Report to Kansas Legislature Joint Committee on Information Technology
Alan Weis, Legislative Chief Information Technology Officer
Terri Clark, Director of Technical Services
Eric Theel, Director of Application Services
August 11, 2020

CITO Report: Alan Weis, Legislative Chief Information Technology Officer

Kansas Virtual Statehouse:

The Joint Legislative Budget Committee requested Tom Day, Director of Legislative Administrative Services and Alan Weis, CITO, present information on optimizing remote communications for Legislative meetings at the July 15, 2020 committee meeting. Mr. Day and I presented a report titled the Kansas Virtual Statehouse which reported efforts to improve remote meetings and outlined items to consider for further improvements. The Committee requested a cost estimate to fund the Virtual Statehouse. At the August 3, 2020 Legislative Budget Committee meeting. Mr. Day and I presented a preliminary estimate for funding the Kansas Virtual Statehouse. Both reports provided to the Budget Committee are included with my JCIT CITO report for review.

Technical Services Report: Terri Clark, Director of Technical Services

Adapting to Covid-19: The Technical Services group is scheduling minimal staff onsite with others working remotely to continue providing services in a safe manner. One staff member has tested positive for Covid-19 and is working remotely. Utilizing the workrooms in 65-W, behind our offices, will allow us to complete planned projects while social distancing. All staff training is being done virtually, and meetings are held via Zoom.

2019 Printer Refresh: The printer refresh project has been put on hold. The RFP was issued and vendor responses were received. Printer solutions from several vendors were evaluated. When the project is restarted the final vendor selection will be made and new printers will be implemented. The proposed solutions would result in faster printers, simplified administration and maintenance of printers, and reduced costs.

2020 Legislator Laptop Lease Refresh: The current lease expires in October, 2020. If the project is not completed by then the current lease will go on a monthly basis. The RFP for these laptops has been issued and the Technical Advisory Board is completing the technical evaluation. Once a vendor is identified the recommendation will need LCC approval to begin negotiating the new contract.   Following LCC approval it will take 75 - 90 days to negotiate the new lease, ship the new laptops, and prepare them for check out to legislators.

2021-2022 Biennium KLISS: The servers have been created for the new environments and are currently being tested.

Windows Server 2019: Windows servers will be updated to Server 2019 during October.

Redistricting: We are beginning work with KRLD staff to design the servers and infrastructure to support the redistricting project.

Virtual Statehouse: During the pandemic the legislature has been using Zoom to conduct virtual meetings and streaming the meetings to YouTube. Streaming audio of the meetings is still using Harmony. This is being accomplished with multiple laptops, webcams, and a conference phone. The configuration is a manual process and requires one or two technical staff to support each meeting. Results have been mixed.

We are currently working on a project to improve this process. We envision the new systems will be integrated and automated, allowing committee staff to manage their own meetings again. The system will need to accommodate legislators both present in the committee room and working remotely. It will be used in the committee rooms and the Senate and House Chambers. A project plan is currently being developed for this project. Once the LCC approves the project concept, an RFP will be issued to identify vendors and solutions. The intent is to have the Senate and House Chambers and four committee rooms live for the 2021 Legislative Session, with the other committee rooms following during January and February 2021.

Completed Projects:

ADSelfService Plus: Users now have the ability to set their passwords and unlock their accounts. Challenge questions are used to verify the user's identity.

Two Factor Authentication: Implemented Cisco Duo for two factor authentication for system administrators accessing servers. The initial implementation can be expanded to include laptops in the future.

Cybersecurity: Several new tools have been implemented to improve cybersecurity

- IronPort upgrade includes advanced email scanning, checking of weblinks in messages
- Cisco Umbrella blocks network users from accessing malicious websites, provides reports on access to suspicious websites, and reports on suspicious activity such as a device that is scanning the network.
- Investigating working with OITS to take advantage of their Splunk Security Information and Event Management (SIEM) system. This will allow us to monitor system logs from servers and applications and identify problems early.
- Laptop Encryption: We have been using Dell DDPE endpoint encryption with limited success. Upgrading to ESET Endpoint will provide improved threat evaluation, the end user interface is easy to use, and system administration is improved. This will integrate with the ESET antivirus.
- Exchange Email: Several new tools have been deployed on the Exchange email system to improve security. The tools help prevent email spoofing by using private and public encryption keys to encrypt email signatures in the message header, improved handling of emails that don't comply with policies, and defined rules authorizing who can send email from our system.

Application Services Report – Eric Theel, Director of Application Services

2020 Session:
The KLISS system performed well during the 2020 Legislative Session, with no major issues encountered. Bills, Resolutions, Committee Reports, Amendments, and Conference Committee Reports were drafted, processed, and published as required within the system by Legislative staff. Chamber Calendar and Journals and Committee Agenda and Minutes with Testimony were created and published in KLISS with no major issues. The Senate Vote System continued to perform well. Minor issues during session were resolved and implemented as required through the emergency change control process.

During the 2020 Legislative Session, Legislative staff utilized KLISS to process:

Total bills introduced	589
Total bills that became law	14
Total resolutions introduced	47

2020 Mid-Session Updates:
A bill short title update application was deployed in January. This browser-based application allows staff from the Revisor of Statutes Office to update the short title of a bill in one location, and have that change propagate throughout KLISS. This application has reduced the amount of staff time required to maintain and improved the accuracy of bill short titles within KLISS, including the Legislative Interface website.

During the 2020 Legislative Session the Application Services department designed, developed, and implemented processes to upload and publish early release committee testimony and miscellaneous committee documents to the Legislative website. These processes were added to the KLISS Committee System and used extensively during the mid-session break to publish Committee testimony documents to the Legislative Interface website. The implementation of this system improves the security of KLISS and allows the Legislature to reduce its dependency on third party vendors such as Dropbox.

These are just two examples of how we are continually updating KLISS to bring greater transparency to the legislative process in Kansas.

2020 Special Legislative Session:
The KLOIS team was able to deploy the KLISS 2020 Special Session environment, a process that normally takes three weeks, with only seven days advanced notice. This short turnaround time was only possible by repurposing the system intended for use during the 2021_22 Legislative biennium, which was already in testing. This environment performed well during the Legislative Special Session with minimal issues reported, all of which were quickly resolved.

2020 Covid-19 Challenges and Response:
The Application Services department has experienced minimal disruptions to operations during the Covid-19 pandemic. Staff were able to work remotely and maintain their productivity while stay-at-home orders were in place. Now that stay-at-home orders have been lifted, staff are alternating between working remotely and being in the office, which has allowed the department to provide adequate social distancing for staff, while maintaining support for Legislative members and staff.

2020 Interim Projects:

Biennium Rollover:
Staff from the Application and Technical Services departments have completed the setup, testing, and deployment of the KLISS environments for the 2021_22 Legislative biennium. Staff are now working with the Chambers, the Revisor of Statutes Office, and Legislative Research Department to finalize the dates for cutting over to this new environment.

Support Systems Upgrades and Migrations:
This interim Application Services has completed upgrades to our Jira issue tracking software, Confluence team collaboration software, and migrated our software version control system to GitLab.

KLISS Services, Django Web Development Framework, and Python Upgrade:
Application Services' development staff are deploying upgraded, Python 3 compatible, post commit services to work with the current LRMS Core 6.3 task scheduler. These services include vote system integration, document mover/copier, and report generation.

All KLISS web interface applications are being updated to utilize the Django 1.11 web framework, this includes the Legislative Interface website, Chamber Interface, Senate Vote system, Committee System, Appointments Interface, and the Universal Asset Management interface. It is anticipated that these updates will be completed and deployed during the 2020 Interim.

Application Services development staff are continuing the process of upgrading KLISS applications from Python 2.7 to Python 3. This process was started during the 2019 interim and is anticipated to be completed during the 2021 interim.

Legislative Interface Archive Solution Deployment:
Application Services staff are deploying the Legislative Interface website archive system, developed by Propylon, into production. This process will archive all Legislative Interface data from 2011 forward and will become part of all future biennium rollover processes. The deployment of this system eliminates the need to maintain datastore and application servers for each historical biennium. Included with the archive system, is a customized search application allowing Legislative Interface website users to quickly locate archival Legislative documents.

Search System Deployment and Development:
Propylon has developed a customized search system to allow Chamber (House and Senate) staff to search for documents within the chamber datastore. Application Services staff will be deploying this system into production over interim.

Staff from Application Services and the Revisor of Statutes Office are working together to design, develop, and implement a customized datastore search system for the KLISS Lawmaking system. We anticipate completing this system during the first half of 2021.

Application Services staff are also working to complete a custom search application for the Legislative Interface website. This system will replace the existing Google based search and provide website visitors with the ability to perform both simple and advanced searches with features like what is being deployed for the both Chambers. The goal is to have this system deployed for the 2021 Legislative Session.

KLISS Law Making System (Revisor of Statutes Office):
Application Services provided the Revisor of Statutes Office with an acceptance build for testing on July 30, 2020. This build contains both system enhancements and updates to resolve issues identified during session.

On July 28, 2020, staff from the Revisor of Statutes Office and Application Services met to review the Revisor's development priorities for the remainder of the 2020 interim. Application Services staff are analyzing these items now and will be meeting with staff from the Revisor of Statutes Office during August to finalize development and testing timelines. The anticipated code freeze for new development will be November 20, 2020; leaving the month of December for final testing and issue resolution prior to the 2021 Legislative Session.

Chamber Automation System (House and Senate):
System updates to resolve miscellaneous issues in the Chamber system are being developed this interim on the Chamber Interface, enrolled bills, resolutions, calendars, and journals. The anticipated code freeze for new development will be November 20, 2020; leaving the month of December for final testing and issue resolution prior to the 2021 Legislative Session.

Decision Support System (KLRD):
During the month of July staff from KLRD and Application Services have met to review KLRD's development priorities for the 2020 interim and beyond. Application Services staff are completing their analysis and are preparing to start development. Priorities include updates to document templates, the Proofing Console, Bill Summaries, and the Budget Analysis processes. A code freeze on new development is planned for November 20, 2020, allowing for final testing and issue resolution to be completed prior to the start of the 2021 Legislative Session.

Universal Datastore Archiver:
This interim, Propylon is developing a universal datastore archiver system that will allow Application Services staff to archive past biennium datastores into flat file systems. This system will eliminate the need to maintain historical datastores for all past biennium and special sessions. Currently the Legislature maintains datastores for Chamber (House and Senate), Decision Support (KLRD), and Law Making (Revisor of Statutes Office) for 5 biennium and 3 special sessions. This application will be delivered during the last quarter of 2020 allowing Application Services staff to begin the archival process in early 2021.

In addition to the universal datastore archiver application, Propylon is developing a customizable archive system user interface (UI). Application Services staff will work with staff from the Chamber (House and Senate), Decision Support (KLRD), and Law Making (Revisor of Statutes Office) to customize this UI to meet the needs of their individual departments.

OpenOffice Upgrade:
The KLISS thick clients, commonly referred to as the Barnum client, used by the Chamber (House and Senate), Law Making (Revisor of Statutes Office), and Decision Support (KLRD) all utilize OpenOffice for text entry and document processing. During the fall of 2019 Propylon and Application Services staff began a multiple phase project to upgrade the KLISS thick client and its custom OpenOffice macros and Java applications, to interface with a standalone version OpenOffice 4.1.6.

The first phase of the project is to upgrade existing KLISS thick clients to OpenOffice 4.1.6, followed by extensive testing and issue resolution of the OpenOffice macros and Java applications. The second phase

of the project will be to separate OpenOffice from the KLISS thick client, followed by extensive testing by Application Services staff and, more importantly, provide adequate time for testing by staff from the Chamber (House and Senate), Law Making (Revisor of Statutes Office), and Decision Support (KLRD). We are anticipating having both phases of this project completed before the start of the 2022 Legislative Session.

Completion of both phases will allow Application Services staff to begin upgrading KLISS' user interfaces to more modern browser-based applications.

Report to Kansas Legislature – Legislative Budget Committee
Kansas Virtual Statehouse
by Tom Day, Director of Legislative Administrative Services
and
Alan Weis, Legislative Chief Information Technology Officer
July 15, 2020

Background:
This report is intended to outline the current state and possible future of virtual technologies used to allow for remote access to the Kansas Statehouse and the proceedings of the Kansas Legislature. Remote access has the potential to allow citizens to hear, view, and interact with members of the Kansas Legislature from anywhere in the state of Kansas. The Kansas Legislature has implemented and used audio and video technologies for over a decade now to allow some virtual access. However the efforts have been limited due to immature technologies, pilot projects, funding, and limited support.

In March of 2020, the COVID-19 pandemic changed things quickly. The need to implement remote meetings and remote work environments with members, staff, and citizens was thrust upon us immediately. We had little time to plan for implementation of technologies and systems. The good news is the Legislature was in a good position to allow for remote work and meetings. This was due to our implementation of laptops for staff and members that have integrated video cameras and microphones and VPN to access the statehouse network which has been in use for several years.

Status from March 2020 to July 2020:
In March of this year we knew the need for remote meetings would be immediate. Some legislative staff had been using the Zoom video conferencing system and it was known to be fairly easy to use. There were some security issues when the Zoom system was not configured properly for secure conferences but we saw those issues being address by the company. In March our Kansas Legislative Office of Information Services (KLOIS) department purchased user licenses for Zoom. We sent out notices to staff and members on how to configure security and to install updates. Zoom was used through late March, April and May for legislative committee meetings where all participants were remote on the video conference and the committee rooms were not used. The Zoom system allowed the streaming of the video conference meetings to the Legislature's YouTube channel for public viewing. We also were able to stream the audio to our website audio archive system. These meetings worked fairly well considering the short time we had to prepare and implement the technologies. Legislators and staff seemed to adopt the use of the Zoom system without much trouble.

In June we started having committee meetings in the statehouse committee rooms with some participants in the room and some on video conference. There have been some issues with this set up. The issues are:
- No integration with the room audio systems to the video conferencing system.
- Some room acoustics make hearing on the video conferences difficult.
- Limited video cameras – no room cameras, using cameras on laptops.
- Placement of large monitors on stands in the rooms.

We are currently working to resolve the issues with integration to the room audio systems and adding additional cameras.

Virtual Statehouse Planning:
Below are items that should be considered in planning to implement a full Kansas Virtual Statehouse.

Committee Room audio system improvements:
- There may be updates required to the systems to interface into the video conference systems.
- Train KLOIS staff to configure and adjust room audio systems as required.

Committee Room video cameras:
- Implementation of wall mounted Pan-Tilt-Zoom (PTZ) cameras should be considered.
- Multiple cameras may be needed in each room to video members and the podiums.

Committee Room video monitors:
- Implementation of wall mounted video monitors should be considered.
- There are issue with using monitors mounted on roll-around stands.
    - Monitors and stands can block views of members and audience.
    - Monitors and stands can block walk ways.
    - Monitor cables across the floor create a safety hazard.
    - There is significant set up time for technical staff to prepare a room needing monitors.

Audio and video streaming:
- Implementation of full video and audio streaming from all 13 committee rooms should be considered.

Video conferencing:
- Video conferencing allows remote interactive participation in meetings for members and the public.
- Dedicated room video conference systems should be considered.

Closed Captioning:
- Closed Captioning (audio to text conversion) should be considered.
- Closed Captioning can be done either in real-time during the meeting or the conversion can be done later after the meeting.
- There can be significant costs associated with the accurate conversion of the meeting audio to text.
- Real-time Closed Captioning may require transcriptionist personnel to be hired or contracted to convert audio to text.
- Real-time Closed Captioning could also be accomplished through automated speech recognition software.
- We are working closely with the Kansas Commission for the Deaf and Hard of Hearing and the ADA Coordinator for the State of Kansas to ensure accessibility is achieved.

Statehouse Network:
- Possible updates and enhancements to the Statehouse network may be required to handle the increased bandwidth requirements.

Staffing:
- Currently setting up screens, projectors, monitors, and computers, configuring meetings in systems, and monitor the technology for meetings has been a add-on function of a few KLOIS staff members. During the Legislative Session temporary staff are contracted to provide additional help.
- When implementing a full virtual statehouse we need to ensure there is a proper amount technical staff to handle the configuration and monitoring of the audio and video systems.

Report to Kansas Legislature – Legislative Budget Committee
Kansas Virtual Statehouse
by Tom Day, Director of Legislative Administrative Services
and
Alan Weis, Legislative Chief Information Technology Officer
August 3, 2020

Update:

The Legislative Budget Committee on July 15, 2020 requested the Legislative CITO, Alan Weis, provide cost estimates on implementing virtual meeting technologies for Legislative committees in the Kansas Statehouse. Below are preliminary cost estimates to implement systems based on the planning considerations outlined in the Kansas Virtual Statehouse report provided to the Legislative Budget Committee during the July 15, 2020 meeting.

This information is very preliminary and subject to change. A full analysis and review of the systems is ongoing. The analysis of the many details on features, functions, integration, business processes, room modifications, network impact, staffing, etc. are pending.

The effort to implement the Kansas Virtual Statehouse will be a state Information Technology Project as defined in K.S.A. 75-7201 due to the accumulative cost estimate being over the $250,000 threshold. A Project Plan will need to be created by staff of the Kansas Legislative Office of Information Services (KLOIS) that will include the project description and justification with cost estimates and a cost benefit statement (per K.S.A. 75-7209). The Project Plan will need the approval of the Director of Legislative Administrative Services and the Legislative Chief Information Technology Officer (L-CITO). Per Information Technology Executive Council (ITEC) policies, the plan will then be filed with the Kansas Information Technology Office (KITO) and reported to the Joint Committee for Information Technology (JCIT). Quarterly Project Reports will be filed by the KLOIS staff with the KITO office until project completion. The quarterly reports will be reviewed by the L-CITO and JCIT.

The Legislative Chief Information Technology Officer performs duties under the direction of the Legislative Coordinating Council and the Director of Legislative Administration. Therefore, I believe it is important that we receive a directive from the LCC, based on recommendations from the Legislative Budget Committee, to continue moving forward on the Kansas Virtual Statehouse effort. Other considerations as we move forward are to incorporate all aspects of accessibility in the planning and implementation, whether complete or phased-in, based on a motion made by the Legislative Coordinating Council at the December 2019 meeting. The motion directed staff "to develop a plan of implementation of the full video and audio streaming of Senate and House of Representative chamber session meetings and all legislative committee meetings over a reasonable period of time with regard to acceptable hardware and software options and reasonable costs associated with such implementation, including reasonable services for the deaf and hard of hearing segment of our citizenry." This plan is to be presented at a subsequent LCC meeting.

Cost Estimates:

Implementation of video conference systems in the 13 Statehouse committee rooms:
Functions provided:
- Video conference system hardware and software
- Committee Room video cameras
- Committee Room video monitors
- Audio and video streaming
- Closed Captioning

Initial cost estimate:	$4,951,000.00
Annual cost estimate:	$762,000.00

Statehouse Committee Room Audio Systems Upgrades:
9 committee rooms require equipment upgrades. Also the House and Senate Chambers require equipment upgrades. (5 room audio systems have been upgraded within the past year.)
Annual cost estimate is for a support contract on the audio systems.

Initial cost estimate:	$110,000
Annual cost estimate:	$25,000

Integration of room audio systems with video conference systems:
This includes additional interfaces, wiring, and software configuration for the 13 room audio system.

Initial cost estimate:	$7,000
Annual cost estimate:	none

Kansas Legislative Office of Information Services staffing:
Increase full-time staff by 2 staff members to support and administrate systems.

FTE annual cost: ($75,000 each FTE)	$150,000

Total Initial cost estimate:	$5,068,000
Total Annual cost estimate:	$937,000