K-State IT Annual Report
January 2019 - June 2020
Our big accomplishments over the last 18 months were cloud-first solutions, two-factor authentication, a new constituent relationship management platform, enhancing our security posture, developing the Research Information Security Enclave, and beginning the return to Hale Library.

The One IT community, connecting distributed and central IT across all three campuses, is collaborating on everything from a cloud strategy to training sessions. In March of 2020, IT transitioned from an on-premise staff to a remote workforce. We didn’t skip a beat while continuing to support K-Staters and expanding the use of technology tools for teaching, learning, research, and service while engaging across the state, region, country, and the world.

Accomplishments for January 2019 through June 2020 align with the goals outlined in the IT Strategic Plan. Thank you to K-State students, faculty and staff for their continued support of our efforts. Thank you to the One IT community for their contributions in achieving our goals.

Gary Pratt, CIO

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**Number of IT staff**

131 centralized
129 distributed

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**Number of wireless access points**

5,762

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**Cost of hardware and software FY2019**

$21.4 M

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**Threats blocked**

December 2019

4.6 M

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**Average network traffic during peak usage**

6.5 Gbps download
1.25 Gbps upload

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**Average number of devices connected during peak usage**

63,500

*Peak usage is defined as Monday-Friday, 10AM - midnight
A goal of Strategic Enrollment Management was to “Deploy a centralized student Constituent Relationship Management (CRM) system to foster collaboration universitywide to enhance recruitment, enrollment, and student success.”

From March through August, the Admissions CRM Project Team worked to develop requirements, purchase, and implement the first phase of the CRM, which is a better recruitment tool, provides more communication options and more engagement with prospective and current students. Listening tours were held across campus, to ensure the new tools would meet everyone’s needs. Town Halls were held for decision making and implementation and Content Expert Groups provided input and consistency in the enterprise-wide system. On Friday, August 16, over 60,000 students were sent an email invitation from the new CRM for the Discover K-State Days event. By December, 45% of the system requirements were implemented. From January 2019 through June 2020, over 188 people were trained on basic features of the CRM.

Unify Organization and Governance

The IT Project Governance Group (PGG) is tasked with ensuring that new technology projects taken on by K-State align with University goals and strategy, are adequately funded and staffed, and do not conflict with or overlap existing projects and initiatives.

The PGG reports directly to the President’s Cabinet and consists of representatives from across the University that can provide institution-wide vision on technology projects and have a vested interest in the success of K-State.

The committee began meeting monthly in September 2019.
To protect our students, faculty, and staff and information technology resources, the university has:

- Implemented two-factor authentication for faculty and staff
- Updated the password policy and password standards
- Updated antivirus software recommendations
- Upgraded firewalls
- Replaced outdated virtual private network software
- Enhanced cybersecurity awareness training
- Educated K-Staters about phishing scams

Comparison of Phishing Scams and Compromised eIDs

<table>
<thead>
<tr>
<th></th>
<th>FY2020</th>
<th>FY2019</th>
<th>FY2018</th>
<th>FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compromised eIDs</td>
<td>318</td>
<td>554</td>
<td>516</td>
<td>4923</td>
</tr>
<tr>
<td>Phishing scams</td>
<td>793</td>
<td>1254</td>
<td>323</td>
<td>1165</td>
</tr>
<tr>
<td>Phishing scam tickets processed</td>
<td>1898</td>
<td>3165</td>
<td>2091</td>
<td>6837</td>
</tr>
</tbody>
</table>
- One of the objectives in the IT Strategic Plan is to establish business continuity plans among One IT units. IT began populating State of Kansas business continuity software with information for maintaining operations.
- Modernized classrooms in Eisenhower Hall, Leasure Hall, Throckmorton Plant Sciences Center, and Willard Hall.
- Collaborated with Hale Library on a co-located Help Desk.
University Infrastructure Upgrades

The Hale Library fire accelerated the timeline to move IT systems to the cloud. Simultaneously, K-State was creating the IT Strategic Plan with a priority to modernize the IT infrastructure and move critical services to the cloud. With the help of vendor partners and a migration readiness plan, HRIS, KSIS and FIS were migrated to the cloud. Other components of the cloud-first strategy included reengineering the on-premise Data Center, the move from existing WebMethods to an integration platform as a service solution, the move of the critical workloads via VMWare to Amazon Web Services (AWS), and the implementation of a reliable backup and recovery solution.

K-State’s functional users of systems, the IT staff, and our vendor partners spent hours of planning, preparing, testing, and migrating the systems. By June 2020, only 386 virtual machines were running in the Data Center. The successful migration of the Data Center is one of the many reasons that K-State was the recipient of the E&I Cloud Award for Hybrid IaaS/PaaS. The award recognizes technology leaders and their innovative cloud-based solutions in higher education.
Cloud-First Strategy Milestones

Summer/Fall 2018
Amazon Web Services
Migration Readiness Assessment (AWS-MRA)

May 28
AWS Migration Readiness Planning (AWS-MRP) project kickoff

July 15
ERP migration to Sierra-Čedar's managed services project kickoff

August 16
Email sent from Target X CRM for Discover K-State Days (X days after purchase)

September 12
Cloud Center of Excellence kickoff

October 22
Key staff participate in Immersion Day for cloud professional development

November 4
Admissions Application available in native AWS

November 24
KSIS available in managed services cloud; HRIS becomes available via managed services cloud (production moved to cloud 5/28/18); DARS uAchieve migrated to VMC

December 29
IDM migration to VMware on AWS cloud

March 2020
AWS appstream being used for KSIS, HRIS, and uAchieve

April 2020
Purchased RDS reserved instances for cost optimization

May 2020
Fjord migration to improve security and resiliency

June 2020
Sunset of the HP Cluster in the Hale Library Data Center

May 10, 2019
CommVault on-premise and cloud backup solution project kickoff

June 21
WebMethods move to SoftwareAG iPaaS cloud project kickoff

July 18
On-premise backups using CommVault complete

September 9
VMware on AWS (aka VMC) project kickoff

October 22
Backed up on both on-premise and cloud using CommVault complete

November 7
Canvas LTI available in VMware on AWS cloud

November 18
Financial Information Systems (FIS) available in managed services cloud

December 23
AWS Savings Plan implemented

March 2020
KSIS, HRIS, and Undergraduate Admissions Oracle databases upgraded

April 2020
CommVault installed and extended to Polytechnic campus

May 2020
CTAM and JobApp migrated to AWS and Oracle databases upgraded

June 2020
Sunset of the HP Cluster in the Hale Library Data Center
Modernize Infrastructure

Infrastructure projects requiring networking and telecommunications

- Worked with contractors and design teams on networking and telecommunications for Hale Library, Bill Snyder Family Stadium, the K-State soccer stadium, the baseball stadium, the Morris Family Multicultural Center, and McCain Auditorium.
- Upgraded wireless controllers across campus.
- Developed voice solutions to support business continuity for remote operations.
- Completed the Kansas Department of Agriculture Lab building network installation.
- Continued renovation and wiring projects in Mosier Hall, Derby Dining Center, Weber Hall, Leasure Hall, and Call Hall.
- Planning audiovisual upgrades for centrally scheduled classrooms on the Olathe and the Manhattan campuses.
- Planning for the joint K-State/Wichita State Nursing program in Justin Hall.
- Working with Riley County Emergency Management to upgrade campus 911 system.
- Installed county-wide public safety radio system.
In March 2020, with the move to online instruction and remote work, the use of online tools exploded. The focus quickly turned to supporting students, faculty and staff to ensure business continuity. The IT Help Desk fielded almost 2,300 requests and incidents between March 9 and March 23. Graphs for Mediasite, Zoom and Microsoft Teams document the increased use of these tools. Mediasite, lecture capture and content platform, had more than a 500% increase in views. Zoom, a web conferencing system for hybrid classes, office hours, masters and doctoral student defenses, and meetings went from 1.9 m meeting minutes in 2019 to over 24.7 m in the same time period in 2020. From January through June 2020, the use of Microsoft Teams for group and private chats averaged 620 and 5,316 respectively.

### Mediasite Use in 2019 vs. 2020*

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Views</td>
<td>91,679</td>
<td>471,713</td>
<td>+515%</td>
</tr>
<tr>
<td>Presentations watched</td>
<td>5765</td>
<td>15,003</td>
<td>+260%</td>
</tr>
<tr>
<td>Hours watched</td>
<td>20,418</td>
<td>101,087</td>
<td>+495%</td>
</tr>
<tr>
<td>Authors</td>
<td>146</td>
<td>633</td>
<td>+434%</td>
</tr>
<tr>
<td>Presentations authored</td>
<td>1,533</td>
<td>9,054</td>
<td>+591%</td>
</tr>
<tr>
<td>Content hours authored</td>
<td>1,159</td>
<td>4,249</td>
<td>+367%</td>
</tr>
<tr>
<td>Storage consumption (TB)</td>
<td>0.89</td>
<td>8.73</td>
<td>+981%</td>
</tr>
</tbody>
</table>

*Data from March 23 - May 7 in 2019 and 2020

### Zoom Meeting Minutes Use in 2019 vs. 2020

![Zoom Meeting Minutes Graph]

### Microsoft Teams Chat Use from January- June 2020

![Microsoft Teams Chat Graph]
Information Technology Training

IT staff provided training opportunities for the campus on tools such as Microsoft Excel, Qualtrics, Microsoft Teams, Mediasite, the Content Management System, and the Constituent Relationship Management (CRM) system.

Number of training sessions offered 354
Number of attendees 2,138

Enable IT for Research

Partnering with the Vice President of Research, IT developed a Research Information Security Enclave (R.I.S.E.) to safeguard information, including Controlled Unclassified Information, Export Controlled, and similar sensitive data. This cloud-based tool is built on Microsoft Azure and complies with NIST 800-171. The system was recognized with an International Data Group CSO50 award for security projects and initiatives that demonstrate outstanding business value and thought leadership.
One IT Accomplishments

- Improved the interactions and classroom experience with Zoom between K-State Polytechnic and the Manhattan campus.
- Assisted K-State Olathe with an upgrade of the door access server and event management software that supports room scheduling, room rental, and invoicing.
- Collaborated with the Office of the Vice President of Research on the travel loaner laptop program to promote safe digital travel. The program ensures both K-State’s institutional compliance and the faculty’s compliance with several federal regulations while traveling internationally.
- Partnered with McCain staff to roll out a new ticketing system in time for the 2019/2020 season.
- Developed the Cloud Center of Excellence, where One IT can collaborate on cloud-based initiatives.