

State of
**INFORMATION
TECHNOLOGY**
in Missouri



2015



State of Missouri - Office of Administration
Information Technology Services Division

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DOUG NELSON



Commissioner

COMMISSIONER'S MESSAGE

TO THE GENERAL ASSEMBLY AND THE CITIZENS OF MISSOURI:

The State of Missouri Information Technology Services Division's (ITSD) duty is to protect our state assets, networks, systems and data. These duties are rapidly becoming more and more vital in an era when threats from cyber criminals, hacktivists and cyber warriors are increasingly widespread. It has therefore never been more imperative for us to continue to make investments in our technological infrastructure and equipment.

We must deploy and maintain cutting-edge cyber security technology that will help us combat these inevitable attacks. This means keeping our current security systems in place and enhancing the ones we have now in order to keep pace with hackers.

We must also maintain our infrastructure (networks, servers, etc) at levels that ensure our ability to secure state assets. Our state legacy systems, many developed more than 20 years ago, are inhibiting our ability to transform government and leaving the state exposed to systems that will fail. We must continue to modernize these systems and replace them with more efficient and automated processes.

Although steady progress has been made with the funding provided by Governor Nixon's administration and the General Assembly, there is still much to be done to advance, strengthen and enhance our IT services. As the world around us continues to advance and the threats become increasingly more frequent and potentially detrimental, the status quo is simply not an option. We must protect our most valued assets to remain competitive in an ever-changing world economy.

Sincerely,

Douglas E. Nelson
Commissioner of Administration

INTRODUCTION

This report, the 2015 State of Information Technology in Missouri, is provided by the Information Technology Services Division (ITSD), a part of the Office of Administration (OA).

ITSD provides direct IT support to nearly all of the state government agencies that are under the umbrella of Missouri's 14 IT-consolidated departments and works with those state agencies to answer Gov. Nixon's call for more effective and efficient government operations.

There are IT units outside consolidation that provide support for the Department of Transportation, Department of Conservation, certain elected officials, Missouri's Courts and Missouri's Legislature. These non-consolidated units provide valuable IT services to the State of Missouri, but have not been included in this report.

This report provides interested parties a snapshot of ITSD activity. The report includes an overview of each of ITSD's functional areas and each of the 14 web and application development teams that support the IT-consolidated departments. The report does not provide a complete discussion of any organization's technology systems, 2015 accomplishments or pending projects. That is beyond the scope of this document.

ENTERPRISE-WIDE STRATEGIC INITIATIVES

This report provides transparency on many of ITSD's projects and activities, a good number of which fall under the umbrella of ITSD's strategic initiatives for the enterprise. These initiatives include:

1. **Cybersecurity**
2. **Modernization**
3. **Mobility**
4. **Data**



ENTERPRISE-WIDE STRATEGIC INITIATIVES

Cybersecurity

Protecting state assets, networks, systems and data is a challenge for all states and the threat to our cybersecurity from cyber criminals, hacktivists and Advanced Persistent Threats (APTs, nation-sponsored hackers) continues to evolve.

Hackers are not only using automated attacks against State of Missouri systems in an attempt to identify vulnerabilities that they can exploit, their use of social engineering and spear phishing is getting more and more sophisticated. This means that all state employees, not just IT experts, play an important part in defending against these very real threats.

ITSD received additional ongoing funding for cybersecurity from Gov. Nixon and the General Assembly during the 2013 legislative session. These funds are being put to use by ITSD's team of cybersecurity professionals as they enhance the state's cybersecurity systems and train state employees in cybersecurity best practices. ITSD continues to execute a 4-point strategic plan for cybersecurity that:

- Creates a culture of cybersecurity best practices;
- Deploys "best of breed" tools used by cyber professionals when defending state networks and systems;
- Ensures swift, effective response when cybersecurity incidents occur; and
- Establishes the IT governance that bakes cybersecurity into routine processes.

This plan improves the security posture of Missouri state government, not just IT-consolidated agencies, though they certainly enjoy more impact as cybersecurity becomes central in state agency IT plans. However, risk will never be eliminated, it is only mitigated. ITSD and state agencies must ensure the benefits of doing business online are not overshadowed by the risk that citizen privacy will be violated through a successful cyber-attack.

Modernization

Modernization is a critical enterprise strategic initiative, and modernization projects are found in all state agency IT plans. These projects can be grouped into four categories:

1. Data Center Modernization / Private Cloud / Hybrid Cloud
2. Network Modernization / Unified Communications
3. Legacy System Modernization
4. Business Process Automation

The motivation to modernize is a result of trends that present both opportunities for change and threats to the status quo. A few opportunities presented by modernization include:

- Enhanced state agency program effectiveness through improved access to timely, accurate data
- Improved employee productivity via process automation
- Reduced long-term costs through virtualization
- Increased citizen access to online services and reduced processing times



Maintaining the status quo is often not an option as the world changes around us. Many of the state's legacy processes and technologies are not sustainable. First, manual processes, paper processes and dying technologies are becoming too expensive to support under today's economic reality – budgets won't support them into the future. Second, and perhaps most importantly, the workforce supporting legacy technology is aging and retiring in great numbers. Counting on a new wave of workers to support those technologies is a dubious strategy.

Despite the progress described in this report, the state maintains too many legacy systems and too much outdated infrastructure. Many of these systems are neither effective nor efficient, are difficult to access and not sustainable in the long term. Investing in the modernization of those systems is a good opportunity for the state.

Mobility

The advent of the cloud, the proliferation of mobile devices and the maturation of mobile application ecosystems like Apple's App Store and Google's Play have forever changed our world. Mobile devices are now a part of life and citizens use them to do business; not just commercial business, but state business. In fact, more visitors to mo.gov now use mobile devices than traditional desktops when accessing our state web portal. That's a significant milestone – a tipping point of sorts. The world has changed and state government must respond - and respond quickly.

A 3-pronged enterprise-wide strategic initiative is designed to ensure that MO state government responds to the changing world:

1. Optimize websites and online services for use on mobile devices via responsive design techniques
2. Deliver mobile applications for citizens when use cases dictate
3. Empower the state's mobile workforce by giving them high value mobile devices and applications that make them more effective and efficient

Data as an Asset

The final enterprise-wide strategic initiative is designed to enhance Missouri's ability to treat its data as a valuable asset. The state is creating and capturing more data faster than ever before, yet the quality of that data and our ability to use it for the benefit of citizens can be improved. Data projects can be characterized as:

- Data Classification and Cataloguing – it is important to understand, protect, govern and share state data appropriately
- Master Data Management (MDM) – MDM projects can knock down silos and artificial barriers so that state agencies have a single view of their constituents and constituents have a single view of state government
- Data Analytics – whether examining the past or predicting the future, employing data analytics make state agencies more effective by improving outcomes and reducing fraud
- Open Data – publishing open data increases transparency and has the potential to increase economic opportunity

DNR's Environmental and Regulatory Master Data Management (MDM) project is an example of how state agencies are working to better leverage their data.

Cybersecurity

The Office of Cyber Security (OCS) is responsible for managing all cybersecurity related events within the enterprise and ensuring proper administrative and technical controls are implemented to safeguard the State of Missouri's information systems. OCS promotes and provides expertise in information security management for all state agencies and supports national and local homeland information security efforts.

The Chief Information Security Officer (CISO) provides guidance and oversees cybersecurity efforts throughout state government. The CISO also manages the Office of Cyber Security.

Critical services performed by OCS include:

Advanced Malware Detection

Malware has been and will continue to be one of the biggest threats to businesses and governments, including the State of Missouri. While there are many different levels of malware protection throughout the state's network, none of them sandbox and thoroughly inspect suspicious executables and office documents to determine behavior and intent. This technology is capable of detecting 'zero day' malware and mitigate the risk of advanced persistent threats. OCS manages this service for the enterprise and is one of the core tools of the State Operations Center.

- At any given moment, the advanced malware detection system is analyzing over 1,000 binaries and other files in separate sandboxes looking for indicators of compromise
- When zero day malware is detected, OCS sends the binary to 15 major anti-virus companies so that all can benefit from the intelligence gathered via the advanced malware detection system

Awareness & Outreach

OCS administers online end user awareness training to state agency employees. The interactive, mandatory monthly training available to 40,000 employees covers cybersecurity awareness topics like phishing, password strength and physical security. OCS also launches fake phishing campaigns against state employees to assess their end user awareness and provide additional education.

OCS communicates with state users and the general public using Twitter, Facebook, and by having its own website, cybersecurity.mo.gov that provides up-to-date information on the latest cybersecurity news and alerts. The website also has tools to assist citizens such as a secure password generator.

Data Loss Prevention (DLP)

To protect against accidental or malicious data loss, OCS manages and monitors a DLP system. The DLP system blocks classified data from leaving the network via the web and discovers sensitive data throughout the network.

Endpoint Forensics

OCS is one of the few entities in the state (public or private) with a computer forensics lab capable of recovering information from damaged or formatted storage devices and assisting with investigations involving computer hardware. With the advanced tools OCS has acquired, basic endpoint forensics can be performed both on and off of the state network.

Firewalls

OCS is responsible for the management of all consolidated enterprise firewalls. Firewalls perform foundational security, IT governance, and access management functions such as network traffic policy enforcement, the blocking of distributed denial of service (DDoS) attacks, and the creation of virtual private networks.

- The edge firewalls protect critical IT infrastructure by blocking approximately eight million unwanted packets a day

Internet Filtering

OCS manages the state's internet filter. The internet filter not only protects the state's systems and users from malicious websites, but also assists in reducing bandwidth consumption and increasing productivity.

During an average month:

- The internet filtering system monitors over 1.2 billion requests
- Over 11 percent of all internet requests are blocked, saving the state gigabytes in bandwidth
- Over 2.5 million of the internet requests blocked are security related

Intrusion Prevention

OCS oversees the management of the state's intrusion prevention system. The intrusion prevention system (IPS) stops known malicious attacks at the perimeter of the state's network. In 2014, OCS acquired a next generation IPS capable of having insight at the application level, geolocation of where the attacks are originating, and stopping known malicious malware such as Trojans and viruses.

- During an average month, the IPS blocks over 2 million attacks

Network Access Control

Network Access Control (NAC) is

a security solution that prevents unauthorized access to protected networks. It posture checks and vets electronic devices like desktop computers, laptops, tablets and smart phones for authorized access based on predefined policies and whitelists. NAC denies unauthorized devices access to the network.

- NAC continuously monitors and inventories over 30,000 devices on the network, blocking when the device does not meet predefined policies
- Advanced malware detection integrates with NAC enabling OCS to auto-quarantine infected endpoints, providing fast incident response and better utilization of resources

Network Forensics

OCS utilizes this solution on a proactive basis looking for indicators of compromise and on a reactive basis once an event occurs. Network forensics enables OCS to corroborate many of the findings coming from various event sources.

- During the day, over 1.5 Gb/s of traffic is analyzed, parsed, and cross referenced against intelligence feeds from multiple vendors
- The amount of traffic equates to about 190,000 network sessions per minute

Security Architecture

OCS provides guidance in developing and maintaining the state's information security architecture and standards. Every year, the standards are reviewed and refreshed to ensure they're applicable and stay consistent with NIST. These standards are the enterprise reference for state information security.



ITSD employees at FireEye Defense Summit in Washington D.C. with "Excellence in Cyber Security" Award.



Security Information and Event Management

Security Information and Event Management (SIEM) solutions aggregate logs from servers, firewalls, workstations, and other sources and then correlates the data into usable information. They provide a real-time view of the enterprise security landscape, alerting OCS of any concerns. The solution enables OCS to quickly track down the source of the attack by correlating thousands of firewall and workstation logs almost instantaneously and giving OCS a clear picture into the malicious event.

- Throughout the day, the SIEM receives over 750,000 events a minute

Security Operations Center

The SOC, as the name implies, is responsible for monitoring all information security operations within the enterprise. The SOC is also responsible for managing all information security related incidents for the enterprise, ensuring they are properly identified, analyzed, communicated, remediated, and reported.

- The SOC investigates approximately 150 incidents per month

Threat Intelligence Sharing

OCS manages a portal dedicated to threat intelligence (intel) sharing. When OCS investigates a significant incident, information about the threat actors, campaigns, and malware are shared with the portal community. In addition, vulnerabilities, industry news, and internal notices are published that are relevant to the enterprise.

- Since the launch of the portal in early 2015, OCS has shared over 1,200 pieces of intelligence

Vulnerability Management

OCS performs routine and ad-hoc vulnerability assessments against all networked assets, everything from mainframes to printers. OCS works closely with application developers to test soon to be released applications to ensure the state's information remains safe. After an assessment completes, staff is notified with a risk reduction plan that highlights top vulnerabilities and assets.

- Assess over 30,000 networked assets on a routine basis

Cybersecurity by the Numbers

- At any given moment, the advanced malware detection system is **ANALYZING OVER 1,000 BINARIES** and other files in separate sandboxes looking for indicators of compromise
- When zero day malware is detected, OCS sends the binary to **15 MAJOR ANTI-VIRUS COMPANIES** so that all can benefit from the intelligence gathered via the advanced malware detection system
- The edge firewalls protect critical IT infrastructure by **BLOCKING APPROXIMATELY EIGHT MILLION UNWANTED PACKETS A DAY**
- The internet filtering system **MONITORS OVER 1.2 BILLION REQUESTS**
- Over **11 PERCENT OF ALL INTERNET REQUESTS ARE BLOCKED**, saving the state gigabytes in bandwidth
- Over **2.5 MILLION** of the internet requests blocked are **SECURITY RELATED**
- During an average month, the IPS **BLOCKS OVER 2 MILLION ATTACKS**
- NAC continuously **MONITORS AND INVENTORIES OVER 30,000 DEVICES ON THE NETWORK**, blocking when the device does not meet predefined policies
- During the day, **OVER 1.5 GB/S OF TRAFFIC IS ANALYZED, PARSED, AND CROSS REFERENCED** against intelligence feeds from multiple vendors
- The amount of traffic equates to about **190,000 NETWORK SESSIONS PER MINUTE**
- Throughout the day, the SIEM receives **OVER 750,000 EVENTS A MINUTE**
- The SOC **INVESTIGATES APPROXIMATELY 150 INCIDENTS PER MONTH**
- Since the launch of the portal in early 2015, OCS has **SHARED OVER 1,200 PIECES OF INTELLIGENCE**
- **ASSESS OVER 30,000 NETWORKED ASSETS** on a routine basis

Accomplishments

Advanced Malware Protection Deployment

OCS deployed multiple controls during 2015 to protect state resources from web and email borne advanced malware and phishing attacks. These controls augment the existing advanced malware protection systems already in place by protecting endpoints and file shares. Advanced malware and phishing attacks continue to be one of the most significant cyber threats to state government.

Awards

The Office of Administration's Information Technology Services Division (ITSD) was honored with the "Overall Excellence in Cyber Security Award." The award was the highest award presented to an organization at the FireEye Cyber Defense Summit in Washington, D.C. on October 13th, 2015. Missouri ITSD was chosen for being a model of cybersecurity awareness, infrastructure and practices.

Cybersecurity Awareness

In 2015, OCS switched primary awareness service providers from SANS to Security Mentor. Security Mentor provides interactive awareness lessons that engage the end-user on various topics from phishing to strong passwords. OCS still utilizes SANS Securing the Human End User Training but as a secondary method to raise awareness. The goal of the awareness lessons is to equip state employees with the knowledge necessary to protect themselves and the state's data from sophisticated phishing attacks and to ensure good cyber hygiene.

Data Loss Prevention (DLP) Deployment

To further protect against accidental and malicious data loss, additional DLP controls were implemented to find sensitive data residing on file shares and web servers. These controls, managed by a Data Loss Prevention (DLP) system, detect and notify state staff when sensitive data is placed onto a file share or web server. Once notified, appropriate actions are taken to protect the sensitive data.

Exercises

In the late summer of 2015, OCS joined the Missouri National Guard's Cyber Team in a cyber range exercise. The exercise format consisted of a red team (offensive) and a blue team (defensive) squaring off against each other. Being in a continuous defensive role, OCS better understands the tactics, techniques, and procedures of an attacker by playing one within the exercise.

Multi-factor Authentication

Multi-factor authentication is authentication requiring more than just a username and a password. This form of strong authentication greatly reduces the risk of stolen passwords because during authentication, the user must provide a number from a token. Remote access through ITSD's VPN and VDI environments now require multi-factor authentication.

Shadow IT

As the consumerization of IT has proliferated throughout households, many employees and contractors want to utilize the same cloud services within the work environment. Many of these services pose a high risk to the state's data. To mitigate the risk of unauthorized services, OCS has deployed a solution that detects cloud services and scores them by risk. OCS has reduced risky behavior by blocking non-secure cloud services and can leverage the solution's database to recommend secure cloud services.

Threat Intelligence Sharing

In early 2015, OCS developed a threat intelligence (intel) sharing portal for internal state staff and also associated business partners with the state. The portal enables OCS to share threat intel to others quickly and effectively. The portal is meant to raise awareness throughout the state community about the adversaries the state faces and to provide meaningful and actionable intel so others can quickly protect themselves from similar attacks.

Projects

Centralized Firewall Administration and Reporting

OCS will soon be implementing a solution that will provide visibility and analysis of security policies across all enterprise firewalls. It will provide automation that assists in the troubleshooting, auditing, and risk analysis of current firewall rulesets. Compliance reports can be generated to showcase compliance such as HIPAA, PCI-DSS, NIST 800, and several others. In addition, it can automate security policy change processes.

Mobile Device / Off-network Visibility and Security

As the state's workforce has become more mobile, securing phones and tablets has presented several challenges, in particular management, visibility, and security. OCS will be driving a project that will provide visibility and security into the activities occurring on state managed mobile devices.

TLS Visibility

Transport layer security (TLS) is widely used throughout the web to protect communication between endpoints and servers. This same protection allows attackers to conceal malicious traffic, thwarting traditional and advanced security controls alike. OCS will initiate a TLS visibility project that will enable the blocking of advanced malicious traffic over TLS.



Several General Assembly Members tour the State Data Center and Cybersecurity facilities.



END USER SUPPORT



End user support is provided so that state employees can resume the normal course of their duties in the event of computer malfunctions, lost passwords and other abnormalities. End user support is also provided when technical assistance is needed during special events like presentations and conferences. ITSD's End User Support team (ITSD-EUS) provides a wide range of IT assistance to employees of consolidated agencies within state government and some public entities that are affiliated with these agencies. State employees can make an IT support request by utilizing the online "help desk" ticket system or calling the Tier I call center. Problems are resolved by Level I and Level II technicians.

Critical services performed by ITSD-EUS include:

Level I Helpdesk

The Level I helpdesk staff provide prompt response and troubleshooting often in cooperation with the end user via phone. Level I support staff are able to employ remote access support tools to increase productivity and provide training to the customer. Level I technicians are trained to escalate issues that cannot be resolved quickly to the Level II support team.

Level II Helpdesk

In all instances, Level II staff will attempt to resolve issues remotely, maximizing work productivity. However, Level II field staff, located throughout Missouri, must often be physically present with the customer to provide effective service.

E-Waste Disposal

ITSD-EUS coordinates the disposal of electronic waste to safeguard state data. This also allows the state to dispose of non-usable equipment in a safe, environmentally friendly manner.

Printer Management

Over 9,900 printers in use by state agencies are routinely managed and serviced by troubleshooting.



Accomplishments

Equipment Deployment

ITSD-EUS deployed over 3,100 desktop computers, 1,930 laptops, 700 iPads and 628 printers during the previous year.

Help Requests

ITSD-EUS completed 170,500 requests for help during the previous year.

Power Savings

ITSD-EUS helped the state meet the requirements of the State Energy Conservation Program created by Governor's Executive Order 09-18. The following energy consumption savings were made:

- Replaced 890 CRT monitors with LCD monitors for a savings of \$1,203.00/year
- Through implementation of a Managed Print Services pilot and printer consolidation, 356 print devices have been eliminated for a savings of \$6,707.00/year

Projects

Managed Print Services

A Managed Print Services pilot is currently underway that allows ITSD to evaluate the outsourcing of print services (printers, printer support, printer supplies) to a vendor. ITSD could outsource some or all of its printer management duties to a vendor-partner if the pilot proves to be successful.

Technology Assessments

EUS is conducting technology assessments for agency sites. These assessments include a review of the desktop, printing, scanning and faxing environments. EUS meets with agency personnel to make recommendations on right-sizing the print environment to more efficiently serve the agency's business needs while reducing costs. To date, these tech assessments are saving state agencies \$116,570/year.



GEOGRAPHIC INFORMATION SERVICES

The Office of Geospatial Information (OGI) is responsible for coordination, guidance, leadership and planning the implementation of Missouri's statewide geospatial information technology. The office identifies, coordinates and guides strategic investments in geospatial information technology, data and service systems to ensure effective implementation and use of geospatial information by state government, local government and the public as an enterprise resource to maximize benefits for Missourians.

Critical services performed by OGI include:

Geographic Information Systems (GIS) and Software Support

OGI staff administers Enterprise GIS, maintaining several GIS servers and geospatial databases. Staff coordinates data acquisition with other state, federal and local agencies and geo-enable data through location services. They also perform quality control checks to ensure data accuracy and provide support to GIS software users.

Geospatial Technology Program Integration

OGI staff works with program managers to integrate geospatial technology into programs for the state and creates GIS projects that improve program effectiveness, including grant management, asset tracking and catastrophic disaster planning.

Mapping Applications

OGI staff is responsible for creating mapping applications like the Missouri Common Operating Picture, or MoCOP, used by emergency managers, Natural Resources Interactive Mapping Service, Women, Infants and Children (WIC) Stores and Clinic Locator, and the Flu Clinic Locator. In addition, staff creates products such as the Disaster Support Atlas, which provides emergency support map books for every county in the state of Missouri in a geo-enabled PDF format.

NETWORKS AND TELECOMMUNICATIONS

The Networks and Telecommunications team is responsible for the communication infrastructure that provides essential support to state government agencies. Advancements by the team have enhanced business operations, making communications within state government and with Missouri citizens more efficient.

Critical services performed by ITSD-Networks include:

Capitol Campus Fiber Optic Network

The Capitol Campus fiber optic network connects major state office buildings in the downtown Jefferson City area, including the State Capitol, the Harry S. Truman Office Building, the Jefferson Office Building and the Kirkpatrick State Information Center.

Core Network

The core network functions as a central hub so that locations around the state can access information on the state network. The core network spans from Jefferson City across statewide fiber to Springfield, Kansas City, and St. Louis. In order for state employees to function at maximum productivity, the highest levels of capacity and reliability are required for the core network.

Disaster Recovery Site Connectivity

Connectivity with the State's disaster recovery site (or secondary site), in Springfield, MO, must be reliable and of sufficient capacity to allow for the replication and synchronization of data located at that site and in the State Data Center (SDC).

Internet Services

Internet access is considered an essential service to state agencies. The team provides internet access to approximately 50,000 users across all state agencies, as well as secured access to hundreds of state government web sites via the public Internet.

Jefferson City Metro Area Ethernet Network

The Jefferson City Metro Area Ethernet Network connects buildings throughout the Jefferson City area to the Capitol Campus fiber optic network and the State Data Center Network.

Outstate Network Connectivity

MPLS, Ethernet, and broadband connectivity are provided to end users at nearly 1,100 locations across the state.

State Data Center (SDC) Network

The network structure in and around the SDC allows state employees to access data and services that are used when performing their duties.

Unified Communications

UC integrates multiple communications services including:

- Instant Messaging – Presence
- Telepresence & Video Conferencing
- Voice over Internet Protocol (VoIP)
- Web & Audio Conferencing

This enables agencies to reduce travel, increase productivity, improve customer experience and save costs. There are roughly 18,500 VoIP customers throughout the state.

Wireless Local Area Network (LAN) Services (WiFi)

Wireless LAN (WiFi) connectivity is provided to an estimated 1,850 mobile devices on a daily basis. This is provided across the state on over 1,150 access points at 287 locations.



Accomplishments

Ethernet Expansion

ITSD continues to replace legacy network connectivity technology with high speed Ethernet. In FY15 ITSD deployed Ethernet at 93 locations, reducing costs by \$54,297/month at those sites while increasing the bandwidth nearly 12 fold. (373Mb to 4,415Mb)

Internet Speed Upgrade

In 2014 the state primary internet connection to the state was 750Mb through MOREnet. Due to hardware limitations the connection could only be expanded to 1 GB while the failover location was limited to 50Mb. ITSD worked with MOREnet to upgrade equipment allowing up to 10 GB speeds, implement a 2 GB internet connection, and implemented measures for the failover location to burst to 1 GB.

L2L Tunnel Migration

LAN to LAN VPN tunnels are used to securely connect remote offices to the core network in Jefferson City. ITSD has undergone a consolidation of these locations to connect to an enterprise class firewall, cutting hardware/maintenance costs and simplifying support. A total of 581 sites between DHSS, DOR, DOC, DESE, and DNR were migrated.

UC Expansion

The aggregate total of lines converted over to UC is over 18,500 since its inception. In the past year cities such as Fulton, Joplin, Poplar Bluff, Nevada, Cape Girardeau, and West Plains have been converted. ITSD's goal to convert a minimum of 1,500 lines a year to UC.

VCS Expressway

Dynamic external video dialing is becoming an increasing need within the State. ITSD implemented a VCS expressway to allow registered video devices to be directly dialed, either internally or externally, by their associated email address, known as SIP URI dialing.

Wireless Network Expansion

Next to bandwidth, wireless is the fastest growing need in the network. ITSD deployed over 200 new wireless access points at 287 locations, bringing the total number of access points to 1,158.

Critical services performed by the PMO include:

Application Portfolio Management (APM)

ITSD's application portfolio is managed using the Innotas APM software-as-a-service (SaaS). APM gives ITSD and state agency stakeholders transparency into the application portfolio. This allows the state to leverage its current software assets and save money by sharing services and application code.

Missouri Adaptive Enterprise Architecture

The goal of statewide Missouri Adaptive Enterprise Architecture is to enhance coordination, simplify integration, build a consistent infrastructure, and generally facilitate efficiencies in the development of technology solutions. The intent of the Missouri Adaptive Enterprise Architecture program is to realize these goals while ensuring effective use of state resources, thus enabling consistent, effective delivery of services to the citizens, businesses and employees of Missouri.

PAQ Oversight

The primary responsibility of the PMO Office is oversight of all Project Assessment Quotes (PAQs) that allow the state to procure services from vendors on existing state contracts. This is intended to ensure that the state receives value from the work performed and that vendors are treated fairly.

Project Portfolio Management (PPM)

ITSD's project portfolio is managed using the Innotas PPM software-as-a-service (SaaS). PPM gives ITSD and state agency stakeholders transparency into project status, risks and timelines.

Tools & Templates Repository

The PMO Tools and Templates Repository is a collection of standardized documents and procedures used for project management.

These processes and templates support ways to improve business operations (i.e., reduce delivery costs and time):

- Early identification of project issues, budget, scope and risks
- Apply knowledge that is working for one agency and may help another
- Eliminate duplication of data and processes among project managers

This site is also the source of "best practices" that, together with PMO staff, serves as a knowledge-based center, providing expertise, support and training.

PROJECT MANAGEMENT OVERSIGHT

The Project Management Oversight Office (PMO Office) provides guidance on development and maintenance of IT contracts and assists IT project managers on the performance of their duties when necessary. The PMO also assists and advises on various IT governance initiatives.

The PMO exists to:

- Institutionalize "best practices" identified within the organization as it builds governance processes for Portfolio Management, Project Management and other functions;
- Assist with integrating and aligning project management with business operations in order to support the organization in successfully accomplishing its mission;
- Mentor and coach project managers supporting the various agencies as needed; and
- Review Project Assessment Quotes (PAQ), Requests for Proposals (RFP), Requests for Information (RFI), Requests for Quotes (RFQ), and Invitations for Bid (IFB).



STATE DATA CENTER

The Missouri State Data Center (SDC) is the State's private cloud and provides a cost effective, uninterrupted hosting environment to support state IT needs.

Critical services performed by the SDC include:

Network Operations Center (NOC)

The NOC has been created to provide an effective enterprise incident management and communication process. The NOC is the hub for all internal and external communications for all IT incidents, status updates and incident reporting. The purpose of the NOC is to provide a central location (command and control) for all IT staff to communicate and coordinate production incidents. The NOC tracks critical incidents and creates remediation reports that assist with root cause analysis and incident tracking/reporting. The NOC staff manages over 600 incidents/after-hours calls monthly to assist agency users with IT issues.

Print Shop

The SDC print shop operates 24 hours a day, 365 days a year. It produces a variety of printable items such as checks and titles including:

- **Approximately 2,033,847 titles printed last year (approximately 7,800 titles printed daily)**
- **Approximately 1,715,000 checks printed last year (approximately 5,500 checks printed daily)**
- **Over 55 million feet of print in 2015**
- **Utilize approximately 14 rolls of paper every week**

Exchange, Active Directory and Account Management Support (EADS)

The EADS team formed in 2005 to manage and support the consolidated state's Active Directory and Exchange. In 2011, account management services were migrated to the EADS team. The team identifies efficiencies in consolidation and reduction of licensing, maintenance, hardware and software resulting in cost savings across these technologies. Consolidation of account management functions allows for better security through standardized processes.

The EADS team:

- **Supports over 65,000 user ids**
- **Supports over 34,000 groups**
- **Supports approximately 44,417 mailboxes**
- **Manages 500,000+ messages sent/received daily**
- **Ensures 100,000+ spam and virus laden messages blocked/secured daily**
- **Receives approximately 300 messages per day containing a virus**
- **Manages email archive over 71 Terabytes with a growth of 1 Terabyte every four weeks**



The Desktop and Virtualization teams support a framework of services used to manage all desktops and desktop applications. These services include Imaging, SCCM and Virtual Desktops (VDI). VDI allows end users access their desktops from numerous types of devices such as desktops, laptops, smart phones, tablets or thin clients, from multiple locations from most broadband connections. This team enables technologies that will assist with development of mobile applications and delivery of these applications.

Enterprise Monitoring Support

The Enterprise Monitoring Team is responsible to ensure all production servers for consolidated agencies are monitored at their requested level and urgency. Enterprise Monitoring Team monitors over 2,800 servers. The monitoring team is

able to monitor exchange servers, domain controllers, enterprise vault servers, BizTalk servers, network related nodes and many more. Well over 6,000 nodes are monitored which produces more than 80,000 alerts per month. More than 36,000 workstations are scanned and inventoried, providing valuable information for replacement purposes, equipment tracking and fiscal responsiveness.

Enterprise Servers Support

The Enterprise Server System Team supports all mainframe and iSeries (AS/400) functions for the state. Six sub categories make up the Enterprise Server Group, Operating System, Storage, Network, Third Party, Security and Transaction Processing.

The availability of the mainframe is 99.7% which allows for over 200,000,000 CICS transactions to be processed monthly. Many major applications function on the mainframe, i.e. FAMIS, MACSS, FACES, and TRIPS. The mainframe continues to be updated to allow mobility features. 64,000 user accounts have been created for applications on the mainframe and within the last year the employee team has decreased by almost 50%.

The AS/400 platform is architecture of an object-based system with integrated DB2 relational databases. The AS/400 allows application programs to take advantage of advances in hardware and software without recompilation. Unlike file servers, the AS/400 contains objects with built-in persistence and garbage collection, not a collection of files. The five servers supported by the iSeries Support Team contain over 12 Terabytes of data.

Operating Systems Support

The SDC systems group is responsible for the infrastructure that supports the state's initiatives. This includes the support of the server, VDI and storage infrastructures within the primary data center in Jefferson City, the secondary data center in Springfield and all other agency offices located throughout the state. This group also maintains the backup and recovery of data, and the replication of that data to the state's secondary data center for disaster recovery purposes. This group ensures the security of servers and data through a defined Windows update schedule, and by ensuring all servers are up to date on anti-virus definitions daily.

The Systems Teams:

- **Secures and optimizes 2100+ virtual servers**
- **Deployed 438 new virtual servers in 2014**
- **Managed 223 TB of storage growth in 2014**
- **Ensures approximately 1799 servers and 45 TB of data are backed up nightly**
- **Manages 428 remote servers across the state**
- **Secures and applies over 21k patches to over 2,100 servers on quarterly and monthly schedules**

Data Services Group

The Data Services group works with the applications teams and contractors to provide a cost effective, efficient and secure database environment for the State of Missouri and its citizens. This group provides secure environments for our data assets by securing application data to meet Federal, State and Local Government requirements. This includes providing data protection with encryption to ensure availability and recovery of data either physical or logical and monitors data activities.

Data Services Group:

- **Manages 7000+ databases across six different database management systems (SQL Server, DB2, Oracle, IDMS, MySQL and PostgreSQL)**
- **Manages and protects over 84 TB of application data**
- **Manages 431+ database instances**
- **Manages 1.1+ million tables of data**



Web, Middleware and Application Server Support (WMASS)

WMASS Team goal is to provide a reliable and sustainable middleware environment that is used to deliver services to the State of Missouri. The use of middleware software applications allows the WMASS team to offer services that are capable of bringing applications and data together and present that information in an efficient manner to customers. The WMASS team supports a diverse and eclectic set of technologies that ensure the union between data and end user computing services. These include, but are not limited to, Web Services, Reporting Services, Collaboration Services and Electronic Document Management Services to name a few. WMASS is integral to every new IT project and/or ITSD initiative.

The WMASS team maintains strong Enterprise Architecture Standards to help minimize proliferation of silos of technology that are inefficient and poor use of state resources.

WMASS supports:

- **Approximately 1,300+ applications for 14 consolidated agencies**
- **Since 2014 WMASS has added 89 new software titles to their support list**
- **Enterprise SQL Server Reporting Services for eight consolidated agencies**
- **Approximately 72,540,000 Documents scanned into Electronic Content Management Systems per year**
- **Enterprise Tidal Scheduling environment for six consolidated agencies and is expanding**

Accomplishments

Z/Systems Group

Implemented Pitney Bowes MAIL360 solution which will save over a \$100k in mailing cost for DOR.

Desktop Imaging and Management

The Desktop Management team optimized end point management. These efforts have eliminated over 200 remote distribution servers and over 80 terabytes (TB) of storage. This end point optimization effort has allowed ITSD to provide a more reliable secure desktop service.

Virtual Server Automation

The SDC has implemented new technology that automates the virtual server build process. This technology reduces the amount of staff time to build a virtual server from 2 hours to less than 20 minutes.

New RedHat Linux Patch Management Policy Implemented

In 2014, the Information Security Management Office, in conjunction with the State Data Center, added the RedHat Linux server environment to the State's Distributed Systems Patch Management policy. Adding the 200+ RedHat Linux servers to this policy paved the way for the State Data Center to define a routine schedule for the patch management of all supported RedHat Linux servers in the State Data Center, and those located across the state. With the number of vulnerabilities for Linux operating systems steadily increasing, keeping these servers patched is a key component to increasing the security of those servers. Currently, the implementation of this policy has led to a

99% fully patched RedHat Linux server environment.

Remote Server Hardware Refresh

The SDC Remote Server Support team performed a complete refresh of hardware for remote sites all across the state in 2014 and 2015. This project also included site reviews to determine where hardware could be consolidated or pulled from remote sites back to the State Data Center to reduce cost and consolidate services. In January of 2014 the Remote team supported 566 physical remote servers and 96 remote virtual servers. Now there are only 413 remote physical servers and 122 virtual servers.

Automation of Web Application Deployment

Over the past year the Web Middleware group averaged about 350 application deployments to Production Web Server environments per month. Many more deployments occur daily by ITSD Application Development groups to development and test systems. To stream line this process, incorporate system approvals and allow for application development groups to deploy their own applications in all environments the State Data Center partnered with the ITSD Application Development Groups to review perspective software candidates. The team recommended the purchase of the software tool called IBM UrbanCode (uDeploy). Application deployments that used to take 30-45 minutes to manually deploy have been cut to 5-10 minutes. The tool is being used to deploy, on average, 200 applications per week to all environments. This figure is estimated to double by the end of the year.

Enterprise Distributing Job Scheduling

Prior to consolidation many state agencies utilized their own Distributed Job Scheduling tool. Over the past year the Web Middleware group consolidated these processes to one tool, Cisco Tidal Scheduler. This tool allows for groups outside of the Web Middleware group to create and manage their own Batch Job schedules. The consolidation of this environment allowed for one process and still allow for the flexibility of the jobs per agency.

Enterprise Batch Server

The Web Middleware group has created an Enterprise Batch server environment for Agencies to utilize along with the Enterprise Distributed Job Scheduling environment or simple batch job scheduling. Many of the Distributed batch jobs are housed on individual Web Servers today. The running of these jobs created system resource problems on the application server environments so it was necessary to move them to a consolidated platform setup with the necessary

resources that these job demand.

Enterprise Content Management (ECM)

ECM has been established as an enterprise standard within WMASS. By leveraging a strong vendor partnership, we are able to provide a robust imaging system based on industry-leading products, practices and design. Through the integration of leading edge IT resources and knowledgeable staff we are able to provide an ECM solution that readily integrates with past, present and future applications. This flexibility is key to ensuring the continued advancement of state-delivered services to Missouri citizens.

Z Enterprise Server Upgrade

In July 2015, the Enterprise Server was upgraded to be better scale and handle State of Missouri systems in the future. The Enterprise Server has an uptime of over 99.7% throughout the year. This greatly assists in allowing applications, such as FAMIS, FACES, TRIPS to processes State business transactions continuously. The upgrade is projected to save nearly \$650k over the next 5 years.

Projects

Cloud Services Project

The SDC continues to build its cloud services infrastructure and has implemented network virtualization within a pilot environment in the State's secondary data center with plans to implement this technology in the primary data center in early 2016. In conjunction with network virtualization, another aspect of cloud services is to provide a self-service environment where certain pre-defined templates can be requested and automatically configured. This is scheduled to be released to select SDC teams for piloting by the end of the calendar year, 2015. The SDC recognizes that enabling future services for citizens will require better technologies. The citizens will demand services in ways that are nearly impossible to imagine. More importantly, the expectation will be to develop and deliver these services faster than ever before. Cloud services will help the state meet this challenge. The State Data Center will continue to implement and evaluate technologies and strategically align appropriate services.

Backup Storage Environment

The database encryption project introduced new difficulties with the State Data Center's current backup infrastructure. A consequence of encrypting data is the loss of data deduplication and compression on backend storage. The state data center made the decision in 2015 to implement a more cost-effective storage technology to house encrypted data in the backup environment. The backup and recovery team continues to work on this initiative to expand this environment to house all encrypted backups within the primary and secondary data centers.

Disaster Recovery

ITSD has responded along with other agencies in performing disaster recovery testing. 70 applications for 9 agencies have been included in last exercise, with more applications being included each year.

Enterprise Web Services

The WMASS team is building a shared web-hosting environment for .NET web applications in order to reduce costs and increase efficiencies in managing the web environment. The Enterprise Web Services architecture will provide a single consistent architecture that can be used by any state agency for web based applications and services throughout the state. By creating a standard configuration for web services state agencies can better plan for and implement new web-based applications in a more secure and consistent manner. There are seven agencies that currently use this shared infrastructure supporting a total of 207 web sites and 971 web-based applications on a total of 46 servers.

ECM

Agencies utilize this software to manage documents that are received through mail, email, application uploads or fax. Documents are imported into the system and indexed which allows for the ease of document searches and integration into many business applications through Application Programming Interfaces. OA and Mental Health are currently utilizing the system. We are working on migrating Higher Education, Revenue and Insurance.

Configuration Management Database (CMDB)

Application development has been ongoing this year for the CMDB. This application is designed to hold a collection of IT assets and descriptive relationships between such assets. When fully implemented, this application will be used for tracking the state of all IT assets such as products, applications, software and IT staff. To date, phase I and II have been completed, bringing the Operating System Support and Database Application Support functional areas online. In the next year, implementation of other assets such as Application and On Call support services will be complete. Once completed, a comprehensive map of all the assets and their relationships managed by the State Data Center will exist.

Database Encryption Project

The Data Services group is working with the Security and Applications teams to establish policies and procedures to encrypt sensitive data at rest and in transit. The team has been focused on encrypting structured data at rest within the DB2 LUW, SQL Server, Oracle, and Hadoop environments. To date we have encrypted over 5100+ databases.

Data Governance

Data Governance encompasses the people, processes and information technology required to create consistent and proper handling of data and understanding of information across the organization, ignoring the boundaries created by organizational structures. Data Services is undertaking a leadership role in the creation, implementation and oversight of the enterprise-wide information and data management goals, standards, practices and processes to be aligned with the business goals of the State of Missouri. Data Services is positioning itself to provide expert advice and support in relation to all aspects of Information and Data Governance including Data Ownership, Data Protection, Data Privacy, Information Usage, Classification and Retention.

To improve the state's overall data management efficiency and provide better visibility into the state's data assets, enabling better and quicker business decisions and to comply with regulatory requirements, the Data Services group has begun to develop a holistic strategy to protect and manage the State's information. Appropriate protocols for Data Governance and Information Management are being established in the form of best-practice policies, guidelines, procedures and standards. Data Governance and Information Management processes will be explicitly defined and documented.

Big Data (HADOOP) Project

Data Services is taking an early active role in Big Data initiatives by determining the skills, techniques and technologies that will be required for handling data on an extreme scale with agility and affordability. Data Services has begun to develop advanced capabilities to store, process and analyze vast amounts of data to improve business intelligence and decision making capabilities. These will include tools and techniques that handle the extreme data volumes and velocities and wide variety of data formats resulting from Big Data processing.

The Big Data project will improve the state's overall data management efficiency and provide better visibility into the state's data assets to drive enhanced and quicker business decisions and comply with regulatory requirements.

SHA2 SSL Certificate Upgrade

To keep in line with the latest requirements around system security the State Data Center is upgrading approx. 2450 SSL Certificates from SHA1 to SHA2 which is the current standard for encryption security.

WEB PRESENCE

The web team provides technical support and expertise to all agencies and maintains web portals that support the state as a whole. Web team members have skills in web design, user experience, CSS, JavaScript, PHP and the open-source content management systems: Wordpress and Drupal.

Critical services performed by the PMO include:

Consulting and Web Development

The Web team supports statewide web development by maintaining a centralized team of web professionals to consult on web design, development and mobility. This team provides templates and consults with other teams and government agencies on design, HTML5, CSS, jQuery, user experience, mobility, PHP, Codeigniter, Wordpress and Drupal. The team is available to consult all state agencies and performs educational outreach via the Digital Media Developers (DMD) group.

Video Production

The Web team produces professional quality videos, including the "MoGov Minute" for MO.gov, in addition to providing video services.

Web Portals

The Web team manages several state web portals including:

- MO.gov is the state's citizen portal that provides a single citizen-centric view of the state's web presence. In the past year, MO.gov received over 3 million visits and totaled over 9 million page views.
- The Missouri Business Portal, business.mo.gov, provides resources and information for starting and operating a business in Missouri.
- The Missouri Data Portal, data.mo.gov, is a data sharing platform available to state agencies when sharing public data.

These enterprise portals make information and data from all state agencies more accessible.

Accomplishments

100 Missouri Miles Enhancements

Enhancements to 100MissouriMiles included:

- "Buddy Miles" – Participants are now able to track miles for dependents including pets and children in addition to larger teams (classrooms, community groups, etc.) through our new Buddy mile system that allow you to manage multiple sub-accounts from a single login.
- "Blue Miles" – To commemorate Missouri's historic and fun waterways: the Blue Miles program features new badges, trails and activities for 100MOMiles participants to engage with as they paddle across Missouri's scenic waterways.

Farmers Market Reporting

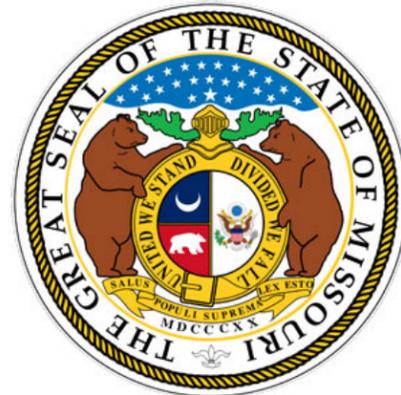
Created a responsive web form with login and account capabilities that allows assigned recorders to use their mobile phones to collect product availability and pricing data for approximately 300 products on a regular basis from 285+ farmers' markets. The project also created a method/report to upload the data to the USDA.



APPLICATION DEVELOPMENT

Reports on application development for each of the consolidated executive departments follow in alphabetical order.

OFFICE OF ADMINISTRATION



The Office of Administration (OA) provides guidance and assistance to state government entities through the implementation of Executive Office initiatives, the establishment of uniform procedures and rules, as well as providing services in a cost-effective manner.

OA Systems

OA system development and maintenance is performed by ITSD-OA programmers using the following technologies:

- Legacy Programming Technologies: COBOL, CA Gen
- Standard Programming Technologies: .NET, MS SQL

OA maintains 68 applications in its application portfolio. Below are descriptions of OA's most critical systems:

Accounting Systems (SAM II & MAP)

Statewide Advantage for Missouri (SAM II) is an accounting system that processes state transactions for purchases, payments and fixed assets reporting. It is also used to perform project/federal grant reporting and draw-downs. SAM II is also used to process state payroll and perform other HR tasks.

SAM II is now approaching its 17th year in production. It is a COBOL/Mainframe commercial-off-the-shelf system that has been customized for the State of Missouri and requires ITSD staff to ensure the system is updated to comply with state and federal accounting rules and is functioning as intended. Some of the enhancements made to SAM II this year include tracking of budget restrictions put in place by the governor, adding functionality needed to comply with updated reporting requirements for Federal Highway Administration reimbursements and enhancements needed to meet requirements for the Affordable Care Act.

A SAM II data warehouse exists and is updated daily so that other systems are able to query the large amounts of data in SAM II. The Missouri Accountability Portal (MAP) uses the data warehouse to present financial information to the public, allowing citizens to track how the state is spending taxpayers' money. The MAP site was enhanced this year to include information on federal grants, budget restrictions and public bonds.

In the past year, SAM II processed more than 83,500 purchase orders; more than 968,000 payment vouchers; printed over 400,000 payments to vendors by check; created over 526,300 direct deposit payments to vendors; processed more than 1.32 million payroll checks; and processed over 55,000 paychecks per pay period. Advices are now printed for an average 3.5 percent of direct deposits, down from an average of 23 percent three years ago, reducing printing costs.

Bidding System (OLB)

The Online Bid (OLB) system is a web-based statewide bid system used by agencies to solicit and receive bids and make awards. Vendors are also able to register as state vendors and identify the commodities they provide.

Just over 8,541 vendors are registered to use the site; close to 2,930 new or updated registrations were received over the past year; 495 bids were posted and approximately 1,490 bid responses were received.

The system, along with other small systems and paper-based processes, will be replaced with the MissouriBUYS Application.

Budgeting System (BRASS)

BRASS is the system used to develop state agency budgets during the state's budgeting process every fiscal year.

Charitable Campaign System

The Missouri State Employees Charitable Campaign (MSECC) system is used by state staff to manage charity and donation data for the annual campaign.

Employee Performance Appraisals System (PERforM)

PERforM is a .NET system used by 52,687 state employees to create performance objectives, create annual performance appraisals and create special appraisals. In the past year 37,117 annual appraisals were created.

Employment and Personnel Systems (EASe, MAIRS & JOA)

The Electronic Application System (EASe), Management and Applicant Information Resource System (MAIRS) and Job Opportunity Announcement (JOA) software combine to support the Missouri Merit system.

The JOA system displays a listing of open merit registers. Merit System job applicants use EASe when applying to be added to a Merit register. EASe is a .NET application that collects pertinent employment information about an applicant and depending on the job class applied for, determines the applicant's rating of their education and experience based on their responses to a series of questions. MAIRS, together with EASe, is used to process Merit System applications, schedule and score tests, fill registers, create certificates and track dismissals.

MAIRS is based on the legacy CA Gen technology. MAIRS is a candidate for replacement by a modern system when resources become available.

Time and Attendance (ETA)

The Enterprise Timekeeping Application (ETA) has allowed the state to retire redundant electronic systems and eliminate some paper-based systems. It is used by state employees to code time to specific activities (projects) and track leave. ETA now has 5,425 active users up from less than 1,000 in June of 2013.

Vehicle Fleet Management Systems (FLEET & CARS)

FLEET tracks state vehicle information and CARS allows state employees to reserve a car for state use.

Workers' Compensation System (RESTORE)

RESTORE is the system used to track workers' compensation claims by state employees.

Accomplishments

Administrative Hearing Commission (AHC) Management System

New case management software for the AHC was procured (Prolaw) and deployed that will yield savings in annual software costs and increase productivity for AHC commissioners.

Enterprise Content Management (ECM)

OnBase was adopted as the new Enterprise Content Management system for the State of Missouri. The new OnBase environment replaces the aging and outdated Oracle IPM document management system. Approximately three million documents were converted from Oracle to the OnBase ECM environment. OnBase is a state standard that allows ITSD employees to support ECM across the enterprise more efficiently and effectively.

Job Application System

A new web-based application called MOCareers was implemented. Functionality includes collecting and posting to public websites as well as feeding data to jobs.mo.gov and data.mo.gov.

Lease Management System

The system that allows OA's Facilities Management Design and Construction Division (FMDC) to manage and maintain all the lease, lessor and lessee information for buildings, warehouses, etc. leased by the State of Missouri will be modernized from Mainframe/COBOL/CA GEN technology to .NET in order to ensure its sustainability into the future.

The new application will automate many processes, therefore gaining efficiencies for FMDC. Inspectors will be able to utilize mobile devices when performing inspections in the field along with the GIS feature that will allow them to map their locations and routes.

eProcurement - MissouriBUYS

In order to achieve greater procurement efficiency and savings for taxpayers and stakeholders, the state is deploying a modern eProcurement system called MissouriBUYS. Improving automation and technology eliminates complexities in the purchasing system and provides greater capabilities not only to OA's Division of Purchasing, but also to other state agencies, local government entities, and the vendor community.

Implementing a new eProcurement system will:

- Increase fiscal accountability and transparency. The state would like to improve access to information for agencies, the public and vendors across the state to improve our purchasing power, analyze spending practices and improve contract compliance
- Modernize purchasing operations, streamline processes and cut costs
- Enable state agencies to search and find vendors more efficiently
- Provide improved access for suppliers and state agencies
- Improve access to business opportunities for small, women-and minority-owned businesses
- Provide greater access and better purchasing opportunities for local governments
- Reduce costs of goods and services. Increased supplier access to business opportunities increases competition and decreases prices

The first phase of MissouriBUYS was deployed in 2015. MissouriBUYS implementation consists of three separate components:

1. Vendor Registration –We have over 6,900 vendors who have registered in the system. Vendor registration allows businesses who currently provide services to the state of Missouri to register online, select appropriate commodity codes, receive system-generated solicitation notices via email, and submit responses to these solicitations online.
2. Solicitations – As of this date, agencies who have the authority to post formal bid solicitations (e.g. IFBs), will be able to do so. Informal bid solicitation functionality will be rolled out in later order management phases.
3. Order Management – Design sessions are currently underway. Go-live dates are tentative at this point, but rollouts will happen in three separate waves of agencies. Once each wave has gone-live, they should have full functionality of the MissouriBUYS application. This functionality consists of the ability to create requisitions, process purchase orders, issues contracts and handle invoicing among other features.

State Tax Commission (STC) Market Study

A new system was implemented for State Tax Commission and county assessment offices for analyzing property sales and statistics. The new system replaced the functionality of disparate, antiquated systems used by each entity. The new system has increased the ability of the STC to ensure assessment functions across Missouri counties are fair and equitable and assist counties in maintaining compliance levels.

STC Tax Assessment Appeals GLSolutions

A new software as a service (SaaS) solution was implemented for the STC to track individual and corporate tax assessment appeals. The previous tracking method was a manual paper process.

Surplus Property System

A new web-based inventory system for surplus property consists of three modules: Federal Surplus Property (allows agencies to obtain federal property at a minimal fee), State Surplus Property (allows state agencies to report property and Surplus to determine whether transfer, auction, or disposal is necessary), and Fixed Price Vehicle (allows Surplus to purchase used vehicles through the federal government and sell to others).

Projects

Affordable Care Act (ACA)

The Affordable Care Act mandates that employees meeting specific criteria be offered health insurance by the employer no later than Jan 1, 2015. In November 2014 close to 200 individuals working part-time or variable hours for the State of Missouri were offered insurance through the state agency sponsored insurance plans. The process will identify employees who meet the eligibility requirement every month and those employees will be offered insurance through the State. Phase II, forms and reporting, will be implemented after January 2016.

Legal Expense System

The system that allows OA General Services to track expenses due to legal claims being filed against the state will be modernized from Mainframe/COBOL/CA GEN technology to .NET in order to ensure its sustainability into the future. New processes will allow for claim information to be entered online and supporting documentation to be uploaded rather than mailing, faxing, or scanning/emailing the forms. This will expedite the legal claim submittal and review process as well as allow OA General Services to track the status of claims more efficiently.

Office of Equal Opportunity (OEO) Case Management System

This project is to write a .NET application that will replace a current manual process. The OEO M/WBE (Minority/Women Owned Business Enterprise) Certification application will allow vendors to submit applications online to become certified by the State as minority and/or woman owned businesses.

The online application will navigate vendors through the application process using a wizard (much like turbo tax) to ensure they qualify based on information and documentation submitted. A web service integrates with Secretary of State to determine if the business is in good standing and confirms key business information on the application eliminating unnecessary manual effort needed for validation.



AGRICULTURE

The Missouri Department of Agriculture's (MDA) mission is to serve, promote and protect the agricultural producers, processors and consumers of Missouri's food, fuel and fiber products.

MDA Systems

MDA system development and maintenance is performed by ITSD-MDA programmers using the following technologies:

- Legacy Programming Technologies: None
- Standard Programming Technologies: .NET, MS SQL

MDA maintains 49 applications in its application portfolio. Below are descriptions of MDA's most critical systems:

AgriMissouri System

The AgriMissouri system is used by Ag Business Development (ABD) to manage AgriMissouri memberships and business profiles of local food producers. The system exports business profiles to the AgriMissouri website where consumers can search for local foods and agritourism facilities. There are more than 2,400 members and 260 farmers' markets registered. The system uses PHP and Microsoft Access technologies.

FQLIMS (Fuel Quality - LIMS)

The Fuel Quality Program, part of the Weights and Measures Division, administers the fuel quality law through inspection, analysis and enforcement to help ensure consumers are purchasing quality motor fuels. Fuel samples are collected by field personnel and submitted for testing. The petroleum laboratory analyzes gasoline, kerosene, heating fuels, diesel fuels and alternative fuels including biodiesel and E85 fuel ethanol to make certain they meet state quality and safety standards. There are more than 9,037 samples obtained and tested through fuel quality inspections annually. FQLIMS is a Dbase system, with .NET and Microsoft Access components, that manages inspections and sample results.

MoPLANTS System

MoPlants serves several different programs for the Plant Industries Division. Among these are the Pesticide program that helps prevent adverse effects of pesticides on human health and the environment and licenses pesticide applicators and dealers. MoPlants has also streamlined the day to day activity for the Feed and Seed program that monitors the labeling on packages of feed and seed.

Petroleum Station Inspection System

This system maintains data on safety and device inspections of above ground storage tanks, service stations, refined fuels bulk storage facilities, marinas, airports, barge and pipeline terminals, bulk delivery trucks and other retail/wholesale locations. Currently, the Weights and Measures Division regulates more than 18,695 facilities of various types. This system uses Microsoft .NET technologies.

USA Herds

USA Herds is Commercial-Off-The-Shelf (COTS) software that allows the Animal Health Division to track livestock and poultry in Missouri to help ensure that our food supply is safe. Components include veterinarians, premises reports, animal brands and livestock import/export. There are more than 24,462 premise reports and 6,995 animal brands in the system. Recent enhancements have included the ability to manage the licensing and inspection of Animal Care Facilities. There are more than 2,000 facilities licensed.



WinWam

WinWam allows Device and Commodity inspectors to capture field inspections electronically. Data from more than 7,000 inspections is entered into this system annually. This system uses Microsoft Access technology.

Accomplishments

Fiscal Reporting System

The new fiscal reporting system has incorporated Electronic Content Management (ECM). This feature saves time and increases efficiency over the older outdated system. In the outdated program this feature didn't exist and users had to open a separate program to view the actual document. An estimated 20.7 hours of MDA and ITSD employee work time is saved per week with this system. Fiscal reporting gives MDA the ability to export reports and query results directly to an Excel spreadsheet.

MoPlants Phase 5

Phase 5 enhances pesticide applicator processing; interfaces mineral results from ICP lab instrument; and interfaces protein data from Leco lab analyzer.

MO State Fair System Modernization

The State Fair exhibitor and entries management system is utilized year round for the annual Missouri State Fair event held in August. This system was modernized via procurement of ShoWorks software that includes the following modules:

- ShoWorks Online Portal – Web-based registration system was deployed to manage the registration of exhibitors for shows and competition events held annually at the State Fair. The online portal is a self-service site for exhibitors to register and pay to compete at events held during the fair. Cost savings and productivity increases for staff will be found in future years by decreasing the number of paper registration forms to be processed manually.
- ShoWorks Management Software – A new management solution was deployed to process registration, judging and premium payouts of exhibitors showing and competing animals, homemade crafts and shows during the 11 day event at the State Fair. This solution manages over 4,000 exhibitors who register for over 30,000 events annually. The new system replaces legacy systems, reduces manual and paper processes with the interface capabilities to the ShoWork's Online Portal. Cost savings, productivity and efficiency will increase as Missouri State Fair standardizes their business processes.
- ShoWorks iPad Judging Application – A new application was created that utilizes an iPad for judging and entry check-in by fair staff. The application decreases the need for staff to manually input the information from paper forms by synchronizing the data with the ShoWorks Management Software.
- ShoWorks Reporting – A new reporting management interface was deployed for Missouri State Fair staff to manage the reporting needs from ShoWorks Management

Software. This new interface leverages fair staff with the ability to manage on-demand reports from their customers.

Projects

Ag Business Development System

The new Ag Business Development System includes a web application for external users to apply and renew AgriMissouri Membership, request Certificates of Free Sale, and manage accounts and related activities. It will also allow internal users to issue, track and manage farmers' information and products in order to more efficiently support and manage customers of the Ag Business Development Division.

This new system will provide a solution that is easily scalable and utilize a centralized customer and membership common element design for ABD in addition to providing accurate, real-time data on AgriMissouri website promoting Missouri made products.

Upon completion of this project, the State of Missouri and ABD should experience realization of the following: reduce paper process; reduce staff time for manual data entry; improve record retention; reduction of inaccurate data due to improperly completed forms; allow uniformity in developing an environment for further automation; and provide real-time data to the public on AgriMissouri products, services and events.

Grain Commodities System

This is the final AS/400 legacy modernization application for Agriculture. The new Grain Commodity System includes a web application, self-service portal for users to submit and manage commodity information reported to MDA. This will allow MDA staff to manage information on customer accounts and account activity. The solution is to include the following Commodity Groups: Apple, Beef, Corn, Fish, Rice, Sheep, Soybean and Wine.

The new system will provide a solution that is easily scalable and utilize a centralized customer design the Division of Grain Inspection and Warehousing. Upon completion of this project, the State of Missouri and GIW should experience realization of the following: modernization of a legacy system; reduce paper process; reduce staff time for manual data entry; improve record retention; reduction of inaccurate data, due to improperly completed forms; allow uniformity in developing an environment for further automation; and save time and costs for the State of Missouri, GIW and customers.

CORRECTIONS

The Missouri Department of Corrections (DOC) supervises and provides rehabilitative services to adult offenders in correctional institutions and Missouri communities to enhance public safety.

DOC Systems

DOC system development and maintenance is performed by ITSD-DOC programmers, DOC offenders and contractors using the following technologies:

- Legacy Programming Technologies: RPG/AS400
- Standard Programming Technologies: Java

DOC maintains 31 applications in its application portfolio. Below are descriptions of DOC's most critical systems:

Law Enforcement Notification System (LENS)

LENS is a system for law enforcement agencies that allows authorized users to run an inquiry on any offender under the supervision of DOC through a secure internet connection at no cost. Basic identifying information, current offense, current location or last known address and supervision contact information are a few examples of the information available. In addition, agencies may subscribe to receive electronic notification when selected events of interest occur during a specific offender's incarceration, such as upcoming parole hearings, escapes and releases. LENS has 312 agencies enrolled, 5,134 agency users enrolled and 7,203 subscriptions to events.

Offender Management Systems (ARB, MoCIS & OPII)

DOC utilizes offender management systems including OPII, MoCIS and ARB to manage offenders both in Missouri institutions and in the community. OPII has been in production since 1998 and is a RPG/AS400 based system that is customized to the DOC business processes. OPII contains 591,445 total offender records and 115,969 active offender records.

MOCIS is a modern web based enterprise application written using J2EE. MOCIS consists of several functional modules that together make up a whole offender management system that will eventually replace DOC's legacy offender management systems, OPII, MARS (Medical System) and ARB. Some key characteristics are that it is user friendly and intuitive which requires less training than the legacy systems. The modules in production now are Property, Application Security, Home and Employment, Assessments, Offender Management Plan, Intervention Fees, Earned Compliance Credit Calculations, Programs/Classes, Visitation, and Healthcare. These modules aid the Department of Corrections with successfully managing those functional areas and they play a key role in helping DOC fulfill their mission. MOCIS currently has 13,095 active users.

Automated Road Book (ARB) allows Probation and Parole staff to log case notes for offenders under their supervision. On average through ARB, over 2 million user-entered case notes are recorded annually.

Puppies for Parole System

The Puppies for Parole program is a partnership between DOC and animal shelters in which offenders train dogs to increase the likelihood that the dogs can be adopted. The Puppies for Parole system tracks animal shelters and dogs participating in the program. It also includes a public-facing application to promote the dogs that are actively being trained so the general public can view the dogs available for adoption.



Accomplishments

CRIMES

CRIMES is a departmental records management system which houses investigative and intelligence reports. This will replace a legacy application written on Lotus Domino. CRIMES will allow for improved performance of investigative duties; expedite the report review process; allow for multiple divisions and units to work within one system for information sharing; provide more efficient way to keep statistics and compile reports. This system will be used by the Inspector General's investigators and Human Resources staff.

MoCIS - Offender Finance System

This project replaced the existing Inmate Banking application on the AS400 through integration into MoCIS. This application replicates the existing functionality and includes many additional features to improve reporting and auditing of financial records for the offender population. Offender finance must follow accounting practices for governing the receipt and control of offender funds while incarcerated, and allow for the collection, transfer and release of monies which may be required by statute or other policies. Implementing this new application into MOCIS will improve the ability to maintain offender financial records while utilizing a modernized application and a modern distributed database.

Web Data Utilities (WDUs)

The following Web Data Utilities were deployed in 2015. These are a continuation of the DOC System Modernization Initiative; removing additional applications from the AS400.

- WDU Volunteer: This is a web based data utility that allows DOC staff to maintain the Volunteers, MRP Volunteers, Interns, and guests for the Department by location. This web based application moved 2 databases off of the iSeries onto the MSSQL distributed environment and allowed DOC to turn off the iSeries data file utilities and move the users to a web based application.
- WDU P&P Employee: This is a web based data utility that allows DOC staff, specifically P&P staff, to maintain emergency contact numbers for staff to be used for after hours or emergency situations. This web based application moved 1 database off of the iSeries onto the MSSQL distributed environment and allowed DOC to turn off the iSeries data file utility and move the users to a web based application.
- WDU Custody Staff: This is a web based data utility that allows DOC staff, specifically DAI staff, to maintain schedules and post assignments for the Corrections Officers by location and shift. This application moved 1 database off of the iSeries onto the MSSQL distributed environment and allowed DOC to turn off the iSeries data file utilities and move the users to a web based application.

Projects

MoCIS - Healthcare for Men's Facilities

The MoCIS Healthcare module was implemented at the DOC women's facilities in 2014. It is comprised of four areas of care: medical, mental health, substance abuse treatment and sex offender treatment.

This system is used to track all incarcerated offender medical service records, which contain doctor, nurse, technician, specialists and laboratory requests. Basic health care includes sick call and routine access to prescribed medications as well as adequate screening and examinations, emergency care, ambulatory care, infirmary and hospital care and specialty care. A health care service in this context is defined as clinical authority whereby all medical, psychiatric and pharmaceutical matters involve the judgment of a licensed and/or certified Primary Care Provider (PCP) including physicians, psychiatrists or pharmacists. Included in the definition of PCP are professionals, such as nurse practitioners and physicians assistances as prescribed by applicable laws. The next stage of implementation of this system is the rollout to the DOC men's facilities.

MoCIS - Updates for new MO Charge Code Format

The format of the Missouri Charge Code is changing from 8 digits (numeric) to 23 characters (alpha-numeric). Multiple agencies are impacted by this change across the state and therefore all agencies are working together to update their respective systems and test interfaces between agencies who exchange this information. This project will modify the charge code formats in our MOCIS system and the interfaces that we use to receive the charge code datasets from MSHP as legislation passes each year. These changes will allow DOC to be in compliance with the new charge code format when all modules of MOCIS are fully implemented.

Offender Medical History - MARS Inquiry

Once MoCIS Healthcare is fully implemented the MARS Inquiry system will come online. This will allow the retirement of the current AS400 application while providing effective search and reporting of legacy offender medical history from a modern, secure web-based solution.

ECONOMIC DEVELOPMENT

The Department of Economic Development (DED) leverages our competitive advantages and delivers strong economic growth for Missouri.



DED Systems

DED system development and maintenance is performed

by ITSD-DED programmers and contractors using the following technologies:

- Legacy Programming Technologies: COBOL, PL/SQL, PERL
- Standard Programming Technologies: C#.NET, VB.NET, MS SQL, Oracle

DED maintains 40 applications in its application portfolio. Not included in this report are activities and systems supporting the Public Service Commission – affiliated with DED, but outside ITSD and IT consolidation. Below are descriptions of DED's most critical systems:

Jobs System (Jobs.mo.gov)

Jobs.mo.gov is DED's Division of Workforce Development (DWD) labor exchange system and public job bank website. It is an electronic job board (much like Monster or Career Builder) allowing employers to post jobs and search for suitable candidates and job seekers to post their resumes and find employment. The system is also used by unemployment benefit recipients to complete their mandated four week reporting.

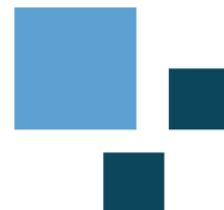
- **Active job seekers: 150,475**
- **Job seekers making a job referral: 42,950**
- **Job openings posted by employers: 10,541**
- **Employers posting jobs: 3,589**

Tax Credits System (Customer Management System, CMS)

CMS is the primary system for DED to track awarded and redeemed tax credits. Currently all of the state's tax credits are tracked via CMS, with the exception of those belonging to DIFP and DOR. There are 75 tax credit programs from five departments in the system.

Tourism Website

VisitMO.com is a critical component in Missouri Division of Tourism's (MDT) effort to bring tourists and tourism dollars into Missouri. The website allows users to find desirable attractions and events through an appealing and accessible design. The website, based on the DotNetNuke platform, is operated by MDT with support from a contracted partner. There are also a number of ways that tourists can interact with MDT through social media. Tourism-related businesses are able to upload profiles and events and market their businesses.



Workforce Information Database

The Missouri Economic Research and Information Center (MERIC) uses the Workforce Information Database to maintain and update employment statistics, labor market information, business listings and related economic and demographic data.

Workforce Programs System (Toolbox2 - TB2)

TB2 is the case management system used by DED staff and its Workforce Investment Board (WIB) partners. It allows them to manage the enrollment of job seekers in state and federal workforce programs (for example, WIA, Wagner Peyser, TRA and METP) and track the use of services provided under these programs. This third party Oracle-based software has been heavily customized for use in Missouri. Monthly, quarterly and yearly reports are generated from the data in the system to meet federal reporting requirements. Usage of the system (January through October) includes:

- **New enrollments in workforce programs: 340,456**
- **Total number of services provided: 4,569,806**
- **Job seekers provided a service: 340,141**

Accomplishments

Senate Bill 24 Implementation

SB24 requires all Missouri TANF recipients to participate in job readiness and search activities in order to receive their full benefit. DED partnered with the Department of Social Services to implement a solution to track the usage of jobs.mo.gov by TANF recipients.

WIOA Implementation

The new Workforce Innovation and Opportunity Act (WIOA) required several enhancements and changes to DED-DWD systems, including changes to Toolbox2 and the Eligible Training Provider System (ETPS). Phase 1 of the changes was implemented on July 1, 2015. More changes will be made as additional regulations take effect through 2016.

Projects

CMS Replacement

CMS continues to be cost prohibitive to maintain. CMS system modernization will ensure its security and sustainability into the future.

Egain Call Center Ticket System for DWD

This project will supply DWD with a full-blown call center ticket and tracking system to help staff more efficiently track and resolve issues with public users of jobs.mo.gov, its case management system used by internal and partner staff, as well other internal applications. This system may contain a chat support feature, allowing public users more real-time access to support agents while connected to jobs.mo.gov.

Labor Market Information (LMI) and Eligible Training Provider System (ETPS) Integration

Integrating LMI data with ETPS data would allow job seekers to have a clearer picture of the gaps in their current skill sets when searching for employment in a particular discipline.

Toolbox2 Replacement

The current Workforce Programs System, Toolbox2, is built on legacy technologies. Functionality is less than desirable and the system is difficult to maintain and modify. A modern system will increase program effectiveness and reduce the total cost of ownership.

ELEMENTARY and SECONDARY EDUCATION

The mission of the Missouri Department of Elementary and Secondary Education (DESE) is to guarantee the superior preparation and performance of every child in school and in life.



DESE Systems

DESE system development and maintenance is performed by ITSD-DESE programmers and contractors using the following technologies:

- Standard Programming Technologies: .NET, MS SQL

DESE maintains 49 applications in its application portfolio. Below are descriptions of DESE's most critical systems:

Adult Learning Systems (HSE & AWARE)

The High School Equivalency (HSE) System (formerly GED), developed in-house on the Microsoft.NET platform, allows individuals, colleges, universities, verifying services and employers to view transcripts and individuals to make payments. AWARE is third party software that allows Vocational Rehabilitation (VR) staff to effectively track, coordinate, communicate, analyze, plan and budget complex services for approximately 169,678 VR open and closed cases to assist with annual federal reporting requirements.

Core Data Application

The Core Data application is a centralized portal through which Local Education Agencies submit their educational data to DESE.

Educator Certification System

The Educator Certification system allows all educators, both new graduates and existing, to submit online applications for certification. This includes the ability for educators and administrators to upgrade certifications and allows schools and districts to access the certification information they need. In the past year, more than 35,056 certificates have been processed online.

Electronic Payments and Electronic Grants Management System

The Electronic Payments and Electronic Grants System (ePeGs) tracks budget, plans and expenditures for all grants, and creates grant payment data.

Food and Nutrition Services

The Food and Nutrition Services application is the mechanism for the application process for public and non-public schools to participate in the National School Lunch Program, School Breakfast Program, Special Milk Program and Fresh Fruit and Vegetable Program. The system also supports the claiming and payment reimbursement process, as well as, the monitoring review process. The system supports the federal USDA mandated requirements and state requirements for participation in the School Nutrition Programs.

Foundation Formula System

The Foundation Formula System is critical for maintaining and calculating the factors involved in State of Missouri payments to Local Education Agencies. The Foundation Formula System calculates the distribution and processing of an estimated \$350 million per month.

Improvement, Monitoring, Accountability and Compliance

IMACS is the mode in which schools/LEAs enter and submit the special education monitoring self-assessment student data. This data is then evaluated at the Department level and results of that evaluation are reported back to the schools/LEAs. This system tracks any follow-up activities resulting from the reviews. The system also houses, manages, and reports all of on-site and special review information. This application contains key components: Compliance Planning System, Special Education Surrogate and Tiered Monitoring.

Payment Management System (PM)

The Payment Management system is the mechanism used to create and process payment documents to school districts at least once a month. Subsystems that process payments to be paid in a particular month are ePEGS, School Foods, and School Finance. Sections have the ability to process manual payments in Payment Management for those programs that are not part of a subsystem. DESE processes \$420,000,000 in payments per month through the Payment Management System.

School Data Systems (MCDS & MOSIS)

The Missouri Comprehensive Data System (MCDS) allows the public to view data on Missouri's school districts and students on the MCDS public website. MCDS also has an internal component for DESE staff and a secure extranet for school districts to view data. MCDS runs on the Microsoft SharePoint platform.

The Missouri Student Information System (MOSIS) is third party software that allows school districts to upload data to DESE and allows DESE to manage that data.

Security System and User Manager

The Security System is the core security application that, with the help of Active Directory, controls authentication of over 110,000 user accounts. In addition, the application interfaces with each DESE web application to manage content visibility within the secured environment.

User Manager is an application which contains a front end allowing security administrators the ability to grant and remove security privileges, unlock inactive accounts, and initiate password resets. It allows for role based security down to the district and even building level in some cases.

Yearly Performance Report

The data collected each year produces a Yearly Performance Report or "score card" of MSIP (Missouri School Improvement Program) reports for the state school districts. The MSIP has the responsibility of reviewing and accrediting the 520 public school districts in Missouri which is mandated by state law and by the State Board of Education regulation. The MSIP works to prepare every child for success in school and life.

Accomplishments

AWARE Enhancements

There were multiple projects enhancing the AWARE application in an effort to streamline the process of providing services to Vocational Rehabilitation (VR) clients, as well as keep in compliance with federal mandates. Planning, analysis and design for a new quality assurance tool was also completed. This tool will provide VR with a tool for managing case reviews. Phase II of this project will include further development.

Direct Certification - MO School Meals

DESE's Food and Nutrition Services Program earned a Fiscal Year 2014 Direct Certification Performance Award totaling \$285,000 from the U.S. Department of Agriculture for helping more Missouri children in need receive free meals. The Healthy, Hunger-Free Kids Act of 2010 established performance awards to encourage state agencies that administer the National School Lunch Program to ensure that all children who are eligible under the Supplemental Nutrition Assistance Program to be directly certified. The Direct Certification application was noted for its substantial improvement in certifying children for free school meals through use of data from the Missouri Student Information System (MOSIS). Missouri improved to a direct certification performance rate of 86 percent for the 2013-14 school year, a 13 percent improvement over a two-year period. Missouri was one of seven states to win the award. It is noted that school meal programs can represent a significant portion of the nutrition received by these children which contributes to children's ability to develop and learn.

Early Childhood Special Education Phase II

The objective for Phase II incorporated the ECSE data collection, which was previously a stand-alone application into the ePeGS system. This will lead to a 65% time savings for DESE and District users when entering data, as well as with the review and approval process. Along with that, due to ePeGS robust edit functionality, this project will yield a substantial increase in data accuracy.

EdFacts Application

EdFacts is a U. S. Department of Education initiative to put performance data at the center of policy, management and budget decisions for all K-12 educational programs. Data is drilled down to the school level and includes demographics, program participation, implementation, and outcomes. A user interface for data reported under federal law that is shared with the U.S. Department of Education. EdFacts is utilized by the Office of Data Management staff. The new application will reduce state and district data burden, streamline data practices and improve state data capabilities.

ePeGS Enhancements

Numerous enhancements to ePeGS involving the creation of new pages, enhancements to Special Ed Part B grant, Perkins Grant, and No Child Left Behind (NCLB) Grant increases compliance, accuracy, communication and efficiencies in the Local Education Agencies (LEAs) and DESE's budgeting, payments and invoicing. With the new enhancements, the department estimates a savings of 75% in staff time in reference to triaging and answering LEA questions. Additionally, a series of new ePeGS reports were developed for DESE. Prior to this, DESE staff was manually querying and manipulating data into usable formats for ePeGS users. The reports save DESE staff 65 hours per week.

Accomplishments (cont'd)

Federal Monitoring Profile Reporting

This project mandated necessary LEAs and State Federal Monitoring Profile Reports. These reports use monitoring data from the Improvement, Management, Accountability, and Compliance System (IMACS). Additional filtering capability was provided. These reports save DESE more than \$12,000 annually in manual time and effort.

MCDS Early Learning Data

All data collected by the Early and Extended Learning Section will be incorporated into the Missouri Comprehensive Data System (MCDS). The data will be used to improve accuracy of identifying the characteristics of high-needs families and the quality of Early Childhood services. Data will also be used to compare many factors and trends with students such as grades and attendance. On demand reports from MCDS are now available to view the data.

Migrant Education Enhancements

The Migrant Education Certificate of Eligibility (COE) Application collects data on eligible migrant children. In School Year 2012-13 Missouri identified 775 eligible migrant children. The goal of this project was to modify the existing Migrant Education COE Application to mitigate existing problems, reduce manual efforts, automate paper-based functions, allow edits, create reports and incorporate maintenance screens to reduce ITSD involvement. Data accuracy has increased the ability for DESE to identify migrant children. Required annual reporting to the U.S. Department of Education has been significantly streamlined.

Missouri Automated Criminal History Site (MACHS) II

MACHS II is used to conduct online, name based criminal history searches or register for fingerprinting. DESE uses this information to verify educator background checks. A web service was developed to allow the Highway Patrol MACHS II to access DESE's security system to query DESE and District users who have been granted MACHS II access via DESE User Manager. User manager system verifies the individual should have appropriate access as granted by District defined User Managers. DESE saves \$7,500.00 per year in mailings of background check letters. Districts obtain immediate access to fingerprint information allowing them to obtain clearance in minutes rather than days or weeks. A great deal of efficiency is gained with the implementation of this web service.

Payment Management (PM) Rewrite Project

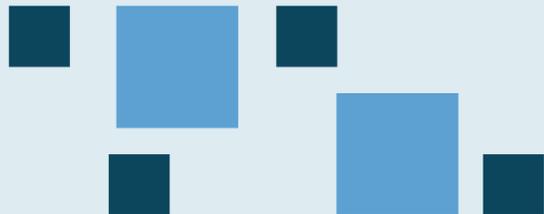
The Payment Management (PM) system is a core application which processes and pays out approximately \$420,000,000.00 per month to more than 500 school districts. The system was in need of a re-write to accommodate new requirements. Responsive design, updated security, automation of manual processes, new functionality and design was provided. Modifying PM to handle daily payments was key. Previously, the application could only handle up to three payments per month, causing budgeting risks for districts. Also, incorporating user controlled maintenance pages removed more than 75 hours per year of ITSD manual involvement. A communication page allows DESE to communicate quickly with their districts. Completion of this project was highly critical and part of DESE's Strategic Plan.

School Directory GIS Project

The School directory is no longer a printed book. The School Directory can be obtained via pdf's and various reports in MCDS. Adding a GIS mapping component in regard to School Directory will provide citizens, DESE staff, and legislators key data about school districts, as well as House, Senate and Congressional districts. From the GIS map, a user can search for specific data about schools, coinciding school buildings, superintendents, addresses enrollment, number of teachers and several other key components.

Server Migration Project

The scope of this project was the migration of all web sites, applications and web services to upgraded infrastructure and technology. Addressing security risks and removing vulnerabilities was the top focus. The consolidation allowed a reduction of six servers and removal of four database servers in the future. A complete restructure of the DESE web applications provides a portable solution. Dependencies were removed to streamline troubleshooting. Application clean up, reduction in complexity, and improvements facilitates cleaner future development projects and overall maintainability. This project results in an annual savings of more than \$10,000 in State Data Center costs.



Projects

Adult Computer Enrollment System (ACES) Reports

ACES is the DESE Adult Education and Learning Management Information System used to collect and report data regarding participants' enrollment, demographics, student hours, assessment and exit data required by the National Reporting System (NRS). Nineteen Ultimate and Federal reports within the ACES system shall be modified for the addition of the new Complete Language Assessment System – English (CLAS-E) test. Local programs use the Ultimate reports measure their own quality of work and their way of improving performance as well as the method of monitoring their outcomes.

AWARE Quality Assurance (QA) Phase II

VR expressed a desire to have a standalone tool for managing case reviews that would provide them with a way to generate Fiscal Review Sets. The tool will provide an intuitive capability to allow selection of case review samples which eliminates current manual case selection and other labor-intensive selecting and compiling review sets. The tool provides accuracy of data and robust reporting. This data will be used for employee performance reviews and program analysis. Lastly, the tool provides a document repository associated with each review. Planning, analysis and design for a new quality assurance tool was completed as part of Phase I. Phase II is the development.

Food and Nutrition Services (FNS) Application Enhancements

Numerous enhancements will be made to the Food and Nutrition Services' Student Nutrition Program (SNP) application to improve all components of the application. These upgrades will allow for DESE FNS to better serve the Local Educational Agencies (LEAs) through the application, claim, payment, review, and reporting processes. These enhancements will enable compliance with the United States Department of Agriculture (USDA) and State Laws that govern the Food and Nutrition Services program. The enhancements will allow both State and LEA users the ability to view application, claim, and compliance data at-a-glance and access that portion of the system directly, without having to use menus. A Data Analytics function will be added to the system to access dashboards and related analytical data based on applications, claims, payments, and compliance data. An interface will be developed to pull the Temporary Assistance for Needy Families (TANF) and Supplemental Nutrition Assistance Program (SNAP) numbers from the DESE Missouri Student Identification System (MOSIS).

Foundation Formula Enhancements

Numerous modifications to the Foundation Formula application are required as stated by HB1689. In addition to the mandated requirements, other enhancements will also be incorporated to create further accuracy in payments to Charters and Districts. Automating current manual calculation and payment review procedures will result in time savings and effectiveness for DESE staff. Audit trails capturing transactional history will be a key component of the project and future maintenance pages will be developed allowing business users to make necessary changes within the system without ITSD intervention.

Non-Public System Rewrite

The Non Public system maintains information concerning students who are enrolled in education agencies other than public school districts. A re-write of the application will include a new user-friendly interface which simplifies data collection for both internal and public users, new reports to facilitate proper reviews, and further enhancements for compliancy to federal government requirements. In addition, the re-write will provide one source of data input, eliminating current efforts which require the user to log in to multiple systems. ITSD intervention will be reduced, efficiencies will be gained and data quality will be improved.

Educator Certification Phase II Enhancements

The Educator Certification system supports and ensures that all educators practicing in the State are certified. Applications for specific educator certifications are submitted to DESE for review. There is a "DESE Section" of the application which allows the department to approve or deny incoming applications. DESE has identified improvements for this area of the application. This is phase two of a previous project which will complete the enhancement for the remaining twelve online applications in Educator Certification system. The DESE section of the application will yield better data quality, decrease bugs reported, improve business process flow and reduce the risk of human error for DESE staff. Incoming calls will be reduced by an estimated twenty percent.

ePeGS Enhancements

Approximately 21 enhancements across several budget grants in the ePeGS application will take place over multiple iterations this year. These enhancements will allow compliance with certain Federal and State regulations with regards to, but not limited to the collection of Community Eligibility Provision (CEP) and ECSE details, Lease and Lease/Purchase, School Wide Plans, and Homeless data. Automating workflows, redesign for an intuitive and robust user interface and reducing page navigation will reduce problem solving errors for ITSD and DESE by 65 percent. Further, the project will eliminate certain manual data upload times by 50 percent. New SSRS reports will also be part of this project, saving DESE up to 50 hours per week of manual assembling of raw data files.

HEALTH and SENIOR SERVICES

The Department of Health and Senior Services (DHSS) is the leader in promoting, protecting and partnering for health for Missouri.

DHSS Systems

DHSS system development and maintenance is performed by ITSD-DHSS programmers using the following technologies:

- Legacy Programming Technologies: COBOL
- Standard Programming Technologies: .NET, MS SQL, Oracle

DHSS maintains 117 applications in its application portfolio. Below are descriptions of DHSS' most critical systems:

Immunizations System (ShowMeVax)

ShowMeVax is used by health care providers to view, record and track immunizations in the state immunization registry for clients they serve. There are 5,000 users from 1,241 health providers, local public health agencies and schools throughout the state utilizing the registry.

Missouri Electronic Vital Records System (MoEVR)

MoEVR supports registration of Missouri vital events for the department and other users such as funeral directors, attending physicians, medical examiners and birthing facilities.

Public Health Event Detection (ESSENCE)

The Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) system inputs electronic emergency department (ED) data for the purpose of syndromic surveillance. Syndromic surveillance is the use of non-traditional data sources to detect public health events earlier than possible with other methods. Examples of syndromic surveillance data include over-the-counter drug sales, laboratory report orders and absenteeism rates. Missouri conducts syndromic surveillance using electronic hospital emergency department (ED) visits. ESSENCE can also be used for situational awareness during known health events by querying all ED visits for a particular syndrome or by keyword (such as carbon monoxide, animal bite, injury, etc.). There are currently over 400 users of ESSENCE throughout the state who are either public health authorities or staff from hospitals that send electronic emergency room data.

Women, Infants and Children (WIC) Information Network System

The WIC Information Network System allows DHSS to certify and issue benefits, food and nutrition education to categorically eligible women, infants and children.



Accomplishments

Child Care Regulation Information System Enhancements

The Child Care Regulation Information System (CCRIS) is an application which enables staff to manage the licensure and regulation of 9,000 child care facilities, and perform investigations on complaints received on child care facilities. As part of this project, enhancements were made to CCRIS providing DHSS staff the ability to release substantiated complaints to the Show Me Child Care Provider Search portal. Show Me Child Care Provider Search is a public website where anyone can search for child care facilities in Missouri and view related inspection findings, and now can also view any substantiated complaint findings.

Meaningful Use Stage 2 Registration & Onboarding Database

Meaningful Use is a program created by Centers for Medicare and Medicaid Services (CMS) that provides incentive payments to eligible professionals and hospitals who adopt, implement, upgrade or demonstrate use of certified electronic health record technology. The Department of Health and Senior Services is tasked with collecting the registrations of intent from such professionals and hospitals. A web based application automates the previous paper registration process and enhances DHSS' ability to work with organizations in several stages of the Meaningful Use process.

Missouri Electronic Vital Records System (MoEVR) Enhancements

MoEVR supports registration of Missouri vital events for the department and other users such as funeral directors, attending physicians, medical examiners and birthing facilities. Some of the key enhancements to MoEVR have included email notifications to data providers such as physicians, coroners/medical examiners and funeral homes that indicate action is required on a case assigned to them in MoEVR. This effort seeks to expedite the registration of death certificates. Another enhancement was aimed at a reduction in duplicative data entry for funeral homes by providing an export mechanism for funeral home software. Also completed is an enhancement for the electronic collection of newborn pulse oximetry data for use in the surveillance of Critical Congenital Heart Defects (CCHS) in newborns.

Projects

Missouri Electronic Vital Records System (moEVR) Enhancements

Planning for projects is underway with DHSS for enhancements to MoEVR. These projects will move additional services of reporting/registering of vital statistics for marriage, dissolution, and induced termination of pregnancy from the mainframe and into a web application.

Missouri (WIC) Information Network System (MOWINS) eWIC

The Women & Infant Children (WIC) program is transitioning from a paper check benefits system to an Electronic Benefits Transfer (EBT) card solution for Missouri WIC recipients. The move to an EBT solution is expected to expedite the eWIC transaction at the checkout while reducing errors by cashiers. Additionally, the eWIC participant will utilize a personal identification number (PIN) to electronically sign at the time of their transaction. ITSD, DHSS and federal partners will collaborate to make modifications to MOWINS to integrate the EBT functionality. The eWIC enhancement affects approximately 140,000 WIC participants.

Public Health Information Management System (PHIMS)

The Public Health Information Management System (PHIMS) is a continuation (Phase 2) of the Department's larger Public Health Data project and MICA modernization. The overall goal of the project is to develop a common means to receive, validate, process public health data and give access to these data sets for the purpose of determining health status and needs of Missourians. To accomplish this, the development and implementation of a department-wide platform on which all department systems can operate for data dissemination is being created. This moves the department toward achieving standardization of reporting, both to and from the department, implementation of standards consistent with national standards, and standardization of data presentation across all areas of the department. During Phase 1 of the project, a data warehouse was created. Phase 2 of the project is to complete the development of a front-end, data access system to include a public web query interface for use with the newly designed data warehouse.



HIGHER EDUCATION



The Coordinating Board for Higher Education (CBHE), the Missouri Department of Higher Education (MDHE), and the state's institutions of higher education work collaboratively to support a diverse system of affordable, accessible, high-quality educational institutions that demonstrate student learning and development, encourage and support innovation, foster civic engagement, enhance the cultural life of Missourians and contribute to economic growth.

MDHE Systems

MDHE system development and maintenance is performed by ITSD-DHE programmers using the following technologies:

- Standard Programming Technologies: JAVA (EJB 3, JSF, JSP, Struts, JQuery, JavaScript), Crystal Reports, Microsoft Windows Live ID Authentication, .Net

MDHE maintains 11 applications in its application portfolio. Below are descriptions of MDHE's most critical systems:

Customer Relationship Management System

This system tracks visits to MDHE, contacts, requests for speakers and workshop registrations.

Financial Assistance for Missouri Undergraduate Students

FAMOUS is used by the MDHE to administer financial aid for Missouri Students attending Missouri's Private, Public and other nonprofit Post-Secondary Institutions (PSIs). Using this application PSIs request awards and High School Counselors assist students in preparation for attaining grants and scholarships. As of late October, awards totaling more than \$111 million for A+, Access Missouri, Bright Flight and Ross Barnett Scholarship Programs had been distributed to 68,369 students attending Missouri PSIs for the 2014-2015 academic year via FAMOUS.

Program Inventory System

This system is used to maintain a database of demographical information about institutions of higher and continuing education in Missouri, their available course offerings and certificate or degree programs. This database is the foundation for collegesearch.mo.gov, a public-facing web site search used by persons seeking information about higher education offerings throughout Missouri.

Proprietary Schools System

This system is used to obtain student enrollment and exit information for training and courses offered by Proprietary Schools. By definition, Proprietary Schools are for-profit education (also known as the education services industry or proprietary education) operated by private, profit-seeking businesses. Proprietary School personnel and students are able to record student enrollment data and student exit data that can then be used for analysis by MDHE to identify trends, success rates, and overall statistics. There were 14,359 newly enrolled students at 84 different institutions during 2014; data collected from 81 different proprietary schools indicate that 14,268 students exited their enrolled course/program during 2014-15. The application provides useful search tools for both MDHE and Proprietary Schools.

Publications System

The Publications System is an online ordering, fulfillment and inventory system for MDHE publications available to constituents. While many of the publications are available as an electronic version that can be immediately downloaded, some are specialty items which are packaged and mailed direct to the requestor upon receipt of their order. During 2014-15, there were 373,329 items distributed to parents, students and financial aid professionals via this system. Examples of items included: 65,944 copies of The Missouri Source, 26,845 copies of "It's Never Too Early" and 29,564 copies of "Planning for Financial Success".

Accomplishments

Report Standardization

DHE's reports were upgraded and standardized to the SSRS reporting platform. This enterprise platform saves and avoids costs of more than \$25,000 per year in maintenance, licensing, and server reductions.

FAMOUS Minority Teaching

This project fully implemented the application, eligibility and disbursement status reporting processes of the Minority Teaching Scholarship and Loan Forgiveness program into the FAMOUS application. The application will be used by students, institutions and DHE staff. Further phases of work will be done to complete backend processing.

Projects

Content Management System

MDHE will implement a new scanning and imaging system that will streamline activities related to the receipt, distribution, storage, and retrieval of documents related to their ongoing daily activities in support of the Loan Departmental functions.



INSURANCE, FINANCIAL INSTITUTIONS & PROFESSIONAL REGISTRATION

The mission of the Missouri Department of Insurance, Financial Institutions and Professional Registration (DIFP) is to efficiently and effectively encourage a fair and open market for consumer service industries.



DIFP Systems

DIFP system development and maintenance is performed by ITSD-DIFP programmers using the following technologies:

- Legacy Programming Technologies: SYBASE
- Standard Programming Technologies: ASP.NET, VB.NET, MS SQL

DIFP maintains 53 applications in its application portfolio. Below are descriptions of DIFP's most critical systems:

Cash Receipts System

The Cash Receipts System tracks and coordinates incoming revenues and reimbursements with invoices and electronic funds transfer.

Insurance Invoicing System (MIDIS)

MIDIS is used to create, track and maintain 13,883 invoices annually.

Integrated Regulatory Database Systems (IRDS)

IRDS supports the Insurance Division's day-to-day administrative functions and processes, including communications with the National Association of Insurance Commissioners (NAIC).

Optical Imaging System

The Optical Imaging System indexes the data stored in the Professional Registration system and provides electronic document retrieval for all 40 professional boards. This system is currently a repository for over 21 million images with 1,500,000 to 2,000,000 images being added annually.

Professional Registration System

PROMO is used by The Professional Registration Division of DIFP when performing licensing and practice review functions. DIFP's 40 professional boards and commissions license and regulate the activities of approximately 456,000 individuals representing 242 different trades and professions. This system processed approximately 48,000 applications and 233,000 biennial renewals during 2014. Of those 233,000 renewals, approximately 162,000 were performed through the online renewal portion of the PROMO system.

Taxation System

The Taxation System records, tracks and processes the annual tax responsibilities for Missouri insurance companies, surplus lines producers and captive insurance companies.

Accomplishments

DIFP Statistics Web Portal

This project created a public-facing data portal for a variety of insurance-related statistics.

Premium Tax Reporting System Upgrade

This project upgraded the Premium Tax Reporting system by eliminating reliance on Microsoft Access technology.

Regulatory Fee Application Enhancement

A new Form Filing screen with several new forms expanded the existing Regulatory Fee system to assist in complying with a legislative mandate. This enhancement provides the reduction of time spent by department staff by more than half by eliminating a dual entry situation.

Service of Process Application Enhancement

Service of Process (SOP) application project was designed to create greater efficiencies for the DIFP legal department, in processing legal service requests.

Projects

Professional Registration Licensure System

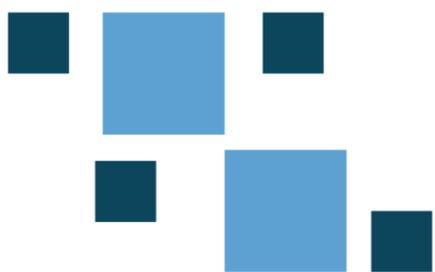
The existing licensure system for Professional Registration went into production in 1999 and serves all 40 boards. The project to implement a modern solution is underway. The goal of this multi-year project is to upgrade the functionality of the system while providing for a more modular approach in meeting the needs of the individual boards. The future system will improve usability for the state's approximately 456,000 licensed professionals and employ more efficient self-service functionality.

Third Party Administrators (TPA) Web Portal

Expansion of the Web Portal, a new component is being added which demonstrates the evolution of the Web Portal project. TPAs will be able to upload their financial data which will reduce data entry time and errors.

Timekeeping

This project will upgrade the department's current timekeeping software to the State of Missouri's enterprise time and attendance system (ETA). Providing a uniform platform and increased architectural environment will benefit the department by increasing efficiency.



LABOR and INDUSTRIAL RELATIONS

The Department of Labor and Industrial Relations (DOLIR) works to promote industry and labor and protect the rights and safety of Missouri's workforce.

DOLIR Systems

DOLIR system development and maintenance is performed by ITSD-DOLIR programmers using the following technologies:

- Legacy Programming Technologies: COBOL, CA Gen, RPG, AS/400
- Standard Programming Technologies: JAVA, DB2, MS SQL

DOLIR maintains 22 applications in its application portfolio. Below are descriptions of DOLIR's most critical systems:

Unemployment Benefits System

This system is used to process unemployment benefit payments to unemployed Missouri workers. The system facilitates prompt payment of unemployment benefits to eligible claimants via direct deposit, debit card, or check as necessary. The system processes Combined Wage Claims (CWC) for unemployed workers who have wage credits in other states, claims for federal workers and former members of the military. It also manages child support withholding, SSN and alien verification, Form-1099s for claimants, the imaging of paper claim forms, work search verifications and waivers, tax withholding requests, adjustments to claims, confidential information requests, and images documents. Within the past 12 months, 144,534 Missouri workers received Unemployment benefits totaling \$348,267,441.13. This legacy mainframe-based system is currently being modernized.

Unemployment Tax System (Contributions & USTAR)

The Contributions (Tax) Application and USTAR are used to handle the collection of Unemployment Insurance (UI) taxes from employers in the state. The system provides a means to establish and maintain accounts for employers, calculates tax rates and makes liability determinations. The system processes quarterly Contribution Wage (CW) reports, payments from employers, adjustments, refunds to employers and benefit charges. Within the past 12 months, an average of 145,431 employers has paid UI taxes quarterly totaling \$624,470,478. This legacy mainframe-based system is currently being modernized.

Workers' Compensation System (AICS)

The Automated Integrated Claims System (AICS) assists in administering the Missouri Workers' Compensation Law and applicable rules. The system captures images and data from required documents such as First Reports of Injuries, Claims for Compensation, Answers to Claims for Compensation, Notice of Commencement/Termination of Compensation, medical records and documents relied upon by administrative law judges in approving Compromise Stipulations of Settlement and issuing awards on disputed cases. Within the past 12 months, 104,542 workplace injuries were reported to DOLIR. Administrative law judges approved a combined total of 21,214 Stipulations of Settlement and awards.



Accomplishments

Clear to There

This service is used to schedule and record the UI Appeals telephone conferences and interfaces with the Unemployment Benefits system. It reduces the amount of dropped phone calls and provides online administrative functionality during a hearing increasing referee's productivity.

Regional Call Center (RCC) Virtual Workbasket Consolidation

Online claims submitted across the state for Unemployment were combined into a single virtual workbasket allowing the workload to be more evenly distributed among the five RCCs in the State of Missouri. This resulted in increased productivity and decreased processing times, thereby eliminating untimely payments to claimants and ensures compliance to the US Department of Labor's (USDOL) Federal standards criteria.

UI Auditor Google Maps

This consists of Maps that are utilized by UI Auditors for identifying Employers owing delinquent UI Tax, re-Districting DOLIR's districts, and a trip optimizer for mapping out field audit routes.

Projects

Unemployment Insurance Modernization (UIM)

The current Unemployment Insurance Benefits and Tax Systems have served the state for many years (parts of these systems are over 40 years old), however the risks associated with continuing to use the system have increased over time. These risks stem from its poor documentation, complexity, and use of legacy technologies that make it increasingly difficult to support and modify. The system also inhibits DOLIR from fully automating and modernizing its business processes.

UIM began in February 2013. Expected results of the project include:

- **Improved services to Missouri's employers and claimants, including reduced processing times**
- **Improved data integrity and a reduction in claim and contribution processing errors**
- **Improved productivity for DOLIR staff due to increased automation**
- **Reduction in paper**
- **Improved compliance with federal and state regulations**
- **Reduced mailing and returned mail**

Cashiering / Deposits

This project will implement intelligent, high-speed scanners providing optical character recognition technology to read Employer Contribution checks. Check 21 software will be used to send images of checks directly to the bank and provide improved automatic deposits.



MENTAL HEALTH

The Department of Mental Health (DMH) provides prevention, treatment and promotion of public understanding for Missourians with mental illness, developmental disabilities and drug, alcohol and gambling addictions.

DHSS Systems

DMH system development and maintenance is performed by ITSD-DMH programmers using the following technologies:

- Standard Programming Technologies: C#.NET, VB.NET, ASP.NET, MS SQL

DMH maintains 129 applications in its application portfolio. Below are descriptions of DMH's most critical systems:

Customer Information Management, Outcomes and Reporting

CIMOR is an enterprise system covering a wide-range of mental health services for DMH and its contracted providers. It is a web-based .Net/SQL Server application containing nearly 1000 pages that uses several Microsoft BizTalk components, including message translation, message routing, message orchestration, business rules engine and batching processes. CIMOR:

- Primarily serves to manage DMH program enrollment and is a repository for billing and reporting data
- Stores records of clinical data such as patient demographics, diagnoses, attending physicians, bed management/assignment
- Provides a service matrix which includes procedure code modifiers, diagnosis groups, practitioner groups, base rates and billable payer types
- Provides for the intake and tracking of consumers, maintenance and tracking of expenditures, recording of clinical encounters and grant management
- Generates bi-monthly claims (Medicaid billing) for payment and claims adjudication
- Provides administrative functions such as gathering Medicaid identification numbers and eligibility dates for consumers
- Provides for Event Management Tracking (EMT), such as medication errors, abuse/neglect, restraints, elopements, and much more. Information regarding investigations and decisions is also tracked.

CIMOR bills professional claims for Medicaid, processing over \$1 billion annually which is 89% of the department's total billings.

Claim Builder (CB)

CB creates and submits DMH Facility Healthcare Claims to Medicaid, Medicare and insurance companies. CB submits and processes Medicaid Professional, Medicaid Inpatient, Medicare Professional, and Medicare Inpatient Ancillary claims.

CB is loosely connected to CIMOR and uses the same electronic data processing as CIMOR for sending and receiving HIPAA Compliant Claims and Electronic Explanation of Benefits (EOB). CB creates and submits claims for 34 DMH facilities. CB bills approximately \$114 million annually which is 10% of the department's total billings.



MetaCare Enterprise RX

MetaCare RX is a pharmacy management and patient safety system presently installed at 7 Psychiatric Hospitals in DMH. MetaCare RX is a closed-loop medication ordering, administration, and patient safety system that links pharmacists, physicians, and nurses to improve the delivery of patient care. MetaCare provides safeguards at every step where medication errors might occur: prescribing, transcribing, dispensing, administering, and monitoring.

Missouri Employee Learning System (MELS)

MELS is an enterprise DMH Learning Management System. The technology is open source software called Moodle (Modular Object-Oriented Dynamic Learning Environment) that provides educators, administrators, and learners with a single, robust, secure, and integrated system for personalized learning environments. In addition, there is an add-on component called ELIS (Enterprise Learning Intelligence System) that is designed to enhance Moodle for creating and managing learning programs. DMH adopted MELS in February 2013 and now supports 8,000+ users for eLearning needs. MELS supports mandated requirements for Training Documentation, Interpretive Guidelines, and Survey Procedures. MELS also supports critical training mandates for things such as safety training.

Accomplishments

Behavioral Health Data

New GIS mapping features were added to the existing website for the Missouri Behavioral Health Data website, which essentially simplified the interface and displayed the information on Missouri maps with export features.

Customer Information Management, Outcomes and Reporting (CIMOR)

CIMOR is the DMH core system for patient demographics and billing. Since June, 2014, the CIMOR application development teams completed 10 projects consisting of 16 monthly production releases delivering 374 requested enhancements.

Enterprise Content Management (ECM)

This four year project kicked off in 2013. During this project ITSD will work with DMH to implement a document management solution for the Human Resource departments in 20 DMH facilities — 2 facilities were done prior to July, 2014, 11 have been completed since July 2014 and 7 remain to be implemented. The system captures paper images and electronic files to centralize and secure them in one electronic location. There were a number of factors driving the initiative to acquire an ECM solution including:

- Escalating costs of maintaining antiquated mid-range hardware (AS/400)
- Limited ability of existing systems to scale as records continue to grow
- Need for a stronger records and retention management solution for maintaining HIPPA compliance

Home and Community Based Setting (HCBS) Analysis GIS Map

The DMH Division of Developmental Disabilities (DD) currently administers five 1915 © waivers that provide services and supports to approximately 12,800 individuals with intellectual and developmental disabilities. The division is required to conduct analysis of current HCBS settings to identify any necessary steps to ensure compliance within the timeframe set forth within the rule. ITSD was able to produce a GIS Map that allows the Division of DD

to quickly identify those settings requiring on-site review and that might be considered for heightened scrutiny review based on their current location as defined in HCBS rule.

ICD-10 Remediation

This project was federally mandated by Centers for Medicare & Medicaid Services (CMS) to standardize and update diagnosis and inpatient procedure coding for all patients covered by the Health Insurance Portability Accountability Act (HIPAA). The remediation allows DMH to continue producing Medicare and Medicaid claims for all healthcare services and inpatient procedures performed on or after October 1, 2015.

Integrated Risk Assessment (IRA) 3.0

IRA is a repository of information necessary to make key risk management decisions and treatment decisions involving clients residing in forensic facilities within Department of Mental Health. This project was a complete re-write of IRA 2.0, bringing it up to technical standards and revamping the entire assessment process to support critical risk.

Missouri Employee Learning System (MELS) Contractor Data

This project incorporated training records for OA employees and contractor/volunteer staff into a repository of training records, which is subject to review by the Joint Commission in Behavioral Health.

Timekeeping System

This project started in 2013 and is slated to be completed in early 2016. ITSD DMH successfully implemented a new timekeeping system at 5 Behavioral Health Facilities so far, with 2 left to implement. This project, in part, allowed the AS/400 to be retired.

Projects

Developmental Disabilities Utilization Review

The Utilization Review Budget (UR Budget) is a highly manual process. An analysis project was completed in 2014 to document the requirements and preliminary design for incorporating the UR Budget including services, amounts, providers and a workflow for service and overall budget approvals into CIMOR and related reports as appropriate. In 2015, the functionality will be incorporated into CIMOR. This project will increase accuracy by reconciling the budget to the actual services input and produce increased efficiencies by copying the previous year's budget and modifying accordingly rather than starting from scratch. The potential annual cost savings is estimated to be \$211,120 in staff time. This means the project will pay for itself twice the first year after implementation.

Electronic Medical Records System (Chart Assist)

The Nursing Flow Sheets module will be rolled out to the three facilities in 2016. A final core module, Bio-Psycho-Social Assessments is currently in development. Lastly, a Quality Management section for reporting is to be added as well. After completion of these features, the system will be comprised of five core modules and other functionality that provides DMH interdisciplinary treatment teams the ability to document treatment, measure progress, and retain vital information necessary for treatment.

Excellence in Mental Health - Prospective Payment System

The Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Mental Health Services (CMHS) accepted applications for fiscal year (FY) 2016 Planning Grants for Certified Community Behavioral Health Clinics (CCBHCs) (Short Title: CCBHCs Planning Grants). The purpose of this program is to support states to certify clinics as certified community behavioral health clinics, establish prospective payment systems for Medicaid reimbursable services, and prepare an application to participate in a two-year demonstration program. Populations to be served are adults with serious mental illness, children with serious emotional disturbance, and those with long term and serious substance use disorders, as well as others with mental illness and substance use disorders.

This project will modify Mental Health's Customer Information Management, Outcomes and Reporting (CIMOR) system to support the Prospective Payment System option CC PPS Alternative (CC PPS-2). Provider billing functionality within CIMOR will be expanded to support the PPS monthly option by adding a new procedure code translation matrix with outlier cost calculation support. Additional PPS management end-user web-screens will be added, as well as, some modifications to core batch claim and remittance processing, batch invoicing and business rules, and workflows. The Data Warehouse and Financial Data Mart will also be enhanced to support PPS data collection, reporting and analytics for cost and reimbursement analysis, and service quality reporting. The proposed system enhancement architecture limits application code changes to the department's CIMOR system. Missouri Medicaid's MMIS system will not require core modifications – only operational program parameter changes to support the second phase Demonstration Program.



Immunizations

DMH has a need to track immunizations for both employees and consumers in a consistent manner across all facilities. This is a critical process necessary to control infection in the hospital setting and meet Joint Commission accreditation criteria. At present, each DMH facility tracks immunizations using different software and in some cases, Excel or paper and pen. By implementing this new system in a consistent, standard way, facilities can track immunizations, tests, and results in a precise manner with ticklers for follow up tests and immunizations. Additionally, by tracking the lot and manufacturer data, infection control staff will be able to respond faster to product recalls. This system will also standardize the collection and presentation of infection control data across 15 DMH inpatient facilities. It will further allow for aggregation of data to support the movement of employees or consumers to other inpatient environments.

Inpatient Claims Management (ICM)

In August 2013, a Disproportionate Share Hospital (DSH) audit was performed on the inpatient and professional claims processed by the Claim Builder system. There are two key findings that may have potential financial implications in the future if not resolved: a) 3rd party eligibility verification, and b) Medicare Part A billing/automation. In response to this problem and to meet the most immediate needs, a new system will be produced to automate Medicare Part A billing and the Remittance Advice (RA) retrieval/reporting. This new system also becomes the foundation for future enhancements to other Claims Processing at Mental Health, potentially replacing the existing Claim Builder system.

Integrated Risk Assessment 3.1 (IRA)

In the above accomplishments, it is noted that IRA is a repository of information necessary to make key risk management decisions and treatment decisions involving clients residing in forensic facilities within Department of Mental Health. This system was first released in 2015. A second release (3.1) is underway that includes adding a new module to add assessment elements necessary for managing clinical risks associated with sexually violent predators. In addition, reporting capabilities will be enhanced and context sensitive help will be available.

MetaCare RX eMAR and CPOE

The functionality of the META Pharmacy system will be expanded in the next year. Electronic Medical Administration Record (eMAR) and Computerized Physician Order Entry (CPOE) features are being implemented in several of the DMH facilities. Implementation of eMAR and CPOE will reduce potential medication errors overall by insuring that the right medication is given at the right dosage at the time to the right patient; provide for faster, more efficiently delivery of healthcare for patients; improve decision-making with accurate documentation; computerize the medication order process; allow for cross-checking with existing medication orders for any drug interactions, duplications, or allergy interactions at the point of entry resulting in immediate correction; allow coordination with evidence-based medications that are on the formulary; and provide better overall reporting to improve patient care.

NATURAL RESOURCES

The mission of the Department of Natural Resources (DNR) is to protect, preserve and enhance Missouri's natural, cultural and energy resources.

DNR Systems

DNR system development and maintenance is performed by ITSD-DNR programmers using the following technologies:

- Legacy Programming Technologies: Lotus Notes, Microsoft Access
- Standard Programming Technologies: C#.NET, Java/Websphere, MS SQL, DB2

DNR maintains 110 applications in its application portfolio. Below are descriptions of DNR's most critical systems:

Air Quality - Missouri Emissions Inventory System (MoEIS)

MoEIS is a JAVA system that manages information about regulated facilities, enforcement classification, operating permit type and operating status for air quality. The system allows regulated facilities to input emissions data required by the EPA.

Campground Reservation System (CRS)

This third party online transactional system is used by the public to reserve State Park campgrounds and process online payments.

ePermitting System

ePermitting allows the public to apply for, pay for and receive Land Disturbance permits from DNR via an IBM J2EE JAVA and DB2 web-based system.

Environmental Sampling - Laboratory Information Management System (LIMS)

LIMS stores data from sample analysis from Environmental Services Program (ESP) testing of Missouri waterways, air and soil for more than 660 different compounds, including E. Coli. The data is provided to the public via the dnr.mo.gov website and is used to determine waterway/beach closures. This is a third party application with data residing in SQL.

Field Inspections - Assistance Compliance Enforcement

ACE is a Microsoft .NET system that enables the Division of Environmental Quality to track assistance to facilities via environmental visits, investigation of environmental concerns, inspections for compliance and enforcement to return facilities to compliance.

Hazardous Waste - Site Management and Reporting System

SMARS is a system used by the Hazardous Waste Program to register and track hazardous waste sites and clean-up operations across the state. This application is a candidate for conversion to a web-based application. It is currently a Microsoft Access solution with data residing within Access itself.

Soil & Water Quality - Missouri Soil & Water Information Management System

MoSWIMS tracks an annual \$40 million cost-share program for soil conservation efforts within the state. Districts process contracts more efficiently and landowners see a faster turnaround on receiving their reimbursement checks. This JAVA system was used by the State of Missouri's Drought Response team during the 2012 drought.



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Solid Waste Management - Fees and Taxes (FAT)

FAT is an application used by the Hazardous Waste Program to track fees and taxes on hazardous waste generators, haulers and others dealing with hazardous waste. This application is a candidate for conversion to a web-based application and expansion to additional programs. FAT is currently a Microsoft Access front-end solution with data residing in DB2.

Water Quality - Missouri Clean Water Information System (MoCWIS)

MoCWIS is used by DNR to permit, track and monitor facilities that discharge to waters of the state. This JAVA system also tracks modifications to the state's water quality standards.

Weatherization (MoWAP)

The Division of Energy currently manages grant funding dedicated to assisting low-income families with weatherizing their homes. The Missouri Weatherization Assistance Program (MoWAP) allows staff to review invoices for funds and approve payment through SAM II. MoWAP is a web based application written in JAVA. The Division of Energy was merged into the Department of Economic Development in 2013; however MoWAP is currently still maintained by ITSD staff supporting DNR.

Well Information Management System (WIMS)

WIMS contains information on location, construction and some geology for most wells constructed after October 1986 in the state. WIMS is a web-based JAVA system.

Underground Injection Control (UIC) Management System

UIC contains information on the location, compliance activities and status of Class II and Class V underground injection wells in the state. UIC is a web based .Net application.

Accomplishments

Hazardous Waste Program eReporting

This eReporting solution was a stipulation of House Bill 1251 allowing large quantity hazardous waste generators to submit reports annually, rather than quarterly, if they submit reports through this application. This new system directly benefits the department's stakeholders through the reduction of time and expense for report submittal while also saving DNR \$15,000 annually in estimated staff time.

ICIS-NPDES Batch Release 2 and 3

This project enhanced an existing data flow of ICIS-NPDES data to the EPA under the control of DNR's Water Protection Program. The Release I flow transmitted facility, permit and Discharge Monitoring Report data contained in DNR's MoCWIS (Clean Water Information System). Release II and III incorporated inspection, program reports and enforcement data families also contained in MoCWIS into the existing Release I data flow. Manual entry of this data into a separate EPA system is no longer required of DNR staff and has improved the accuracy and timeliness of data submission to the EPA.

Public Drinking Water Testing Fees

This project redesigned the process for recording, tracking and reporting of fees involved in the testing of Public drinking water systems. The redesigned process integrated the program's business workflow and data requirements within another web based application used by two other DNR programs –Water Protection and Air Pollution Control –for fee collection. This process is saving DNR 20 staff hours per week.

Well Driller Information Management System Online Testing (WIMS OT)

WIMS OT provides online examination / online testing (OT) for drilling industry contractors to become permitted (licensed) through DNR's Online Well Information Management System (WIMS) under the direction of DNR's Missouri Geological Survey division. The regulated drilling industry will no longer be required to take the exam in person in Rolla, MO eliminating travel expenses and time commitments of those located across the state or out of state.

Projects

Bankruptcy Proceedings Tracking System

DNR does not have an organized or automated process in place to adequately track bankruptcy proceedings for companies that have a business relation with the department. Currently, individual and duplicative processes make tracking efforts manually intensive and rely on staff memory, calendar reminders and other unautomated means to track deadlines, updates and other important information. ITSD is partnering with Results Engineering to implement workflow components using the OnBase document management system to create a consistent and organized electronic tracking process. Benefits including adding accountability to the department on due dates for work efforts regarding bankruptcies and the creation of a central repository for all associated data/documentation to streamline coordination with the Attorney General's Office to pursue claims on the behalf of DNR and the State of Missouri.

Environmental Geology Information Management System (EGIMS)

EGIMS is currently a MS Access database used to monitor geohydrologic evaluations of potential liquid waste and solid waste permitting sites. Information stored in this application is used by other programs within DNR for permitting purposes. This project is a redesign of the existing Access system to a fully web based Java system incorporating functionality for a public interface for applicants to submit information online rather than paper, view historical records online that previously required the applicant to call the division for a response, and the creation of a mapping interface for applicants to map out the location of their proposed projects. This project is expected to save the Department \$31,000 annually in staff time primarily through the reduction in data entry, validation of paper submissions and pre-site evaluation data gathering that will be contained in the new system..

Grant Tracking System

DNR currently tracks over 100 grants annually. There currently is no centralized tracking system in place to allow for proper planning and coordination. Each division within the department has individual informal tracking processes in place through MS Access desktop applications, spreadsheets and paper documentation making coordination manually intensive for DNR management to provide oversight on grant cycles, due dates, budget periods and grant review. A formal, complete system is needed to provide DNR management with a complete view of the grant portfolio and provide accountability to reporting requirements and deadlines. ITSD is reviewing Software as a Service (SaaS) grant tracking modules as well as custom developed grant tracking systems to assist DNR in this effort.

Master Data Management (MDM) Project

DNR's historic approach to data management has been highly compartmentalized into hundreds of separate applications with data stores ranging from complex modern enterprise data systems to Access databases, Excel spreadsheets and handwritten logs. Data cannot be easily shared internally due to the varying technologies and is highly duplicative in many cases. The cost of maintaining legacy applications that are similar in nature and collect similar data that cannot be linked together is at the expense of investing in modern technologies. By developing an integrated, geographic-based information management system that is the backbone for core regulatory and environmental functions, the agency can streamline regulatory processes and provide enhanced services to customers as well as more easily provide appropriate environmental information to the general public.

MoCWIS Mapping Enhancement Project

MoCWIS (Missouri Clean Water Information System) is used to issue permits to facilities that discharge waste water. As such, the majority of permits are for the discharge of treated wastewater from domestic and industrial facilities. The application process is completely manual with paper based applications that require multiple steps and staff to process. Currently, staff uses a variety of GIS mapping tools to manually verify site locations for county, township and other required information and then manually enter this into MoCWIS. Mapping functionality will be extended to add a GIS editor within MoCWIS to eliminate the use of other GIS tools. Data entry and GIS validation will be reduced by 20 minutes per application. 4,500 applications are processed each year equating to over \$29,000 annually in staff time savings.

Regulatory Action Tracking System (RATS)

The current version of RATS is a MS Access database used to track departmental regulatory rule development activities. The application is not accessible to all department staff and the Access platform is unable to meet needed business requirements. The project is a redesign of the existing application to a web based Java system to meet compliance with House Bill 1135 and Senate Bill 504, to be used department wide to better communicate the impact of each rule on agency programs and minimize the steps needed to publish rulemaking activities to the web to provide information about time-sensitive opportunities for public participation.

State Parks Capital Improvements Project

The Division of State Parks (DSP) is tasked with managing all aspects of Capital Improvement (CI) projects for the Parks system. The current IT solution for managing these projects is comprised of legacy Access and Lotus Notes applications. ITSD is partnering with DSP to utilize the Innotas project management software tool help DSP better manage capital improvement projects. In addition, a modern .Net application is being developed to interface with Innotas for project requests and funding. Thru the use of Innotas and the new web-based solution, better visualization of capital improvement projects through built in reporting and dashboards will be available to agency and division executives, as well as an easy to use modern solution to better manage all the facilities in the DSP system.

State Parks Trail Inventory System

The Division of State Parks (DSP) currently uses a MS Access database for the information management of data related to the extensive Parks trail system within the state. Trail information is collected onsite and manually updated and processed internally. In addition, geospatial files, PDF documents, maps, photos and other files are created and stored separately and linked to the existing application. ITSD and DSP are working together to develop and implement a modern, mobile responsive, web-based application that incorporates GIS and content management functionality with internal and public features. The public trail component will allow users to receive up-to-date trail information, printable trail maps and other trail amenity information. Once completed, the project is expected to reduce the time needed to enter, load, update and link data related to a trail by 50 percent. This equates to \$15,000 annually in staff time savings for trail management activities including data entry, map creation, form completion, measurement calculations and related functions.

State Parks Ranger Records Management System

The Division of State Parks (DSP), ITSD and the Missouri State Highway Patrol (MSHP) are partnering together for the use of MSHP's record management system (RMS) by DSP Park Ranger personnel. This project will allow for the creation of a specific DSP instance within the MSHP RMS to assist DSP in managing information related to core law enforcement activities. Currently, DSP Park Rangers must return to their base physical location to update the current system in use. They now will have the ability to update and receive information related to these activities while patrolling including the ability to generate electronic citations, real-time incident reporting and allow the MSHP to integrate DSP into their Computer Aided Dispatch (CAD) system.



PUBLIC SAFETY

The Department of Public Safety (DPS) coordinates with public and private entities to assist with crime prevention and investigation, protect against threats of terror, ensure public safety and provide emergency response, care and recovery assistance.

DPS Systems

DPS system development and maintenance is performed by ITSD-DPS programmers using the following technologies:

- Legacy Programming Technologies: COBOL, CA Gen
- Standard Programming Technologies: .NET, MS SQL

Not included in this report are activities and systems supporting the Missouri State Highway Patrol (MSHP), the Missouri Gaming Commission and the Missouri National Guard – all affiliated with DPS, but outside ITSD and IT consolidation. DPS maintains 72 applications in its application portfolio. Below are descriptions of DPS' most critical systems:

Alcohol Licensing System

The Alcohol and Tobacco Control (ATC) Liquor License System tracks license information including owners, financial, legal description, violations, tax collection, keg registration, inspections, primary source and more. This AS/400 COBOL based system is being modernized. This system currently tracks 31,400 active liquor licenses. During FY 2015, it was used to renew 22,751 licenses.

Alcohol Sales Excise Tax ePayments

ATC currently collects over \$36 million in excise tax revenue each year and licenses 1,226 solicitor and manufacturer licenses and 202 wholesaler licensees that report liquor shipments made and received each month. In addition, there are 1,167 wine direct shipper licensees who are required to file an annual excise tax report.

Computer-Aided Dispatch and Records Management System

The Missouri Capitol Police (MCP) Computer-Aided Dispatch and Records Management System (CAD/RMS) is a Visual Basic application designed to help dispatch MCP resources to the daily activities in and around the Capitol. This system is used to track 45,000 calls and activities annually.

State Emergency Management Agency WebEOC System

WebEOC provides situational awareness to SEMA and its partners around the state. SEMA uses this application to manage their response to events around the state and region. Local agencies will use this system to report their status during an event with up-to-date information. The information gathered will be disseminated to the agencies and organizations needed to provide support and coordination.

WebGrants System

DPS currently uses the WebGrants application to manage up to 19 separate grants. In FY15, there were 862 awards made to 377 agencies of approximately \$29,700,000.



Accomplishments

Veteran Benefit Application System

The Missouri Veteran Service Officers (VSOs) provide counseling and assistance to thousands of veterans and their dependents throughout the State. VSOs use the new benefit system (eVetAssist) to help veterans file their claims electronically with the Veterans Administration and the State of Missouri.

Veteran Homes Electronic Health Records System

The Missouri Veteran's Homes converted from a paper driven to an electronic health records system. The new system provides centralized storage and management of health care information and point-of-care kiosks for accurate and real time resident care at or near the bedside, and documentation of medication administration.



Projects

Alcohol & Tobacco Control Licensing System Modernization

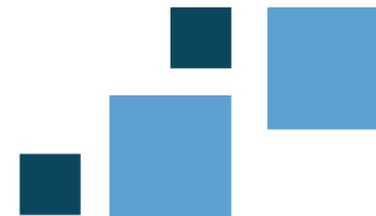
Alcohol and Tobacco Control currently use an AS/400 developed system to manage all of the liquor licenses and tobacco enforcement in the state. Development of a new system will move the management of the system to a web-based system. This will allow the licensees in the state to do business with ATC electronically, eliminating the need for a paper process. Processing of an application will be drastically reduced. Collection of payments from the licensees will be immediate.

Crime Victims Compensation System Modernization

The CVC program financially assists people who have sustained physical or psychological injury as a result of a violent crime by paying for reasonable medical and counseling expenses as well as lost wages if the victim was gainfully employed on the crime date. The current system is based on an AS/400 legacy system with a Microsoft Access database collecting additional information. The new system will be a web-based system allowing victims and doctors quick access to file claims and check a claim status.

Fire Safety Inspection System

Initially focused on the inspections of child care and long-term care facilities, this project would develop a robust, web-enabled inspection system providing online/offline capability supporting the Fire Safety Unit with timely response to inspection requests. The system has potential for integration, and information sharing between agencies such as Health and Senior Services, Social Services, and Mental Health.



REVENUE



The mission of the Department of Revenue (DOR) is to facilitate the proper functioning of state and local government by accurately and efficiently collecting and distributing state and local revenues and to support public safety by effectively administering laws related to motor vehicle sale and registration and driver licensing. The Department accomplishes this mission by following the law; fostering innovation in its operations; developing cooperative relationships with other public and private entities; clearly communicating with the public; and treating everyone fairly and with respect.

DOR Systems

DOR system development and maintenance is performed by ITSD-DOR programmers using the following technologies:

- Legacy Programming Technologies: COBOL, IDMS
- Standard Programming Technologies: .NET, MS SQL

Not included in this report are activities and systems supporting the Lottery Commission – affiliated with DOR, but outside ITSD and IT consolidation. ITSD-DOR maintains approximately 150 applications in its application portfolio. Below are descriptions of DOR's most critical systems:

Corporate Income Tax Systems (COINS, BAMS, CAFE & Corporate MeFile)

The Corporate Income Tax System (COINS) processes all corporate income and franchise tax returns for DOR. This system accepts data received electronically from various sources, performs audit checks and alerts DOR staff as to any errors encountered. The system produces all billings, refunds, notices and adjustments for all corporations filing tax returns in the state. In the past year, more than 149,000 returns were processed. The Batch Monitoring System (BAMS) and Corporate and Franchise Entry (CAFE) are associated data entry systems. Corporate MeFile is the electronic filing system for corporate income tax.

Delinquent Revenue Collection System (CACCS)

The Computer Assisted Collections System (CACCS) centralizes delinquent revenue collection functions for all major taxes, including sales, use, corporate, individual and withholding taxes. This system is used by DOR to document contacts from delinquent taxpayers, set up payment plans, issue enforced collection notices, and produce garnishments. There are over 1,430,000 delinquent cases maintained in the system.

Driver Licensing Systems (MODL, MEDL & Associated AAMVA Systems)

The Missouri Driver License System (MODL) is the central driver license record keeping system that contains license issuance, withdrawal, convictions, suspensions, revocations, disqualifications, reinstatements and driver status information. The system maintains over 7,022,496 driver and non-driver license records. The Missouri Electronic Driver License System (MEDL) is the mechanism for processing driver and non-driver license applications through the DOR. There are several associated systems primarily maintained by the American Association of Motor Vehicle Administrators (AAMVA) that are required to be checked prior to issuing a driver or nondriver license.

Individual Income Tax Systems (MINITS, SpeedUp & Individual MeFile)

The Missouri Individual Income Tax System (MINITS) processes all individual income tax and property tax credit returns. This system merges data received from three electronic sources, performs audit checks and alerts DOR staff to errors on

filed documents. This system issues notices and refunds and facilitates adjustments on all individual income tax and property tax credit returns filed. There were more than 3,100,000 returns processed through this system during the past year. SpeedUp is the data-entry system for MINITS. Individual MeFile is the electronic filing system for individual income tax.

Motor Vehicle Systems (GRS, Marine, Titles & TRIPS)

The major motor vehicle systems include GRS, Marine, Titles and TRIPS. The General Registration System (GRS) maintains the current ownership and titling of vehicles and provides current and historical information on the registration of motor vehicles. The Marine system maintains the titling and registration of marine and watercraft vehicles and titles boats and motors by generating and distributing legal certificates of ownership. The system provides information regarding motor vehicle titling and lienholders, prints the ownership document and records the lien information for the citizen. The Title & Registration Intranet Processing System (TRIPS) is the mechanism for web-based data capture of motor vehicle registration and titling transactions from the license offices. There are more than 11,961,542 records in GRS.

Sales and Use Tax System (MITS, MOST & BusEfile)

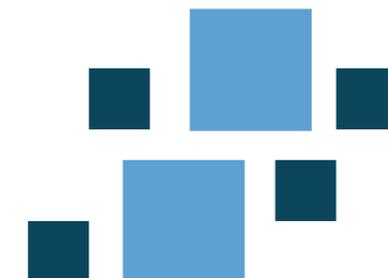
MITS is the registration system for corporations, employers and businesses required to file sales or use tax. MOST processes all sales and use tax returns filed by Missouri businesses or companies doing business in Missouri. The system processes electronic and paper returns and payments, completes audit checks on the data filed and initiates the required refunds, credits, billings and adjustments as necessary. In the past year, this system processed more than 600,000 returns.

Tax Compliance System

The Tax Compliance System (TCS) includes an Enterprise Data Warehouse (EDW), Case Audit Management System (CAMS) and reporting. The system is used by auditors to manage cases. The system is also used extensively for non-compliance identification and resolution and has generated \$619 million in additional revenue since its inception in 2005. Additionally, SSRS and WebFocus are used to generate a wide range of reports from the EDW. The EDW is a Teradata product utilizing its own Database monitoring system (DBMS), housed in a distributed environment provided by Teradata. CAMS is a customized vendor-supported application that uses the EDW as well as its own SQL database. CAMS mobile functionality allows the auditors to use all of the system while at the audit site, then synch the new and revised information back to the case stored on the network without duplication of effort.

Withholding Tax System (WITHTX)

The Withholding Tax System (WITHTX) processes all Missouri withholding tax returns. This system produces billings, notices and adjustments for businesses required to withhold and remit Missouri income tax for their employees. This system also interacts with the state accounting system to issue refunds on tax over-payments. This system processed more than 1,268,555 returns in the past year.



Accomplishments

Commercial Driver License (CDL) Permit Rule, HB103

Commercial Driver License (CDL) Permit Rule implemented the following enhancements: new standardized CDL restriction codes and an enhanced process for issuing Commercial Driver Licenses and Permits. The current CDL letter restriction codes were converted to the new American Association of Motor Vehicle Administrators (AAMVA) standardized codes as defined per AAMVA state procedures manual. This impacted approximately 12 restriction codes. Notices were sent to the licensees that were impacted by this change. The enhancements for issuing CDL's include: verification that the licensee has held a valid Missouri base license in order to be eligible to apply for a Commercial Driver Permit, verification that the licensee has had a valid CDL Permit in the same class or higher class for a minimum of 14 days prior to license application, and adding two optional skills test waivers, Farm-related Services Industry CDL Waiver and Military Skills Test CDL Waiver. This project impacted the following Department of Revenue systems; Missouri Driver License system, the Missouri Electronic Driver License system, the Missouri AAMVA Interface system, and the Central Driver Information System. Extensive testing was conducted with AAMVA and MorphoTrust (the company that prints the Driver License documents) in addition to coordination of implementation efforts with the two entities.

iTrack Enhancement

An enhancement to ITSD's inventory tracking system (iTrack) added the physical location information to each item. This provided capabilities for searching and reporting of inventory items by physical location, including region, county, state, city, address, floor and room. It also added the ability to assign an attribute to each item to track its status. This enhancement will give the state the ability to report items by location and/or status in an accurate and timely manner. Prior to this enhancement, manual reports were compiled using multiple data sources and combined to provide the desired results. These various inventory reports were taking individuals between 4-16 hours of manual processing per report. They will be able to produce the reports within minutes with the added fields and functionality included in this project.

Non-Driver ID, Department of Corrections

The system replaced a legacy vendor supported system. The system creates non-driver IDs for offenders upon release. The objective was to implement the new system on new hardware and eliminate the costs of a contractor-supported legacy system. Enhancements included automating many manual processes and transferring data from DOC to DOR.

Personalized Plates - Electronic Notification

The Online Personalized Plates Renewal System (OPPRS) and the Personalized Plate Review System (PPR) were enhanced to capture email address information as the user submits their OPPRS request, transfer that information to the PPR system which then

uses that information to send electronic mail notifications when a personalized plate request is accepted. Prior to this enhancement, the PPR system would create a file of approved requests and transfer that file to the mainframe for notices to be created and mailed to the citizens. This process took a minimum of 3 days for the notice to leave the Department. This email notification process provides the citizen with next-day notification.

Tax Amnesty

The 2015 legislative session passed House Bill 384. This bill includes provisions for an offer of amnesty from the assessment or payment of all penalties, additions to tax, and interest with respect to unpaid taxes or taxes due on or before December 31, 2015 under RSMo chapters 143, 144 and 147. ITSD worked closely with the Department of Revenue to implement a process that met the requirements of House Bill 384 as they relate to tax amnesty. The project included the following ITSD systems: Missouri Individual Income Tax System (MINITS), Missouri Sales Tax System (MITS), Corporate Income Tax System (COINS), and Withholding Tax System (WHTTX). Amnesty letters were mailed to eligible Missouri taxpayers, and system modifications were made to ensure that amnesty payments can be processed and tracked correctly.

Tax Credit Annual Reporting Application

This new system provides the Tax Credit Accountability Annual Report that tax credit recipients are required to file. The system automated database entry of paper forms that were mailed to the state. ITSD developed a modern, responsive online application allowing tax credit recipients to electronically submit their own reports. The system also provides a streamlined interface that allows DOR to approve or deny reports and carry out other administrative functions. The new self-reporting online application saves DOR 500 hours of data entry each year. In addition, tax credit recipients are offered a more convenient and less time-consuming method of meeting their annual reporting requirements. The system provides a searchable public database of the filed and approved reports, enhancing accountability and public access.

Titles and Registration Intranet Processing System (TRIPS) and Temporary Registration Permit Application (TRPA) Enhancements, SB456, 90 Day Permit

Senate Bill 456 required changes to the Temporary Registration Permit Application (TRPA) and Title and Registration Intranet Processing System (TRIPS) to allow motor vehicle/marine qualifying dealers to issue a 90-day permit in instances where the title was not in the dealer's possession at the time of sale. The applications were altered to capture the dealer's choice of a 30-day or 90-day permit and allow the creation of the proper permit accordingly. Only motor vehicle and marine dealers who hold a bond of \$100,000 are allowed this option. The changes permit dealers to sell vehicles awaiting titles without the consumer potentially having to incur penalty fees.

Projects

Dealer System Replacement

The current dealer system was developed by a vendor who has since gone out of business, leaving minimal support for the system. Performance and print issues have arisen due to the current system's reliance on printers reaching their end of life. The new system will include functionality to allow Missouri automobile dealers to submit applications online and renewal requests electronically.

Driver License Practice Test Mobile App

A new mobile application will allow citizens to prepare for a Missouri driver license test with mobile devices.

Enterprise Content Management (ECM)

The intent of this project is to migrate the DOR ECM system to a supported platform, thus reducing system failure risk. The new Hyland system will provide a platform to create new opportunities for business efficiencies, reduce operational costs, and provides the potential for new online services for DOR and citizens.

Motor Vehicle Renewal Mobile Application

DOR and ITSD will be issuing a request for an Enterprise Mobile Application. The intent is to create a platform for multiple agencies to utilize for fee-based transactions. The pilot project will be development of a mobile application for Motor Vehicle license renewal.

MVDL Data Warehouse

ITSD is developing a business case for moving motor vehicle and driver license data into the existing DOR data warehouse. Project benefits will include: improved reporting capabilities (minutes vs. days, more reliable data, self-reporting, executive dashboards, improved data analytics, which will lead to other efficiency opportunities, Master Data Management (MDM) deduplication/normalization creation of "golden record", staging of data for legacy modernization and legacy reporting migration.

Tax Fraud Detection Model

ITSD and DOR will partner with Teradata to develop an analytical fraud model that has the potential to reduce fraudulent refunds by an estimated \$20 million. ITSD and DOR conducted a proof of concept (POC) and validated the fraud detection model's predictions were accurate and have decided to proceed with production implementation. The fraud model will incorporate W2 and 1099 data into the model that was developed during the POC, revise the model, and package the algorithm for production. ITSD staff will then enhance legacy tax applications, MINITS and MeFile to use scoring of filed returns provided by the model to automate the process and allow DOR to detect fraud more efficiently.

Tax Systems Modernization

The project is currently 59 percent complete and consists of three major phases. The first phase was released in February 2014 and contained the breadth of the new system for the single tax type of tire and battery fees. The second release (July 2016) implements the remaining business tax types of sales/use, corporate income and franchise, and withholding. The third release (Fall 2017) will implement individual income tax. A taxpayer portal is planned for initial release in December 2015 with additional functionality incorporated during the second and third releases of the main system. Anticipated go-live for the first portal release is 12/14/15; activities and readiness will be monitored and evaluated until then. The first portal release will include the following functionalities: registration for access to the portal, file a Tire and Battery Fee return, make a payment, limited Customer Service Representative (CSR) functionality, and help documents. The project is paid via enhanced collection of delinquent tax revenues from sophisticated data analytics (already totaling over \$211M). When all phases are complete, benefits will include reduced operating costs, increased productivity, fewer FTE, less paper and mailing, improved compliance, single view of constituent, improved analytics, improved customer self-service and reduced processing time.



SOCIAL SERVICES



The Department of Social Services (DSS) works to maintain or improve the quality of life for Missouri citizens.

DSS Systems

DSS system development and maintenance is performed by ITSD-DSS programmers and contractors using the following technologies:

- Legacy Programming Technologies: COBOL, CA Gen, Mainframe DB2, IDMS
- Standard Programming Technologies: .NET, MS SQL, DB2

DSS maintains 157 applications in its application portfolio. Below are descriptions of DSS' most critical systems:

Child Support System (MACSS)

The Missouri Automated Child Support System (MACSS) is responsible for collection and disbursement of child support through enforcement of existing judicial and administrative orders, location activities, paternity establishment, establishment of orders and various other activities. Since implementation of centralized collections, this system distributes child support payments. It is an AllFusion Gen/Mainframe based system that has been customized for the State of Missouri and requires ITSD staff to ensure that the system is continually updated and in compliance with state and federal statutes and regulations as well as the Missouri Child Support Policy. Annually, MACSS is utilized to provide services to approximately 2,957,662 citizens.

Child Welfare System (FACES)

The Family and Children's Electronic System (FACES) meets the federal requirements for a State Automated Child Welfare Information System (SACWIS). FACES integrates eight separate Child Welfare applications into one seamless system that includes the Child Abuse Hotline, Children's Services, Program Eligibility, Program Authorizations, Family Centered Services, Intensive In-Home Services, Alternative Care, Child Accounting, Common Vendor, Contracts and Licensing and Children Services Payments. This system serves as a comprehensive automated case management tool that supports Children's Division staff and contracted Case Managers. FACES system development and maintenance occurs on multiple platforms. Most of the application resides on the mainframe (COBOL) platform, but some new functionality has been developed using the .NET framework on a server platform.

Over 140,195 calls are taken annually by the Child Abuse Hotline and entered into the FACES application. Also, on a monthly average, the FACES application processes over 17,437 family and 34,623 children cases.

Common Client Area

The Common Client Area is a centralized repository for personal information that identifies an individual/client. Each newborn client is assigned a unique Departmental Client Number (DCN), which is used by DSS, DHSS, DMH, Missouri Juvenile Justice Information System (MOJVIS), the Electronic Benefit Transfer (EBT) and MMIS vendors. The DCN allows multiple agencies to easily track and coordinate services.

Human Service Benefits System - Legacy (FAMIS)

The Family Assistance Management Information System (FAMIS) integrates eligibility determinations and processing for Missouri's public assistance programs into a single system. FAMIS is used to determine what programs and level of benefits citizens are eligible to receive. FAMIS manages case information for the following Family Support Division (FSD) assistance programs: Food Stamps, Temporary Assistance for Needy Families, Adult Medicaid, Family Medicaid and Child Care. FAMIS provides efficiency and reduces the burden on the FSD eligibility specialists as they only have to enter information into one system to simultaneously determine eligibility for many programs for a client.

The system reduces error rates, saves the state money and ensures public assistance recipients receive the correct benefit levels. FAMIS application development and maintenance occurs on multiple platforms. Most of the application resides on the mainframe (COBOL and Advantage) platform, but some new functionality has been developed using the .NET framework on a server platform. During September 2015, the FAMIS application processed 72,418 new applications for benefits and performed 1,435,333 different eligibility determinations.



This number represents the total number of eligibility determinations for all programs (i.e., Food Stamps, Temporary Assistance, Medicaid, etc.). Therefore, FAMIS processes approximately 47,845 determinations per day or 11,961,109 eligibility determinations per year.

Missouri Eligibility Determination and Enrollment (MEDES)

The Missouri Eligibility Determination and Enrollment System (MEDES) is a modern, integrated case management system constructed from a collection of configurable, Commercial-Off-The-Shelf (COTS) products and built on a Service Oriented Architecture (SOA) platform. The system is in its second year of operation and currently processes eligibility and enrollment of Medicaid cases based on Modified Adjusted Gross Income (MAGI) criteria established by the Patient Protection and Affordable Care Act of 2010.

This browser-based system allows citizens to apply online, in person or by phone and provides a 21st-century user experience. It interfaces with the Federal Data Services Hub and many other state and federal systems for eligibility evidence verification and will eventually support real-time eligibility determinations and enrollment. Future releases include a financial module for Children's Health Insurance Program premiums processing, an enrollment component for Managed Care, and modules for processing Food Stamp, Temporary Assistance, Child Care Assistance, and Low-Income Heating Energy Assistance Program benefits. Additionally, an Enterprise Content Management component is being implemented to integrate management of documents and other content used as supporting evidence during the determination process. When MEDES is fully implemented the legacy FAMIS system will be decommissioned.

Medicaid Management Information Systems (MMIS)

The Department of Social Services (DSS), MO HealthNet Division (MHD) purchases and monitors health care services for low income and vulnerable citizens of the State of Missouri. The agency assures quality health care through development of service delivery systems, standards setting and enforcement, and education of providers and participants. DSS/MHD is fiscally accountable for maximum and appropriate utilization of resources.

MMIS is the State's contracted (WiPro and Xerox) mechanized claims processing and information retrieval system for Medicaid. Functions of MMIS include, but are not limited to:

- Provider Enrollment
- Claims Processing, Pricing and History
- Provider Payment
- Federal Financial and Ad Hoc Reporting
- Clinical and Pharmacy Claims Adjudication
- Prior Authorization
- Provider and Participant portals
- Provider testing environment (including testing functions for ICD10 code sets)
- Automated and manual pre-certification of Optical, DME, Radiology, and Psychology services
- Automated and manual pre-certification of inpatient services & determination of length of stay
- Automated and manual pre-certification of outpatient Radiology services performed on advanced imaging technologies
- Portal allowing providers access to Medicaid claims history and tools including e-prescription and medical possession ratio
- Personal Health Record portal for Medicaid participants
- Medication Therapy Management and Immunization Billing
- Home and Community Based Services portal and management tools

The DSS/MHD currently serves a large portion of Missouri's population and has over 8,000 enrolled providers receiving payments for the services they provide. This level of coverage for Missouri participants resulted in the successful processing of 98,060,675 claims through the MMIS during state fiscal year 2015.



Accomplishments

FACES - Children's Division Mobility App

The system used by the Children's Division (DSS-CD) is FACES. This is a large system hosted on a mainframe computer in the State Data Center (SDC). FACES is a comprehensive child welfare case management tool utilized by Children's Division staff, contracted case managers and foster care and adoption assistance staff. During 2015 ITSD – worked with DSS-CD to develop and implement a FACES Mobile application that runs on an Apple iPad. This application allows case workers to download cases to the iPad and subsequently update the FACES case information while out of the office and during meetings with the families and children they serve. When the case worker is in range of a Wi-Fi signal, the iPad will automatically upload the updated information back to the FACES in the SDC. Currently over 1,500 DSS-CD staff has been equipped with the mobile application and iPads.

FACES - FCCM (Foster Care Case Management)

Missouri contracts with several agencies to provide Case Management services. These agencies send in claims to document the money appropriated to them each month. This FACES enhancement was implemented to insert the claims into FACES and automate the claiming process. This new process replaces a very labor intensive process that did not allow a follow-up of payments processed.

FACES - NCFAS G+R

The North Carolina Family Assessment Scales – General Services and Reunification (NCFAS G+R) is a case management tool that is used by DSS to evaluate families and their needs. Missouri had been using the NCFAS G+R paper tool for several years but recently enhanced FACES to automatically populate the tool with FACES data. This new enhancement facilitates further case planning.

FAMIS - Electronic Disqualified Recipient

The FAMIS was enhanced to interface directly to the federal electronic Disqualification Reporting System (eDRS). The eDRS is a federal central registry of individuals who are disqualified from the Supplemental Nutrition Assistance Program (SNAP – aka Food Stamp). The eDRS contains disqualification records for all 50 states and 3 territories. By law (7 CFR 272.1 & 273.16) all states and territories must use eDRS to identify SNAP applicants previously disqualified from SNAP due to intentional program violations.

FAMIS - Missouri Pre-Eligibility Tool

The FAMIS Web Application project will be implemented in two phases. The first phase is the Missouri Pre-Eligibility Tool (MoPET). The MoPET Web application allows clients to enter some basic information that is used to determine their eligibility for SNAP (Food Stamps), Temporary Assistance (TA), Child Care (CC), and/or MO HealthNet for adults (MHABD). MoPET was implemented on August 28, 2015. The second phase is scheduled for implementation during January 2016, and it will enable clients to complete an online web application for these benefits.

FAMIS - National Directory of New Hires

This FAMIS enhancement provides a direct interface to the National Directory of New Hires database. This new functionality is a new requirement and is established under section 453(i) of the Social Security Act (42 U.S.C. 653(i) relevant to determining eligibility to receive Supplemental Nutritional Assistance Program (SNAP) benefits (Food Stamps) and determining the correct amount of such benefits.

FAMIS - Senate Bill 24

Senate Bill 24 implements new requirements for Missouri citizens that apply for, and those that are already receiving Temporary Assistance for Needy Families (TANF, TA) benefits. Major FAMIS changes are required before the law becomes effective January 1, 2016.

Specifically, SB 24 requires the Department of Social Services (DSS) to conduct an investigation and determine if a person is cooperating with a work activity requirement under the TANF program. If the person is non-compliant, a representative of DSS shall conduct a face-to-face meeting and explain the potential sanction of TANF benefits, as well as the requirements to cure such a sanction. The TANF recipient shall then have 6 weeks to comply with the work activity requirement, during which time no sanction of benefits shall occur. Failure to comply with the requirements within the 6 week period will result in a sanction consisting of a 50% reduction of benefits for a maximum of ten weeks. During that period of sanctions, the person shall remain on the caseload in sanction status and DSS will attempt to meet face-to-face to explain the sanction and the requirements to cure the sanction. To cure a sanction, the person shall perform work activities for a minimum average of 30 hours per week for one month. If the person does not cure the sanction, the case shall be closed. This act allows for the person to reapply for benefits by completing work activities for a minimum average of 30 hours per week within one month of the eligibility interview.

ITSD is developing and implementing the FAMIS enhancements required by SB 24 in three phases. The first phase was implemented on August 28th and the additional phases will be implemented during October and December. All required SB 24 FAMIS enhancements will be implemented by January 1, 2016 when the law becomes effective.

MACSS Enhancements

The Missouri Automated Child Support System (MACSS) was enhanced to replace IBM DisplayWrite as the forms generation software used by MACSS with Adobe LiveCycle ES4. IBM DisplayWrite 370 has not been supported or updated by IBM for over 10 years. With DisplayWrite 370, staff were manually scanning and indexing the form(s) into the MACSS OnBase enterprise content management (ECM) solution in order to have the form(s) available for future retrieval. Conversion to the Adobe product presented an opportunity to automatically store and index a copy of the original form in the OnBase ECM that contains all of the MACSS active case files as well as all incoming mail. Conversion to the Adobe product also gave Family Support Division-Child Support (FSD-CS) an opportunity to barcode forms that are expected to be returned to them. This reduces the amount of errors related to the incorrect indexing of the form when it is returned.

Missouri Work Assistance SB24 Enhancements

Senate Bill 24 limited the time a Temporary Assistance (TA) recipient can receive benefits if he/she is not participating in required work activities. Two new web pages were added to the MWA System to allow contract staff to comply with the new conciliation and sanction requirements of this bill, and several other web pages were modified. Another requirement of Senate Bill 24 was met by ITSD staff collaborating with Department of Economic Development staff to allow the time that participants search for work on the jobs.mo.gov website to be saved in the MWA system and counted as work hours. During the first month, hours from jobs.mo.gov were automatically added to the MWA system for approximately 450 TA recipients.

MMIS ICD-10 Implementation

Per federal mandate, the implementation date for ICD-10 was delayed from October 1, 2014 to October 1, 2015. As of October 1, 2015, all diagnosis and in-patient hospital claims with Date-of-Service or Date-of-Discharge on or after Oct 1, 2015 require the ICD-10 codes rather than the ICD-9 codes. This affected all providers submitting claims to any payer.

Projects

Accounts Payable Enterprise Content Management (ECM) project

The ITSD will work with the DFAS Accounts Payable unit to implement an ECM solution that will allow DFAS Accounts Payable to gain efficiencies in work processes that will enable timelier payment processing. DFAS Accounts Payable staff process an average of 9,800 payment requests each month.

CD CQI Modernization

The Continuous Quality Improvement (CQI) Application utilized by the Children's Division (CD) is a Lotus Notes CQI Activity Log & Discussion database which includes areas for both Activity Log and Service Delivery Grievance. Using the Program Improvement Plan (PIP) as a compass, this database was designed to guide CD in the Continuous Quality Improvement section with the decision making process for strategic improvement planning. This CQI project is intended to modernize and expand the CQI process and move it from a Lotus Notes Database to a new database and expand the capabilities and functionality of the application to better meet the needs of DSS.

FACES - Enterprise Content Management

This FACES enhancement will provide CD with the ability to store supporting documents electronically vs. paper case files.

FACES - NYTD Enhancements

The National Youth in Transition Database (NYTD) system prepares surveys and gathers responses for young adults that have aged out of the Missouri Foster Care system. Clients are surveyed at 17 years of age and then again when they are 19 and 21. These enhancements address some of the concerns from the 2014 Federal NYTD review.

FACES - SACWIS Enhancements

State Automated Child Welfare Information System (SACWIS) is the Federal name for the State of Missouri's FACES. These federally mandated FACES enhancements address some of the concerns from the federal SACWIS review including changes for: System Down Information screen, Drug/Poisoning Maltreatment, Case Assignment, Child Assessment Service Plan (CASP), Family Support Team (FST) Information, Service Plan, Personal Home Page and Reports, Add/Update Participant, and Individual Conclusion.

FAMIS - IVR Upgrade

The FAMIS Interactive Voice Response System (IVR) system is being modernized to provide enhanced functionality. This should reduce calls to the call center and improve the client experience. Changes will be implemented by April 1, 2016.

FAMIS - IVR System Replacement

The current FAMIS Interactive Voice Response System (IVR) system will be replaced by a new Cisco based IVR system. The system will provide enhanced features and functionality. Changes will be implemented by April 1, 2016.

FAMIS - Local Incarceration Data

A data service will provide a comprehensive listing of individuals incarcerated in local and county jails and prisons. FAMIS will match the names that are receiving benefits via Missouri's public assistance programs – including Mo HealthNet for adults (Medicaid), Child Care, Temporary Assistance and Food Stamps. If a match is found, FAMIS will suspend or cancel benefits for the individual.

FAMIS - TRACFONE

The Lifetime Assistance Program was created in 1984 that helps ensure telephone service is available and affordable for low income customers. It is a joint federal-state program primarily administered by the Federal Communication Commission (FCC), and Missouri partners with TRACFONE to implement this program. If an individual receives benefits under one or more of the following qualifying programs: Supplemental Nutrition Assistance Program (SNAP, aka Food Stamps), MO HealthNet (Medicaid), Temporary Assistance for Needy Families

(TANF), or Low-Income Home Energy Assistance (LIHEAP); the program provides a discount, or monthly subsidy, of \$9.25 on the telephone bill for each eligible subscriber. The Department does not disclose which specific program or programs the recipient receives benefits under.

FAMIS - Web Application Project

DSS-FSD clients will be able to complete an online web application to receive benefits from SNAP (Food Stamps), Temporary Assistance (TA), Child Care (CC), and/or MO HealthNet for adults (MHABD). Thus, enabling a client to apply for benefits over the Internet; thereby increasing efficiency by reducing DSS eligibility specialist time to key in client data into FAMIS. Less keying of data will also reduce data entry errors and create more time for eligibility specialists to focus on the business. Once clients enter their information into the Web-Based Application, it will be transferred electronically to the FAMIS system. This web-based application will allow clients to apply from locations other than Customer Service Centers; thereby reducing the time clients spend traveling to Customer Service Centers. This also enables DSS to meet the objectives of outreach efforts to assist clients in applying for benefits. The client will be able to enter their data into the web application in English or in Spanish. All user-entered data will be stored in English, and will be translated to the selected language when displayed on web screen pages. Applicants will be provided with the functionality to print a copy of the application submitted on the web. The web application would be made available until this functionality is developed and implemented in MEDES. This project is expected to be completed during January, 2016.

MEDES

Development of MEDES will continue during 2016 to complete the MAGI Medicaid case management. Additional components, including modules for single sign-on, financial processing of premiums and an Enterprise Content Management (ECM) solution, will support the core business processes handled by MEDES for various Medicaid and human services programs. The ECM solution will be integrated with the application to automate attachment of evidence and supporting documentation to the appropriate cases.

MRT GIS Search Project

The Medical Review Team (MRT) GIS search project provides a map search utility for medical review team providers. This is an Intranet application and is primarily used by eligibility specialist to find the medical review team provider.

Procurement Enterprise Content Management

The ITSD will work with the Division of Finance and Administrative Services (DFAS) Procurement unit to implement an ECM solution that will allow DFAS Procurement to gain efficiencies in work processes, free up over 325 square feet of office space, and provide an electronic repository for all procurement documentation. Currently, DFAS Procurement is responsible for roughly 35,000 contracts (agreements) which include approximately 34,000 Child Welfare contracts, 324 LIHEAP Vendor Agreements and 114 County Reimbursement Agreements. DSS currently has approximately 335 active Memorandum of Understandings (MOU's) that will also be included in the repository. DSS staff with appropriate authority will be able to easily access all documents, and limited public access may also be available.

Provider GIS Search Project

This Geographic Information System (GIS) Provider Search application provides an Internet map search utility to help Medicaid recipients to easily find Medicaid Providers based on the type of provider desired and proximity specified. The map search utility will be made available to the citizens of Missouri for ease of access to find Medicaid providers.

Public Access Work Stations

Public Access Workstations are being added to select Family Service Division (FSD) facilities around the state. These workstations will allow FSD clients to access a host of online services so that they may avoid waiting in line for certain services.



Office of Administration
Information Technology
Services Division

Harry S Truman Building
301 West High Street
Jefferson City, MO 65102
(573) 751-3290

www.oa.mo.gov

