1.

New Applications and Services

In fiscal 2009 and 2010, Texas.gov added the following new services:

- Motor Vehicle Registration for 10 counties
- eFiling for Courts for 21 counties
- Concealed Handgun License Application
- Texas State Board of Public Accountancy Firm Renewal
- DPS Fingerprinting with ACH Payments
- Texas State Board of Pharmacy Technician Trainee Registration
- Texas Disaster Relief Fund
- Consolidated Business Application, Phase 1 (MyTexasBiz)
- Texas Tomorrow Fund Save and Match Program
- Texas Lottery Commission License Renewal

New Governance Model

The new contract established a robust and effective governance model that is more partnership-focused—integrating customers, users, partners, third parties, and vendors. This new structure provides an additional level of transparency to Texas.gov operations. The new model provides

- flexible, timely, and effective approval processes;
- increased visibility into plans, decisions, operations, and finances through transparent metrics; and
- true partnering relationships among DIR, the vendor, and other stakeholders.

The governance structure includes two major components, represented by agency committees and DIR and vendor committees:

- Groups with Agency Representation
 - Executive Steering Committee
 - Customer Advisory Council

- Occupational Licensing Steering Committee
- DIR and Vendor Committees
 - Project Review Board
 - Change Control Board
 - Third-Party Application Council
 - Architecture and Standards Board

Benefits and Efficiency Gains

New Business Model

The new contract proposed a different business model that increases the state's share of revenue. Under the previous contract, the vendor paid for all development costs upfront, then recovered costs through transaction fees. Before breakeven, the state received 20 percent of the total transaction fee revenue. After breakeven, there was a 50 percent split between the state and the vendor.

The new contract provides a simplified business model:

- In 2010, the state receives 38 percent of total revenue,
- In 2011, the state receives 39 percent of total revenue, and
- From 2012 through the end of the contract, the state receives 40 percent of total revenue.

From inception through July 2010, the program's contribution to General Revenue exceeded \$75 million. Fiscal 2010 contributions are estimated to be approximately \$20 million. More details on financial projections can be found in the Financial Summary section below.

Technology Enhancements

CONTENT MANAGEMENT SYSTEM

Included in the website hosting solution is a content management system for creating, managing, and organizing websites.

Benefits include the following:

- Empowers agency divisions to create and manage their own web content.
- Frees up technical resources to work on mission-critical activities.
- Provides templates for consistent branding across the website.
- Eliminates out-of-date information, broken links, and other errors that frustrate users.
- Organizes each page to include attributes such as records management and maintenance schedules.

The content management system for the Texas.gov site was deployed as part of the portal launch in May 2010. The pilot for agency intranet use is expected to take place in the third quarter of fiscal 2011.

Read more about content management systems at Strategy 1.1 and Strategy 4.1.

TRANSACTION PAYMENT ENGINE

TexasOnline migrated the previous non-PCI-compliant payment engine to a new PCI-compliant system with additional features and benefits. Read more about the transaction payment engine at Strategy 1.1.

COMMON ARCHITECTURE

From an architectural standpoint, Texas.gov migrated to the .NET framework and SharePoint infrastructure. Moving toward a common architecture promotes reuse and standards to enhance future development opportunities, saving time and cost on the development of new projects.

IMPROVED SEARCH

Research shows that most people prefer to use a search engine as their primary method of finding information online. An evaluation of the previous TexasOnline site also showed that the search feature was inaccurate and difficult to use. Texas.gov revamped the search function, implementing Google Search and prominently featuring the Search box with advanced features in the top center portion of every page. Improving the search feature was such a vital part of the new website that the slogan of the rebranding campaign is *Find almost anything on Texas.gov*.

Significant Issues Regarding Contract Performance

There are no significant issues regarding contract performance for this biennium.

Financial Summary

TexasOnline has continued its financial success over the past two fiscal years. Since inception, TexasOnline has passed the \$16 billion mark in cumulative state and local dollars processed through July 2010. In fiscal 2007, the State of Texas began receiving 20 percent of total revenue, less credit card expenses. The total revenue, in addition to the 50/50 revenue split between the vendor and the state, has added more than \$75 million in revenue to the state's General Revenue fund.

By the end of fiscal 2011, the total amount of cumulative revenue deposited to unappropriated General Revenue is estimated to exceed \$96 million. The table that follows shows the state revenue share for the most recent four-year period.

TEXASONLINE STATE REVENUE SHARE, FISCAL 2007–2010

State Share of Total Revenue	FY2007	FY2008	FY2009	FY2010
State Share of Total Revenue (20%)	\$7,400,100	\$11,096,280	\$11,936,417	\$10,111,428
State Share of Total Revenue (38%)	0	0	0	\$7,595,374
State Share of Net Revenue (50%)	\$5,053,178	\$5,614,185	\$4,316,665	\$1,847,802
TOTAL	\$12,453,278	\$16,710,465	\$16,253,082	\$19,554,604

Source: Independent Auditor's Reports for the years ended August 31, 2002, 2003, 2004 and 2005 were prepared by Deloitte; Independent Auditor's Reports for the years ended August 31, 2006, 2007, 2008, and 2009 were prepared by Clifton Gunderson. Information provided in the August 2010 TexasOnline unaudited preliminary data was prepared by Texas NICUSA, LLC. Fiscal 2010 TexasOnline Existing consists of data through December 2009 from the Texas Electronic Framework Agreement (TEFA) and the remaining portion of 2010 from the TexasOnline 2.0 Master Agreement.

The following table shows the unaudited TexasOnline statement of operations for fiscal 2010.

TEXASONLINE STATEMENT OF OPERATIONS, FISCAL 2010

Item	Existing Projects	Master Work Order	Consolidated
REVENUE			
Transaction Revenue	21,618,416	33,036,601	54,655,017
Service Revenue	4,043,223	9,740,373	13,783,596
Total Revenue	25,661,639	42,776,974	68,438,613
<i>Revenue Budget through 8/31/2010</i>	<i>25,311,909</i>	<i>43,821,402</i>	<i>69,133,311</i>
<i>Revenue Over (Under) Budget</i>	<i>(349,730)</i>	<i>1,044,428</i>	<i>694,698</i>
EXPENDITURES			
Operations Costs	8,048,357	19,473,049	27,521,406
Variable Cost	6,033,081	8,212,886	14,245,967
State 20% Revenue Participation	7,595,374	8,371,806	15,967,180
Depreciation	65,797	3,068,784	3,134,581
Bad Debt Expense	0	9,547	9,547
Loss on Discontinued Projects	0	0	0
Total Expenditures	21,742,609	39,136,072	60,878,681
<i>Expenditure Budget through 8/31/2010</i>	<i>24,350,797</i>	<i>42,748,193</i>	<i>67,098,990</i>
<i>Expenditure Over (Under) Budget</i>	<i>(2,608,188)</i>	<i>(3,612,121)</i>	<i>(6,220,309)</i>
Net Cumulative Recovered (Unrecovered)			
Investment in Operations	3,919,030	3,640,902	7,559,932
Favorable (Unfavorable) Net Variance	2,957,918	2,567,693	5,525,611

Annual Audits

The TexasOnline portal has been routinely audited by an independent public accounting firm from project inception. Since the previous status report, the following audits were conducted:

- Fiscal 2009 – Clifton Gunderson financial statement opinion audit for fiscal 2008
- Fiscal 2010 – Clifton Gunderson financial statement opinion audit

Report on Telecommunications Performance

This report addresses Section 2054.055 (b)(10) of the Texas Government Code, which requires DIR to report on the progress of the plan for a state telecommunications network; and Section 2054.055(b-1) of the Texas Government Code, which requires DIR to address the performance of the statewide telecommunications system and the centralized Capitol Complex Telephone System.

Background

DIR provides a wide variety of communications services that support statewide voice, video, and data services via the state's communications system, the Texas Agency Network (Tex-AN). The agency also manages the Capitol Complex Telephone System (CCTS), which delivers voice and data communications support within the Capitol Complex. State agencies are required to use Tex-AN and CCTS unless a waiver is granted by DIR. DIR is also permitted to offer communications technology services to other political subdivisions such as cities, counties, councils of government, independent school districts, institutions of higher education, and assistance agencies.

Progress

Tex-AN Next Generation

In fiscal 2010, DIR initiated the procurement of Tex-AN Next Generation services:

- Request for Offers (RFO) – released August 2010
- Contracts award – scheduled December 2010

DIR intends to establish a portfolio of communications technology contracts with multiple service options that will satisfy the state's broad public service and business requirements. The balance of this report addresses the procurement of next-generation communications technology services and provides the annual performance measures and financial reports for Tex-AN and CCTS.

In preparation for Tex-AN Next Generation, DIR conducted extensive research on similar large-scale communications service procurements such as the U.S. Department of the Treasury and the U.S. General Services Administration. In addition, DIR met with major IT consulting firms to gauge the latest trends in communications services and business practices. Finally, DIR held outreach meetings with the vendor community and customers to explain the procurement process and to receive input.

The Tex-AN Next Generation RFO seeks competitive solutions for statewide, commercially available voice and data services, a security operations center, and service delivery functions that will support end-to-end delivery and management of services to the state. Responses to

the RFO were submitted through October 2010. Initial Tex-AN Next Generation contracts will be awarded in December 2010, with subsequent contracts awarded throughout fiscal 2011.

Communications Infrastructure Upgrades and Enhancements

- *CCTS Voice Mail*

To better serve phone customers on the CCTS, in fiscal 2010 DIR upgraded an aging Call Manager and implemented a uniform Voice Mail system. The new Voice Mail system offers opportunities for enhanced functionality and the capacity to meet the needs of an expanding customer base.

- *Automatic Call Distribution (ACD)*

In fiscal 2010, DIR implemented an ACD solution for the NSOC Help Desk, CCTS Help Desk, Tex-AN service delivery, and Billing and Escalations/Quality Assurance; offering one-stop customer care for all DIR customers throughout the state.

- *Enhanced Service Delivery*

DIR initiated planning for the implementation of an internal infrastructure of “quote-to-care” systems and processes that will ultimately provide customers with online self-service capabilities through Texas.gov. This service delivery will be accomplished with a comprehensive online catalog of services and automated order and provisioning functions. DIR is also reviewing current customer support tools to better detect, track, and resolve customer issues.

- *DWDM (Dense Wavelength Division Multiplexing) Transport Solution*

To support data center operations, DIR created a transport solution to provide Data Center Services customers with an efficient, reliable, and cost-effective means of accessing their servers at the Austin Data Center, as well as transport to the San Angelo Data Center.

- *Texas Integrated Eligibility Redesign System (TIERS) Support*

DIR worked with the Health and Human Services Commission to design and implement a data network to support the TIERS platform as it migrated from the San Angelo Data Center to the redesigned HHSC data center at the Winters Complex in Austin. DIR designed, procured, and implemented the necessary network components to accommodate the TIERS platform in fiscal 2009, with a go-live date of October 2010.

- *Emergency Solution for Business Continuity*

DIR partnered with AT&T to develop a secure, remote VPN solution in the event of a state-declared emergency such as a Swine Flu pandemic or natural disaster. In the event of an emergency, the solution offers approximately 72,000 concurrent VPN connections for multiple state agencies.

Service Objectives and Performance Measures

The following tables present CCTS and Tex-AN performance measures and service objectives approved by the Texas Legislative Budget Board (LBB) for fiscal years 2009–2010.

Capitol Complex Telephone System

As shown in the tables that follow, DIR has met or exceeded most CCTS performance targets set by the LBB.

CCTS customers consistently receive timely, superior service from CCTS operations staff. Committed to providing exceptional service, DIR will continue to monitor these reporting measures to help ensure it provides reliable and cost-effective communications technology services to its Capitol Complex customers.

CCTS – LBB SERVICE OBJECTIVES AND PERFORMANCE MEASURES

Item	FY2009 Targeted	FY2009 Actual	Variance	FY2010 Targeted	FY2010 Actual	Variance
Percentage of Customers Satisfied with CCTS	99.0%	98.3%	Met	99.0%	99.0%	Met
Percentage of CCTS Complaints/Problems Resolved in 8 Working Hours or Less	97.0%	97.0%	Met	97.0%	99.3%	Exceeded
CCTS Trouble Tickets as a Percentage of Lines in Service	3.0%	0.9%	Exceeded	3.0%	0.50%	Exceeded

Tex-AN

Through the Tex-AN network, DIR provides statewide communications technology services to state agencies, institutions of higher education, public education, local government, and other publicly funded customers. DIR continues its efforts to meet all Tex-AN performance measure targets established by the LBB.

TEX-AN – LBB SERVICE OBJECTIVES AND PERFORMANCE MEASURES

Item	FY2009 Targeted	FY2009 Actual	Variance	FY2010 Targeted	FY2010 Actual	Variance
Percentage of Customers Satisfied with Tex-AN	96.0%	0.0	*	96.0%	94.2%	Met
Percentage of Agencies Migrating and Transitioning to the Voluntary Shared Network Infrastructure	50.0%	52.7%	Exceeded	50.0%	42.8%	Not Met**
Average Price per Intrastate Minute on Tex-AN	\$0.049	\$0.049	Met	\$0.05	\$0.04	Exceeded
Average Price per Interstate Minute on Tex-AN	\$0.04	\$0.04	Met	\$0.04	\$0.04	Met
Average Price per Toll-Free Minute on Tex-AN	\$0.04	\$0.04	Met	\$0.04	\$0.04	Met
Tex-AN Trouble Tickets as a Percentage of Lines in Service	3.0%	1.7%	Exceeded	3.0%	1.9%	Exceeded
Average price of data service on Tex-AN	841.50	\$846.14	Met	\$841.50	\$781.03	Exceeded

* The agency self-reporting method used by DIR in fiscal 2009 to measure customer satisfaction did not yield comprehensive and accurate results. For fiscal 2009, DIR received no responses to its Tex-AN customer satisfaction surveys. DIR continues to review its methods to accurately measure customer satisfaction levels in order to help ensure that it is meeting and satisfying the business needs of its customers.

**While the total revenue from Voluntary Shared Services customers has increased since fiscal 2009, so have revenues from non-state customer channels, especially Education and Local Government. In addition, a significant number of state agencies have postponed large communications technology solution procurements pending the awarding of Tex-AN Next Generation contracts in fiscal 2011.

In its commitment to provide exemplary customer service, DIR meets with Tex-AN vendors on a monthly basis to discuss and improve their performance in meeting the targeted goals. DIR also reviews its internal practices in its efforts to meet or exceed these customer-driven performance measures. In addition, DIR continues to review methods to accurately measure customer satisfaction levels.

Accounting and Financial Performance 2010

The following tables provide balance and income information for the Communications Technology Services Division of DIR.

FISCAL 2010 TELECOMMUNICATIONS REVOLVING FUND BALANCE SUMMARY

As of 4th Quarter Ending 8/31/2010	CCTS C.1.1.	Tex-AN C.2.1.	Security C.2.2.2	Total
Revolving Fund Balance as of 9/1/2008	\$5,047,665	\$11,946,473	\$	\$16,994,138
Impact to fund resulting from FY 2010 activity	(2,075,912)	1,481,588		(594,324)
Fund/Appropriation Transfer to Data Center Services		(1,000,000)		(1,000,000)
Revolving Fund – 2010 Est. Balance at End-of-Year	2,971,753	12,428,061		16,399,814
REVENUES				
Telecommunications Sales	5,622,507	82,156,901		87,779,408
Go DIReCt Sales Revenue from Telecom Equipment		1,429,853		1,429,853
Federal Funds				
Revenue From Controlled Penetration Testing			85,500	85,500
Cost of Goods Sold	(1,868,388)	(61,455,070)		(63,323,458)
Tex-AN Revenue Transferred to Network & Telecom Security		(2,215,376)	2,215,376	
TOTAL OPERATING REVENUE BEFORE DIR EXPENSES	3,754,119	19,916,308	2,300,876	25,971,303
EXPENDITURES				
Direct Strategy Expenses	4,056,810	14,711,034	2,300,876	21,068,720
Indirect Administrative Expenses	1,773,221	3,723,686		5,496,907
EXPENDITURE FORECAST	5,830,031	18,434,720	2,300,876	26,565,627
2010 NET REVENUE (EXPENDITURES)	(2,075,912)	1,481,588		(594,324)
NET REVENUE BUDGETED	3,719,488	21,435,384		25,154,872
2010 FISCAL FORECAST				
SALES REVENUE	5,622,507	83,586,754		89,209,261
OTHER REVENUES			85,500	85,500
COST OF GOODS SOLD	(1,868,388)	(61,455,070)		(63,323,458)
Network & Telecom Security Revenue (Transfer)		(2,215,376)	2,215,376	
NET REVENUE FORECAST	\$3,754,119	\$19,916,308	\$2,300,876	\$25,971,303
FORECAST OVER (UNDER) BUDGET	\$34,631	\$(1,519,076)	\$2,300,876	\$816,431

Report on Project Management Practices

This report addresses Section 2054.157 (b) of the Texas Government Code, which requires DIR to report on state agencies' progress in developing and implementing project management practices.

Background

DIR adopted administrative rules (1 TAC 216) in November 2007 that establish consistent statewide requirements for project management practices. The project management practices rules specify minimal statewide requirements for agency management of all technology projects, not just for major information resources (IR) projects, which are required to use the Texas Project Delivery Framework (Framework).

DIR worked with state agencies to define various requirements as the basis for effective project management practices. These practices are implemented at the agency level and, among other requirements, specify that agencies

- establish an agency-wide project management policy,
- develop a project classification system, and
- base the practices on well-known and accepted industry standards.

This report describes agencies' recent progress on implementing these requirements.

Progress

Over the last biennium Texas state agencies have advanced project management practices through increased collaboration and sharing best practices. For example, the Texas Parks and Wildlife Department, through the Texas Association of State Systems for Computing and Communications (TASSCC), established a Project Management Special Interest Group in 2009. This group

- provides opportunities to increase knowledge about project management,
- provides occasions for networking with fellow public sector project managers and colleagues, and
- enables members to leverage knowledge and work products, broker ideas, and share lessons learned.

Agency progress in implementing project management practices is reported in the Information Resources Deployment Review (IRDR). The following observations are based on a statewide analysis of state agency and institution of higher education responses to the 2009 IRDR.

- Agencies continue to advance project management practices through implementation of a standard project management methodology.
 - Ten agencies introduced formal methods as a standard practice since 2007.

- Sixty-eight percent of agencies implemented formal methods to monitor and control project activities.
- Agencies continue to explore the usefulness, impact, and advantages of implementing both program and portfolio management methodologies as their project management methodologies evolve. Since 2007
 - the number of agencies implementing program management methodologies has increased 7 percent.
 - the number of agencies implementing portfolio management methodologies has increased 2 percent.
- Although there has been an increase in agencies implementing a project classification system—31 percent in 2007 to 41 percent in 2009—difficulty with classifying IR projects still exists. Without an effective project classification system, agencies continue to recreate new and varying processes every time a project is initiated, especially for major IR projects. Establishment of consistent and repeatable practices for classifying projects would lead to more efficient use of state resources.
- While some improvements have been noted, agencies continue to be challenged in implementing methods that clearly demonstrate whether a completed IR project successfully solved the identified business problem.
- Agencies have shown improvement with implementing a methodology that integrates contract and project management practices. Over 31 percent of agencies now focus specifically on blending these practices, compared to 25 percent in 2007.

As part of the 2009 review of major IR projects by the Quality Assurance Team (QAT), QAT examined ten major IR development projects at seven different agencies. The QAT review discovered

- seven of the ten projects failed to be completed on schedule or were projected to be completed late and nine of the ten projects delivered functionality as initially planned.
- projects that reflected both manageable scopes and realistic schedules were more likely to deliver technology solutions on time and within budget.

The State Auditor's Office (SAO) in Report 10-034 on selected IR projects at three agencies (Texas Medical Board, Texas Alcoholic Beverage Commission, and Texas Water Development Board) reported each of the agencies used either (1) the System Development Life Cycle (SDLC) Framework Extension toolset, or (2) a similar toolset that contained a majority of the SDLC Extension elements. The 2009 IRDR showed that more than 80 agencies utilize the SDLC Framework Extension.

Next Steps

DIR will

- Coordinate with the Framework Change Advisory Board to improve guidance and tools as recommended by agencies. One example is implementation of process improvements to the Business Case. Agencies recommended to the Change Advisory Board, for example, that total project costs be shown separate from the costs as included in the Business Case.
- Continue to provide educational opportunities to agencies on statewide requirements for project management practices. DIR provides various educational events to an average of 200 agency employees on a yearly basis.
- Provide web-based solutions to facilitate the sharing of project delivery best practices among agencies.

Acronyms

ARRA – American Recovery and Reinvestment Act
CCTS – Capitol Complex Telephone System (Austin, Texas)
CISO – Chief Information Security Officer
CPA – Comptroller of Public Accounts
CPT – Controlled Penetration Test
CSIRT – Computer Security Incident Response Team
DBITS – Deliverables-Based Information Technology Services
DCS – Data Center Services
DIR – Texas Department of Information Resources
DPS – Texas Department of Public Safety
EIR – Electronic and Information Resources
ERP – Enterprise Resource Planning
FY – Fiscal year; e.g., September 1, 2008 – August 31, 2009 is FY 2009
GIS – Geographic Information Systems technology
HHSC – Texas Health and Human Services Commission
HR – Human Resources
ICT – Information and Communications Technology
IR – Information Resources
IRDR – Information Resources Deployment Review
ISAAC – Information Security Awareness, Assessment, and Compliance
IT – Information Technology

LBB – Legislative Budget Board
MSI – Multisourcing Service Integrator
NASCIO – National Association of State Chief Information Officers
NIEM – National Information Exchange Model
NSOC – Network Security Operations Center
PCI – Payment Card Industry
PESO – Public Electronic Services on the Internet
RFO – Request for Offers
SACC – State Agency Coordinating Committee
SAO – Texas State Auditor's Office
SIM – Security Information Management system
SIRS – Security Incident Reporting System
TAC – Texas Administrative Code
TCEQ – Texas Commission on Environmental Quality
TDA – Texas Department of Agriculture
TDCJ – Texas Department of Criminal Justice
TDEM – Texas Division of Emergency Management (Texas Department of Public Safety)
Tex-AN – Texas Agency Network
TGC – Texas Government Code
TIERS – Texas Integrated Eligibility Redesign System
TIJIS – Texas Integrated Justice Information Systems
TNRIS – Texas Natural Resources Information System
TxDOT – Texas Department of Transportation

Definitions

Administrative Rules – rules passed by state agencies that implement relevant sections of state law and are codified in the Texas Administrative Code.

Assistance Organization – nonprofit associations defined in Texas Government Code §2175.001.

Authentication – The process of identifying an individual, usually based on a username and password.

Automatic Call Distribution (ACD) – a telephone facility that manages incoming calls and handles them based on the number called and an associated database of handling instructions.

Blog – short for web log, a web page that serves as a publicly accessible personal journal for an individual.

Cloud computing – Internet-based computing that provides on-demand applications and services that enable data resources to be accessed and shared among an enterprise.

Credentialing – process by which the eligibility of an entity for a particular job or task is established by determining if the entity has the specified qualifications and fulfills the defined requirements.

E-Discovery – electronic discovery, a phase in the litigation process through which a party to a lawsuit seeks to obtain information in electronic format that is relevant to its case.

E-learning – electronically supported learning and teaching

Encryption – a process applied to text messages or other data that alters the information to make it humanly unreadable except by a decryption device or someone who knows how to decrypt it.

ICT Cooperative Contracts – Information and Communications Technology product and service contracts available from DIR to state agencies and eligible entities.

Identity management – approach to identifying individuals in a system (such as a state, a county, or an organization) and controlling access to the resources in that system by placing restrictions on the established identities.

Interoperability – the ability of two or more technologies to exchange information and use the information that has been exchanged.

Mashup – a combination of data and/or functionality from different sources.

Podcast – an audio file similar to a radio broadcast, which can be downloaded and listened to on a computer, mp3 player, mobile phone, etc., and is available through subscription.

Quality Assurance Team (QAT) – group established by the 73rd Texas Legislature to review and approve major information resources projects, consisting of representatives from the Legislative Budget Board, the State Auditor's Office, and the Department of Information Resources.

Re-use – the inclusion of previously designed components (e.g., blocks of logic or data) in software and hardware.

Social Media – media formed mainly by the public, in a social way, rather than media produced by journalists or media organizations.

Texas.gov – the official State of Texas web portal.

Texas Radio Coalition (TxRC) – a voluntary association of Texas government entities and affected agencies and organizations, whose representatives are collaborating to facilitate the planning, developing, and financing of a statewide interoperable public safety wireless communication system.

Thin Client – a computer or software that depends upon the central server for processing activities and primarily focuses on transporting input and output between the user and the server.

Transaction Payment Engine – banking industry-compliant payment service used by Texas.gov.

Virtualization – creation of a virtual, rather than physical, version of an operating system, server, storage device, or network resource.

Web 2.0 – term that describes changes in the use of the World Wide Web that enhance communication, collaboration, creativity, and functionality (e.g., blogs and wikis).

Web Application Vulnerability (WAV) Assessment – scanning and identifying vulnerabilities in web applications and infrastructure to prevent web-based security attacks.

Wiki – web pages designed to enable multiple users to contribute or modify content. Wikis are often used to create collaborative websites

Acknowledgments

DIR Board of Directors

The 2010 Biennial Performance Report was approved by DIR's governing board on October 28, 2010.

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Additional Reports

Report on State Technology Expenditures
Regina Rousseau, Rob Aanstoos

Report on EIR Accessibility
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Report on the Use of E-Learning
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Report on the Consolidated Network Security System
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Report on TexasOnline
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Report on Telecommunications Performance
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Report on Project Management Practices
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