

OKLAHOMA STATE UNIVERSITY INSTITUTE OF TECHNOLOGY

Technology Plan

2019-2024

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OSUIT MISSION STATEMENT

OSU Institute of Technology's mission is to serve as the lead institution of higher education in Oklahoma and the region providing comprehensive, high-quality, advancing technology programs and services to prepare and sustain a diverse student body as competitive members of a world-class workforce and contributing members of society.

OSUIT TECHNOLOGY SERVICES VALUES

- Customer Service
- Best Practices
- Timeliness
- Accuracy
- Security
- Agility

ASSUMPTIONS

- The Technology Plan will be closely aligned with and driven by the university's Strategic Plan, Campus Master Plan, and Mission Statement.
- Technology has become an integral part of all university business.
- The Technology Plan will contain input from various stakeholders and reflect their expectations.
- The Technology Plan will be posted on the OSUIT website.
- The Technology Plan will be a five-year rolling plan with annual reviews and updates.
- The Technology Plan will update for each academic cycle.
- The Technology Plan will be fluid and flexible enough to allow Technology Services (TS) to take advantage of new or unexpected opportunities.
- Technology Plan Action items will be specific and measurable.
- Technology Plan Action items will reflect relevant task force findings.
- Implementation of individual Technology Plan action items will be contingent upon the availability of institutional resources.
- The Technology Plan and current list of action items will be public documents describing continuous improvement and advancement of the technology on the OSUIT campus. It will not be a listing of the current technology service offerings, which are outlined in the Technology Services Catalog.

TECHNOLOGY BACKGROUND

At the beginning of the 21st century, the technology services offered at OSUIT included maintenance of around 300 employee computers, 200 lab computers, 6 servers, delivering FOCUS reports from the SCT Plus system, and maintenance of the campus wired network which had approximately 3 Mbps bandwidth to the Internet. 3 Mbps is approximately the bandwidth that a single customer today receives from a cellular carrier when they have exceeded their plan limit. At that time, the institution’s total network storage was around 1 GB. There was no campus-wide wireless network and there were very few user-owned devices.

OSUIT’s technology resources have expanded substantially over the past eighteen years (see Table 1).

Table 1 –OSUIT Technology Resource Expansion, 2000-2019

Service	2019	2000	2018
Network backbone	1000Mbps	10 Mbps	1000 Mbps
Connection to Internet	10,000Mbps	1 Mbps	1000 Mbps
Wireless access points	220	0	107
Physical servers	25	4	16
Virtual servers	90	0	104
Cloud services	Private, Public, Community	None	Private, Public, Community
Network storage	46 TB	1 GB	40,000 GB
Employee computers	700	300	671
Labs	80	10	80
Lab computers	1250	200	1250
iPads	400	0	325
Technology Services FTE	10	10	10
Network/server uptime	99.995%	Not measured	99.99%

Overarching Goals

In alignment with the OSUIT Strategic Plan, the following overarching goals will direct the Technology Plan.

Increase Cost Savings and Collaboration

Sharing of services with other higher-education entities through increased use of community-cloud services, an increase in user-owned devices, contracts negotiated at the statewide level, and a movement toward select use of public-cloud technologies will allow OSUIT to meet the changing needs of its technology stakeholders for the next five years and will deliver cost savings and increased collaboration.

Increase Productivity and Effectiveness

The way in which OSUIT will advance technology in the next five years is very exciting. The trends indicate that many new opportunities will be available to increase the productivity and effectiveness of the campus. These will include:

- Server virtualization
- Virtual desktop technology for blended and online courses
- Enterprise Resource Planning (ERP) solutions which utilize business intelligence and analytics
- Expanded wireless communication over the IP network
- The Internet of things
- Unified communication including video conferencing and screen sharing on desktops and mobile devices from within Outlook

Provide Technology to Increase Student Retention

The Retention Task force has recommended the use of software to facilitate proactive intervention to increase student success. It is planned to implement Banner SRP or similar software soon after Banner is fully implemented across the OSU system.

Expand and Improve Infrastructure Services

Updating technology infrastructure services will be critical to the continued success of OSUIT over the next five years. Investment in the infrastructure will allow improved and expanded services for existing technology assets and will strategically position the university for increased student and employee use of personally-owned mobile devices, video conferencing, security cameras, cloud services, and the Internet of things.

OSUIT Technology Plan

Increase Implementation of Shared Services

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: A-1-b -Cultivating stronger affiliations with the OSU system and other educational institutions and entities

Cost savings and efficiency can be achieved by increasing the implementation of shared services with other educational entities. OSUIT has partnered with other Oklahoma higher-education institutions to leverage buying power, standardization, and knowledge-sharing; these partnerships have led to cost savings on technology such as VMware, OKCorral/Jaggaer, Canvas Online Classroom and Studio, Microsoft products, Dell computers, Cisco networking, Adobe, Zoom, Banner, Cognos, Grooper, Slate, TouchNet, CBORD, Booklog, Digi Systems, Qualtrics, Class Climate, KACE, UCView, and many other products and services. Under the leadership of the CIO of Oklahoma State Regents for Higher Education, higher-education technology leaders across the state are continuing to look to standardization, shared resources, volume contract pricing, and knowledge sharing to provide more and better services, more efficiently, and at lower cost. The leaders of Information Technology in higher education across the state are collaborating daily on these volume-negotiated contracts and the implementation information technology best practices.

Action Items:

- Share services with other educational institutions
- Utilize volume-negotiated pricing from other higher-educational institutions

Provide and Implement Innovative Instructional Technologies

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: A-5-a - Encouraging innovation in instructional technologies

In order to provide a world-class education, OSUIT must provide and implement innovative-instructional technologies. This will enable better modeling of the industry working environments as well as supporting learner-centered activities to increase student-learning outcomes. Providing this technology is just the first step. OSUIT must provide professional development in best practices for incorporating this innovative technology into the curriculum.

Action Items:

- Encourage and advise schools to purchase innovative learning tools
- Encourage the use of the Center for Advancement of Teaching and Learning for professional development
- Encourage the use of our web-based professional development resources
- Use Talent to schedule and report on professional development
- Explore the use of virtual reality for course delivery
- Expand the use of existing virtual desktop technology in coursework

Remain Current with Technology Trends

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: A-5-b-Remaining current with technology trends

To ensure campus-owned technology remains state-of-the-art, it is recommended that OSUIT refresh its technology assets at least once every four years. According to Moore's law, the processing power of new technology and the requirements of new software will increase four-fold in this four-year cycle. This rate of advance in processor speed is expected to last at least a decade until transistor etching technology approaches the atomic level. Scientists speculate that Moore's law can continue using nanotransistors to enable continued increase in processing power. As the current versions of software require increases in storage and processing resources, compared to the previous year, and as the need for analytic power increases, the hardware resources will need to be refreshed at least every four years to stay current with this increased resource demand.

Action Items:

- Refresh desktops, laptops, and tablets
- Refresh wireless technology
- Refresh fiber-network technology with single mode fiber
- Increase unified-communication technology
- Refresh classroom technology for teaching and learning excellence
- Increase bandwidth to the Internet

Mitigate Loss of Resources with Better Inventory Control

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: A-5-c Utilizing technology to mitigate loss of resources

Better inventory control and documentation of our university assets is critical to management of these assets. Technology Services maintains a technology resource management system that is integrated with its service desk and allows monitoring of technology assets through the network. Physical Plant Services maintains a cloud-based, facilities management inventory solution that includes a work-order system.

Action Items:

- Refresh and update network inventory software
- Refresh and update network device-tracking software

Enable Data-Driven Decision-Making

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: B-3-a-Utilizing institutional data and student survey results in the decision-making process

OSUIT will need to be strategic in what information is kept in its data systems and maintain the data integrity by strict use of university data standards. During the implementation of Banner, the university cleaned up the data and strengthened the integrity of existing data. With the query and report generation capabilities of Banner and Cognos, OSUIT is moving the capability of creating

reports into the hands of the end user. This allows employees to make data-driven decisions. This is an amazing improvement over having access to one screen of information at a time. Through integration of the various data sources, OSUIT will be able to use valid data to guide its decisions.

Action Items:

- Maintain licensing of Qualtrics survey software
- Maintain licensing of Banner ERP
- Integrate stand-alone data sources into Banner

Develop a Portfolio of Fully-Online Degree Programs

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: C-1-d-Developing and promoting a portfolio of fully-online degree programs

The technology side of supporting fully-online degree programs is to provide learning management platforms to support online teaching and learning. The learning platform by itself only provides asynchronous learning; maintaining virtual-classroom spaces using Zoom will allow for virtual-office hours and fully-interactive synchronous learning.

Action Items:

- Maintain Canvas, Studio, to support degree seeking students and Canvas Catalog for non-degree seeking students
- Maintain Zoom licensing
- Maintain Turnitin license
- Maintain Respondus license

Enhance End-of-Course Evaluations

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: C-3-c-Increasing the collection and utilization of end-of-course student evaluations

With the recent implementation of Class Climate, OSUIT is creating end-of-course evaluations that allow better analytics and increased usability.

Action Items:

- Promote increasing response rates to student course-evaluation surveys

Improve Data Services

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: D-4-b-Utilizing technologies for the improvement of data services

Until the implementation of Banner, OSUIT's system of record only allowed the end user to view one screen of a particular student's data at a time. All reporting for the campus community was funneled through one or two report programmers. Implementation of the data warehousing and

reporting functionality of Banner allows end users to run customized reporting from Banner without the need for specialized programming skills. The validation tables used by Banner combined with better adherence to data standards allow great improvements in reporting and data validity.

Action Items:

- Utilize Cognos reporting to improve data services
- Train end users in Cognos reporting
- Train end users in Tableau

Encourage Institution-Wide Collaboration

Consistent with OSUIT Strategic Plan Item: D-5-a-Encouraging institution-wide collaboration

Better communication and collaboration capabilities are keys to the continued success of OSUIT. Use of technology tools to communicate, collaborate, and share information with colleagues wherever and whenever can promote better collaboration and productivity. Awareness of the existing technologies as well as instruction in the use of existing and emerging collaboration technologies is necessary. By improving the usability of meeting spaces and increasing simplicity in videoconferencing and screen-sharing technology, OSUIT can facilitate self-efficacy and efficiency in the use of collaboration technology.

Action Items:

- Encourage use of SharePoint, Zoom, and Skype for Business
- Upgrade meeting room technology using interactive projection combined with Clickshare display technology

Enhance Institutional Safety and Emergency Management

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: D-5-b-Enhancing institutional safety and emergency management

Campus safety is an expectation in today's college environment. With the enactment of the Clery Act and the pending Campus Accountability and Safety Act (CASA), universities are increasingly required to demonstrate due diligence and documentation of efforts to promote campus safety.

Action Items:

- Increase security-camera coverage across campus
- Promote use of the Rave Guardian app
- Increase network security monitoring
- Increase campus cyber security defenses
- Increase generator backup power
- Maintain the use of RAVE and Alertus for emergency alerts

Develop and Institutional Inventory Monitoring Process

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: E-3-a-Developing an institutional inventory monitoring process

OSUIT has inventory monitoring software in place for physical plant and technology resources on campus. The university also has network software that monitors the location and the user of most network-attached devices. This produces cost savings by avoidance of lost or stolen technology.

Action Items:

- Continue to invest in network inventory management software

Implement Scheduling Software to Maximize the Use of All Spaces

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: E-3-e-Implementing scheduling software to maximize the use of all classrooms and meeting spaces

Cost savings and increased efficiencies can be obtained through the implementation of a room-management system for classroom and meeting-space resources. Through better utilization of existing spaces, OSUIT can cut maintenance costs, technology costs, energy costs, and increase personnel savings and efficiency by maximizing the number of students in a classroom. This will result in a decrease in the number of required course sections.

Action Items:

- Invest in and implement room-scheduling software such as Ad Astra

Use Technology to Improve Productivity, Communications, and Processes

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: E-4-b-Utilizing technology to improve productivity, communications, and processes

Integrating workflow software with our existing processes will increase efficiency by streamlining manual processes and allowing OSUIT to do much more with existing staff. In keeping with ITIL best practices, TS has streamlined workflow processes using KACE and SharePoint. The Bursar's office and Student Services have streamlined document management through the use of document imaging software. Fiscal Services has streamlined the purchasing process by implementation of the public-cloud service OKCorral and the travel request process through the use of SharePoint. Grooper software is now able to identify document types and index all scanned content while inserting the data from the paper documents directly into Banner.

Action Items:

- Increase use of SharePoint for collaboration and workflow
- Increase use of Outlook, Skype for Business, and Zoom
- Utilize the workflow capabilities of Banner

Improve Support Services and Processes for Online Students

CONSISTENT WITH OSUIT STRATEGIC PLAN ITEM: E-4-c-Improving support services and processes for online students

Online students deserve the same support available to traditional, face-to-face students. OSUIT can leverage the existing technology to integrate with the learning-management software to offer these same services to students who never step foot on the OSUIT campus.

Action Items:

- Utilize Zoom to give students virtual office hours
- Use Banner, Slate, and SRP retention software to allow increased communications options
- Use Atomic Learning tutorials in Online Classroom to improve student use of the LMS
- Use Proctor U leveraging the Quality Matters contract
- Use tutor.com or similar option for 24/7 online tutoring
- Use Skype for Business and Zoom to allow video communication and screen sharing
- Install H323 video conferencing equipment in the Center
- Install Huddle Room technology across the campus