



WASHINGTON STATE UNIVERSITY

2023 Accreditation Submission  
Re: Technology @ WSU



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## Revision History

Version No.	Date	Author
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# Introduction

Higher education is moving further into an era of complex academic, research, and business technology needs. Information Technology Services (ITS) continues growing and strengthening WSU's technology infrastructure, improving support resources, ensuring adherence to the most secure technology processes, and staying ahead of future needs with dynamic technology roadmaps.

All ITS projects and services strategically align mapping to more than one of the four core themes of the WSU Strategic Plan:



Exceptional Research, Innovation, and Creativity



Transformative Student Experience



Outreach and Engagement Institutional



Effectiveness: Diversity, Integrity, and Openness

# Technology Systems and Infrastructure Accomplishments

## WSU Wireless and Guest Wi-Fi

ITS now offers universal access to WSU Wireless services for multiple campuses across the WSU system. Students and faculty can visit Pullman, Spokane, Everett, Vancouver, or the Tri-Cities campuses and retain instant connectivity through their already established WSU credentials.

WSU Pullman migrated to an open, self-service resource in a true guest wireless, allowing registration in a matter of moments directly from a person's device for the first time in WSU history, including IoT for users within WSU Pullman housing, visiting family, and WSU affiliates. ITS continues to enhance this service, more than doubling connectivity access points from 2,283 in 2016 to over 4,600 across Pullman's campus today.

## Infrastructure Services

A new wide area network (WAN) providing dedicated internet connections linking all the state campuses together. Implemented in spring 2023, WSUNet offers improved WSU community access for video conferencing and streaming classes. Offering researchers state of the art connectivity, the new WAN will save WSU an estimated \$245,000 per year.

ITS implemented new infrastructure and storage to support a secondary data center in Pullman, replaced aging datacenter switching, routing, and firewall resources in ITS' primary data center.



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ITS also invested in new server and networking infrastructure to support existing and future WSU business and academic tools including Skype for Business, Microsoft communication services, mainframe computing, virtual servers, WSU's high-performance computer, Kamiak, wired and wireless access, email and calendaring, voice, and telephone services.

ITS redesigned WSU's internet connectivity architecture, employing K20 to double the bandwidth for Pullman. The infrastructure team also transferred all Pullman data and voice network services from the current decade-old, 10-gigabit-per-second equipment to new 100-gigabit-per-second campus infrastructure equipment.

Deployed for the first time in a WSU research facility, ITS supported an entirely fiber optic-based LAN technology, Gigabit Passive Optical Networking (GPON).

## Move to Cloud Resources

- **myWSU:** ITS moved its student information system (SIS), myWSU from Oracle to cloud provider AWS. Benefits include reduced slowdowns during peak periods such as term starts. The move also offers improved platform security, timely updates, and improved system integration thanks to stronger hosting capabilities.
- **Canvas:** Following a two-year planning process, WSU moved to the new cloud-based Canvas learning management system (LMS). Moving to Canvas offered improved user experience through continued updates and responsive solutions. including automatic sync of information and grades between the LMS and student information system, myWSU.
- **Zoom:** This cloud-based telecommunications tool eliminates aging hardware and numerous duplicated services costing the university hundreds of thousands of dollars in annual operating and maintenance costs, allowing ITS to focus on quality of service. Zoom quickly showed its reliability in the successful transition to remote learning during Covid and beyond with 99.99% uptime. WSU's top simultaneous meetings since adoption occurred in Nov. 2022 with 525 groups all meeting via WSU Zoom at the same time: more than 100 times the capacity of legacy infrastructure, and at a fraction of the cost.
- **Teams:** WSU's adoption of Microsoft Teams paralleled Zoom's critical support of university collaboration, teaching, and business. Today thousands of WSU users are active daily in the software, and more than 80,000 meetings, 85,000 calls, and millions of work- and teaching-related chats take place each year, allowing timely flow of information regardless of work and teaching location.
- **WSU Email:** A multi-phase Office 365 email migration project replaced seven different departmental WSU email services, rolling them all into one centralized cloud-based service, Office 365 Exchange Online. Over the course of a year, the implementation team coordinated the transfer of millions of active and archived email records for each group individually, to ensure continuity of information access during the transition.



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# Technology Support and Services Accomplishments

## Student Success Initiatives

- Academic administrators now have a prerequisite analysis dashboard, offering a view of the correlation between prerequisites and the following target course and the resulting data regarding whether curriculum is performing as intended.
- ITS also partnered with the provost on an Early Academic Referral System that informs advisors, faculty, and instructors of students who are struggling academically. This resource offers campus-specific customizations to accommodate unique location-based needs.
- ITS is working on a transfer tool to allow students to measure completed external coursework against WSU's program requirements, improving the timeliness of providing the needed data for students to make a transfer decision.
- ITS implemented First Day, an e-book program partnering educators with textbook publishers to save students time and money. In its pilot year, the limited program saved students over half a million dollars in course material fees.
- ITS integrated myWSU data into Suitable, a career amplifier application working to strengthen a graduate's career readiness upon completion of a degree. The software allows faculty to track required, non-academic activities and work with students in a timely, effective manner.
- The new Academic Planner integrates their preferred area of study into a single app that shows a student all needed program courses in one place, ensuring confidence the student has all the information they need to move from setting goals to accomplishing them.
- MyWSU introduced the Fluid User Interface (FUI) based on student feedback requesting improved functionality and ease of access to key resources. ITS provisioned new servers to offer improved mobile user interface.
- WSU introduced a mobile ecosystem application through the collaboration of multiple units. This app provides centralized, timely access to numerous mobile-friendly WSU resources such as MyWSU, GET (dining), transit options and more.

## Guest Experience (Friend ID)

A simplified guest account process now takes minutes, providing access to view tuition charges, make payments, view tax documents, as well as allowing access to university resources such as the Student Recreation Center when visiting campuses. Affiliates and vendors are more easily able to receive access. All of this is now possible while keeping university resources more secure.



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## TouchNet

Integrated into WSU's student information system, myWSU, TouchNet is used by students and family with friend accounts needing to review tuition charges and complete electronic payments. With embedded cashiering capabilities, TouchNet is also an important tool for WSU departments and organizations to manage payment intake.

## ITS Customer Support

This order processing enhancement to PCR software for system resources, such as phone and connectivity, improved both user experience and ITS' ability to respond to business needs in a timelier efficient manner.

## Jira

ITS brought online a new project management tool that also offers customer support capabilities via customized service desks for intake and management of support and consulting requests. The tool was offered at no cost to technology and customer support groups across the university with central management and training by ITS.

## ITS Customer Service Restructure

Central ITS support is now organized into four customer service tiers. Self-service through WSU's 22,261 knowledge base ([kb.wsu.edu](http://kb.wsu.edu)) articles, Ask Butch chatbot, and ITS' website ([its.wsu.edu](http://its.wsu.edu)) is Tier 0. Tier 1 is support by email or phone through a central point of service, Crimson Service Desk. Tier 2 service escalates requests to the technical management team. Tier 3 is project planning and applies a strategic perspective that can serve the needs of a larger group.

## ITS Service Catalog

For the first time in ITS history, ITS consolidated service listings into a central online service catalog with intake forms easily accessible to users.

## Regulated Data Environments

WSU users place data in unique, individually built RDE's that satisfy government and grant funding data security compliance requirements by providing a higher level of security than traditional services such as local shared drives and online platforms including Microsoft Teams.

## Student Data Warehouse

ITS finalized a new centralized resource housing data on student records, financial aid, student financials, and student demographic information. Groups across the system that utilize this data for student support and





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university engagement now have a timely, easy to use resource.

## Explorance Blue

ITS introduced the online course evaluation application, Explorance Blue, as a more dynamic, long-term data resource with an improved user experience for students, faculty, and administrators. This tool enhances a student's ability to share feedback on their learning experiences in WSU courses which can drive timely teaching and curriculum improvements.

## OBIEE

ITS unified legacy data and reports into a new platform that includes current student data and dashboards, securely streamlining the system-wide user experience and infrastructure administration when working with WSU's large volumes of data.

## WSU Foundation

ITS moved donor matching integration from the expiring business software to myWSU, supporting WSU Foundation's continued work to match alumni with donor opportunities for continued scholarship and research support.

## COVID-19 Response

ITS staff supported countless technology needs to ensure continuity and security of WSU academic and business processes system wide:

- WSU's new telecommunication resource, Zoom, had been in place for barely more than a semester when it broke record after record, going from approximately 2,500 registered users in February to more than 31,000 users in March with millions of minutes in Zoom meetings and classes. The top individual Zoom user, a WSU faculty member, hosted 132 Zoom meetings in a single week.
- Microsoft Teams rolled out earlier this spring, just in time to offer state of the art file sharing and collaboration for students, faculty, and staff. Since its rollout, Teams users completed 13,000 group calls or meetings via Teams, over 2 million chat messages, and over 50,000 channel messages, by the more than 10,500 new users.
- Crimson Service Desk (CSD), the ITS technical help desk for users across the university, created a first of its kind Zoom virtual service desk model where customers could join anytime during business hours and receive live assistance. Along with introducing Zoom service desk, CSD fielded more than 12,000 email and phone requests for assistance during March and April and saw dramatic increases to self-help knowledge base resources online while also supporting the new 'Ask Butch' online chatbot resource.



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- ITS partnered with academic leadership to introduce a loaner hotspot and Chromebook program for students with limited connectivity at their homes. Grant funds paid for equipment while ITS managed the administrative processes of inventory and distribution.
  - The ITS website, designed to offer centralized information and resources including the Cougs Online Toolkit, experienced more than 32,000 visitors reviewing 61,000 pages of information such as instructions and links for obtaining secure remote access via the brand new GlobalProtect.
  - Barely having replaced the end-of-life Cisco AnyConnect, which allowed a maximum of 500 users, GlobalProtect's virtual private network (VPN) security gained more than 5,600 users almost overnight who could suddenly work from the safety of their home while still accessing secure business resources behind WSU firewall protections. The service continued to grow business and academic users throughout Covid and beyond.
  - Individual identity security saw some of the most targeted threat levels, thanks to the changing technology landscape. COVID-19 inspired malicious actors hoping that remote workers and students were not safely behind robust organizational network security. WSU's security walls continued to stand strong thanks to technology and trained staff already in place.
  - Partnering with numerous academic and business groups, ITS developed mobile attestation software to allow safe return to campuses across the WSU system.

## Technology Information Security Accomplishments

### Policy and Procedures

ITS finalized BPPM additions including a system security plan, a security assessment procedure, and a risk assessment procedure, allowing business units to develop and implement technical resources that align with WSU security and privacy standards.

WSU now also requires all employees to complete annual cyber security awareness training, improving WSU's defenses against social engineering attacks by educating on real-world security and privacy threats. Staff and students regularly assist in front line information security efforts by forwarding potentially malicious emails to ITS' information security team for review.

### Multi-Factor Authentication

Through a multi-phase implementation, multi-factor authentication (MFA) became a required security step for the university community to access most system academic and business resources. This industry-best tool dramatically reduced the threat posed by compromised passwords for the 30,000+ network authentications WSU averages each day.



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## Security Operations Center

WSU now employs security operations monitoring, detection, and mitigation capabilities system-wide, including the deployment of industry-leading endpoint detection and response which provides real-time monitoring and threat detection at the end-user level for more than 8,000 WSU servers, staff, and faculty.

## Access Security

ITS completed a student information system (SIS) security role audit for over 10,000 employees, implementing an annual review to ensure robust security and access processes.

## Email Protections

ITS implemented Domain-based Message Authentication Reporting and Conformance (DMARC), a form of email authentication that protects WSU users from online threats like spam or malware to all incoming and outgoing emails. ITS engaged with leadership across numerous departments university-wide to verify that DMARC implementation did not change email business processes. A significant security benefit, DMARC protects WSU's identity and reputation by creating safer online connections.

## Cyber Awareness Engagement

ITS introduced annual cyber awareness events including student engagement trivia and a cyber-security awareness summit that brings industry experts to WSU IT staff. ITS also continues to grow training and awareness opportunities through opt-in simulations and information security testing.

## Technology Planning and Governance

### ARB

ITS introduced an Architecture Review Board (ARB) to advise leadership on proposed large-scale initiatives with the intent to decrease redundancy in projects, ensure all proposals align with university and ITS mission and funding, and ensure rigorous risk assessment early in the proposal process.

### ITS Change Control Board

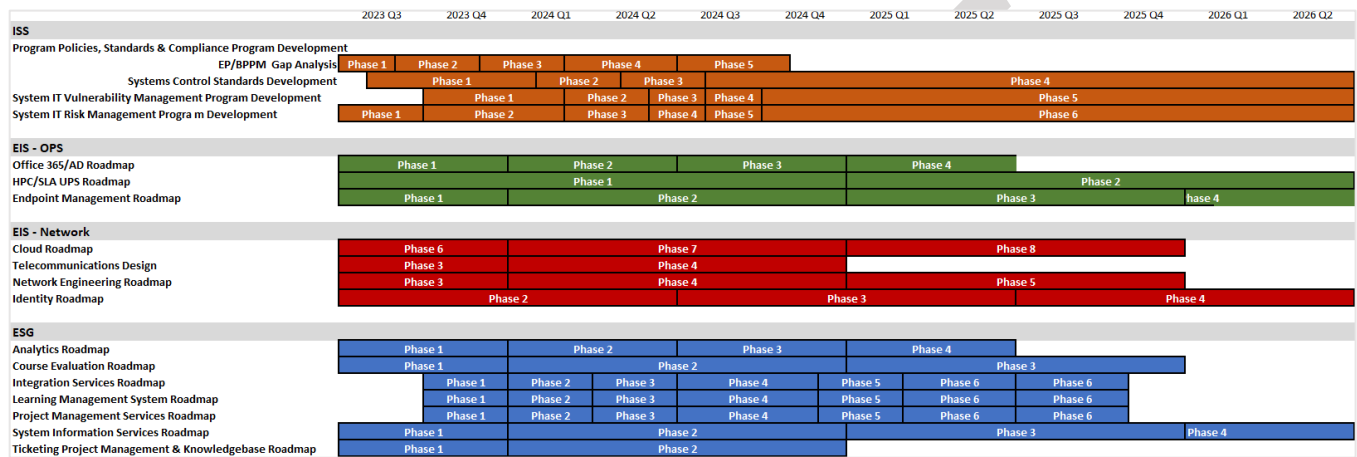
ITS implemented a peer assessment of proposed maintenance, upgrades, and shutdowns of existing systems and services to facilitate timely communication of potential impact and support resources for both end users and technical staff across WSU.



# ITSAC

The Information Technology Services Advisory Council (ITSAC) focuses on expanding transparency of technology initiatives and increasing collaborative planning across academic, business, and technology leadership. ITSAC offers numerous conversations for topics including infrastructure, Workday integrations and expansion, enterprise site licensing, endpoint management standards, and much more.

## ITS Roadmap Gant



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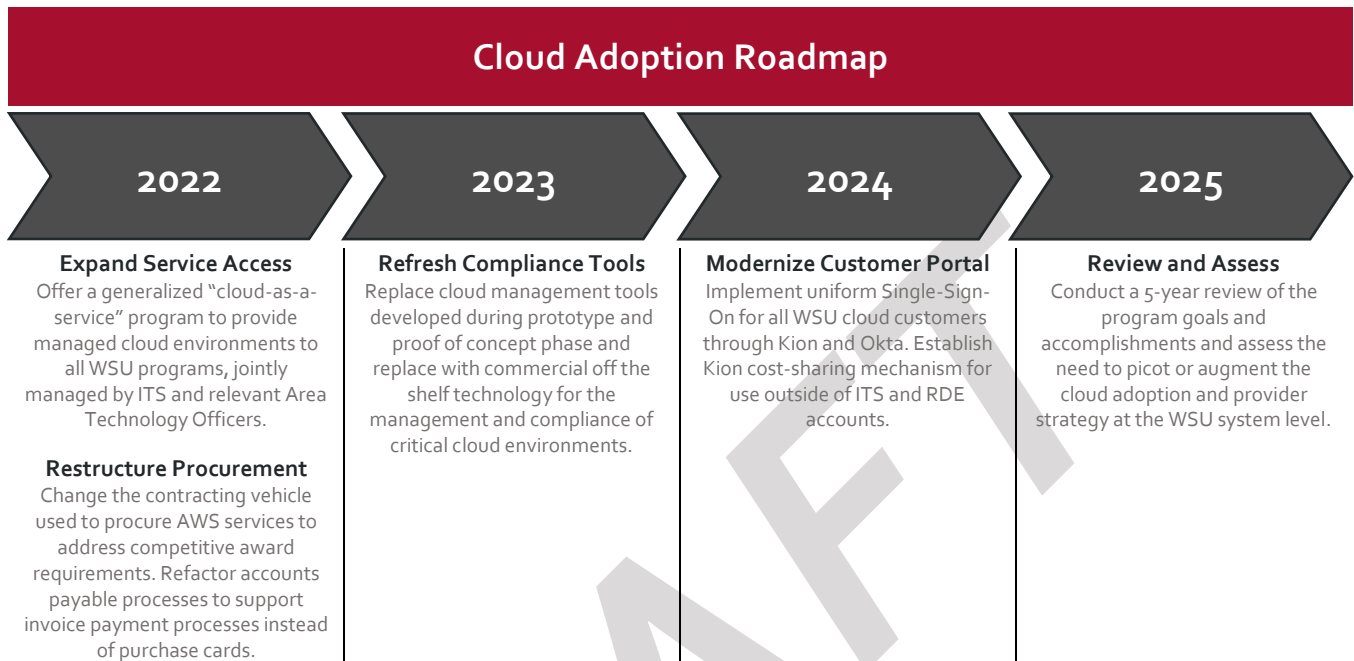
# Roadmaps

## Network Engineering

Network Engineering Roadmap				
FY21	FY22	FY23	FY24	FY25
<p><b>January 2021</b> Announce the roadmap, answer questions, and incorporate customer feedback.</p>	<p><b>July 2021</b> Launch wireless RBN's (Wired and VPN already released).  Delegated RBN management in the BlueCat's.  Begin market research and RFQ for WSU WAN.</p> <p><b>January 2022</b> Remove blanket border firewall exceptions for server and management traffic to building networks.</p>	<p><b>July 2022</b> Launch FWAS and the Campus Firewall Service (contingent upon approval of capital budget). No cost VSYS, one per area. Requires participating in bi-weekly firewall operators group forum.  Launch trunking as a service (contingent upon FWAS). Requires MOU.  Complete RFQ and implement WAN services.</p> <p><b>Winter 2022</b> Implement new core firewalls.</p> <p><b>January 2023</b> Remove blanket access from building networks to the datacenter networks, with the exception being AD traffic.  Remove blanket inbound border firewall rules.</p> <p><b>March 2023</b> Implement WAN as primary ISP for WSU campuses.</p>	<p><b>July 2023</b> Provide a true, self-service IoT network. (May be released sooner, depending on rate of work.)</p> <p><b>January 2024</b> Begin NAT'ing the legacy building networks, effectively making them as if they are private IP space.</p>	<p><b>July 2024</b> Support dual-stack IPv6 in RBN's.</p> <p><b>January 2025</b> Block AD traffic to datacenter networks from the now legacy guest networks.</p> <p><b>June 2025</b> Look to the future, including WAN phase 2 with second hub and spoke network.</p>



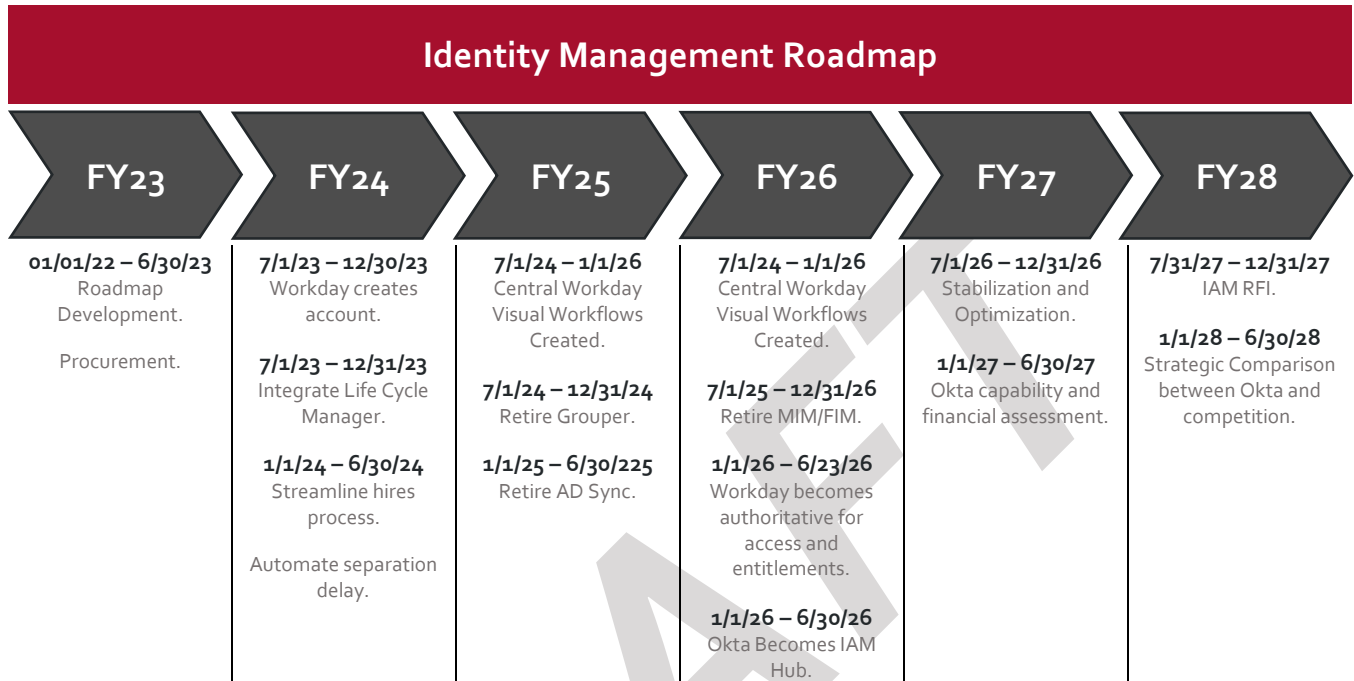
## Cloud Adoption



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## Identity Management

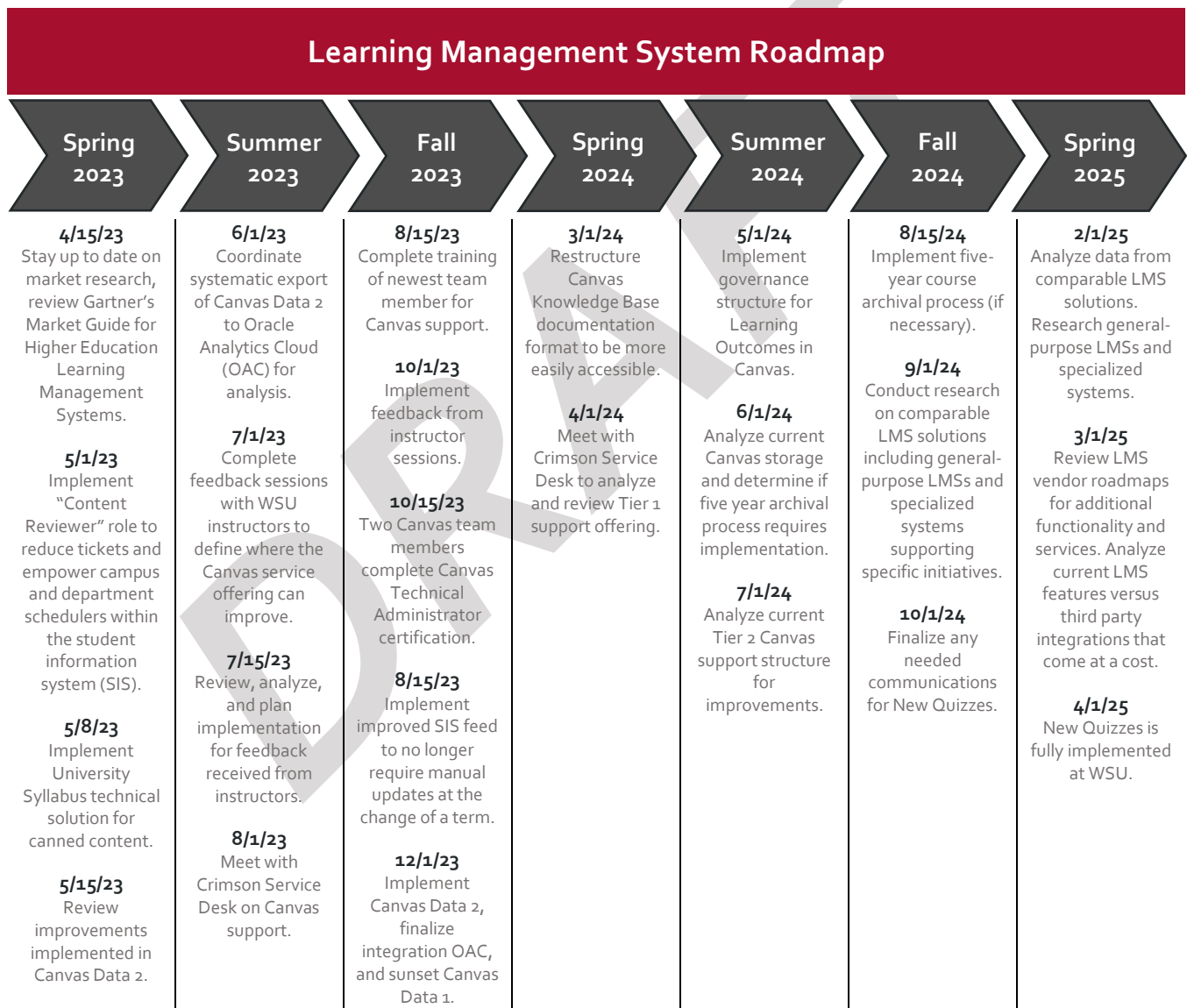




## Learning Management System

The Enterprise Projects and Implementations (EPI) team manages, supports, and administers Canvas the Learning Management System (LMS) utilized by the University. This includes, but is not limited to, customer support, stakeholder communication, training of support staff, implementing third party integrations, and configuring/maintaining the Student Information System integration. Canvas is utilized by roughly 84% of classes on all WSU campuses.

**Goal:** Empower student learning and instructional tools through providing a proficiently administrated industry-leading Learning Management System.







# SIS

## myWSU Student Information System (SIS)

Oracle PeopleSoft Campus Solutions (PSCS), or myWSU, is the core system of record (SOR) at Washington State University and will continue to play a critical role in OneWSU's digital technology platform for the next 5 years. myWSU supports both back-office administrative operations and Student and Faculty facing self-service functionality. myWSU manages vital information and student assets including course offerings, class schedules, course enrollment, grades, academic progress, transcripts, financial aid, tuition, and student accounts. myWSU serves as a critical SOR for operational reporting, business intelligence, institutional research, and enrollment management.

### Looking Forward

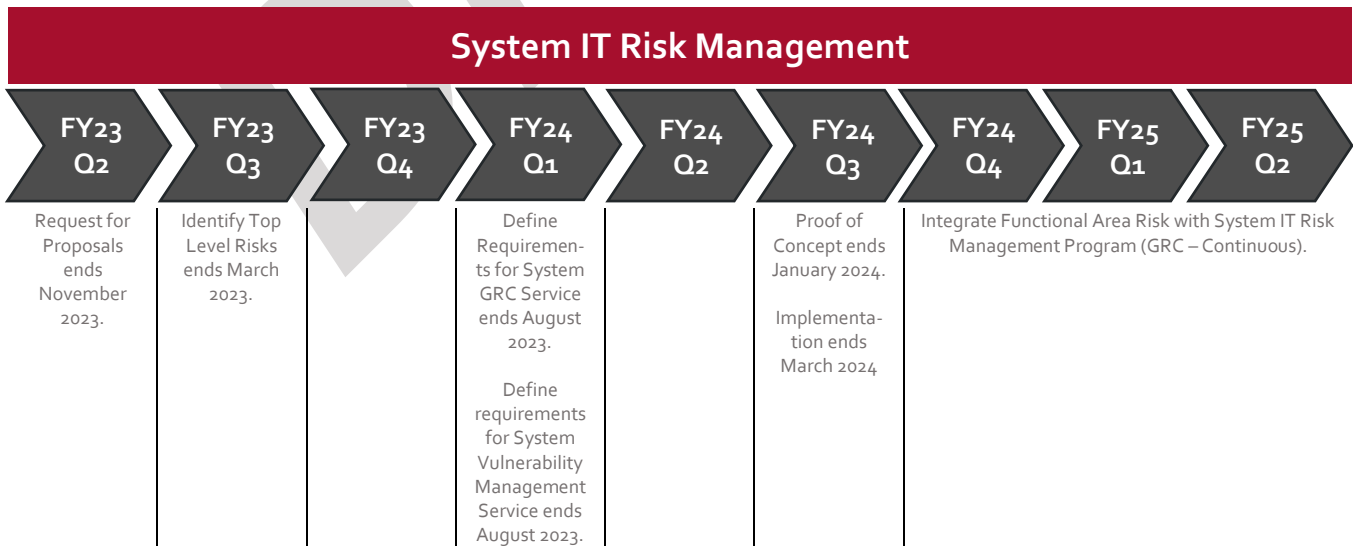
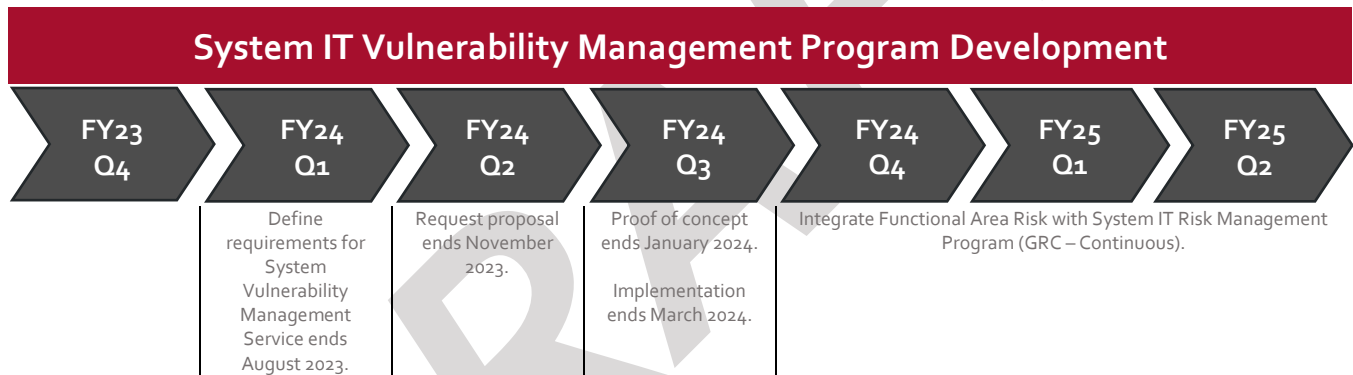
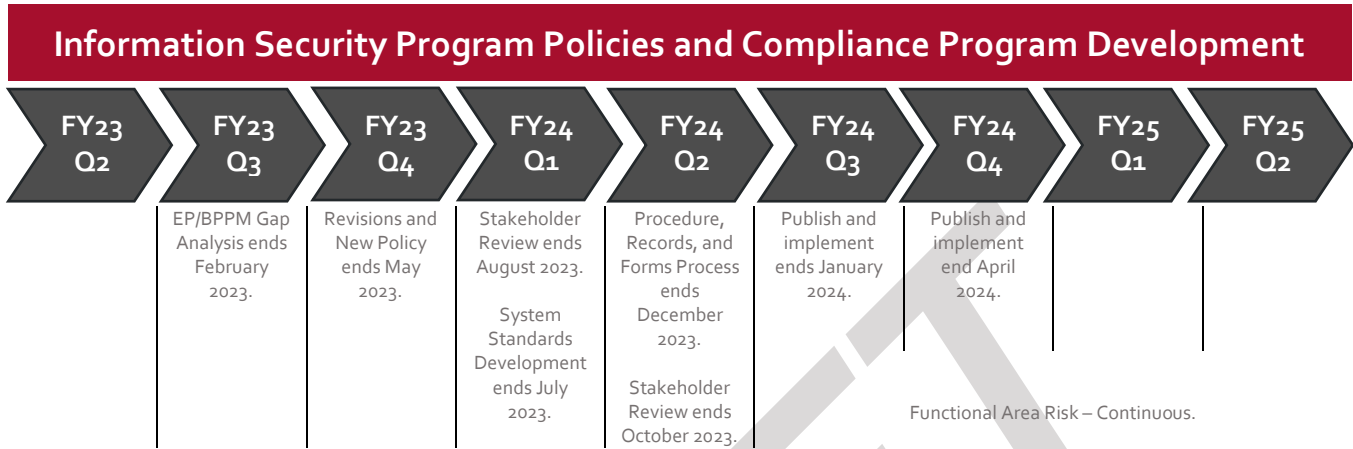
- Lead SIS modernization efforts by introducing and integrating new enterprise tools and applications.
- Link SIS technology changes to institutional goals with measurable objectives.
- Leverage digital-outcome-driven metrics framework for higher education to identify value of investments.
- Continue to Decouple the SIS by introducing new enterprise business capabilities using point solutions specific to stakeholder business models and practices.

## Student Information System Roadmap

2023	2024	2025	2026	2027	→	2033
Evaluate My Transfer Credit for guest users.  GradCAS implementation.  SLATE integration for undergraduate applications.  Planner: Time blocks.  Electronic 1098-T via TouchNet.  PELL simplification.  Degree Recommender Phase I.  Investigate Workday Student and identify other SIS Cloud Solutions available for consideration.  PeopleTools upgrade.  PUM 28, 29, 30.	SLATE integration for MBA applications.  Planner: Schedule builder.  Degree Recommender Phase II.  Electronic refunds via TouchNet.  Self-service redesign for Financial Aid.  Present SFP/Vocado to SFS for consideration (SFP is SIS agnostic).  Check Campus solutions end-of-life and maintain inventory and analysis of SIS Cloud Solutions.  PeopleTools upgrade.  PUM 31, 32, 33.	Review/Renew support contract with Burgundy.  Review/Renew product license with Oracle.  Check Campus solutions end-of-life and maintain inventory and analysis of SIS Cloud Solutions.  PeopleTools upgrade.  PUM 34, 35, 36.	PeopleTools upgrade.  PUM 37, 38, 39.	PeopleTools upgrade.  PUM 40, 41, 42.		Campus Solutions end-of-life.



## Information Security





## Telecommunications Design

### Telecommunications Design Roadmap

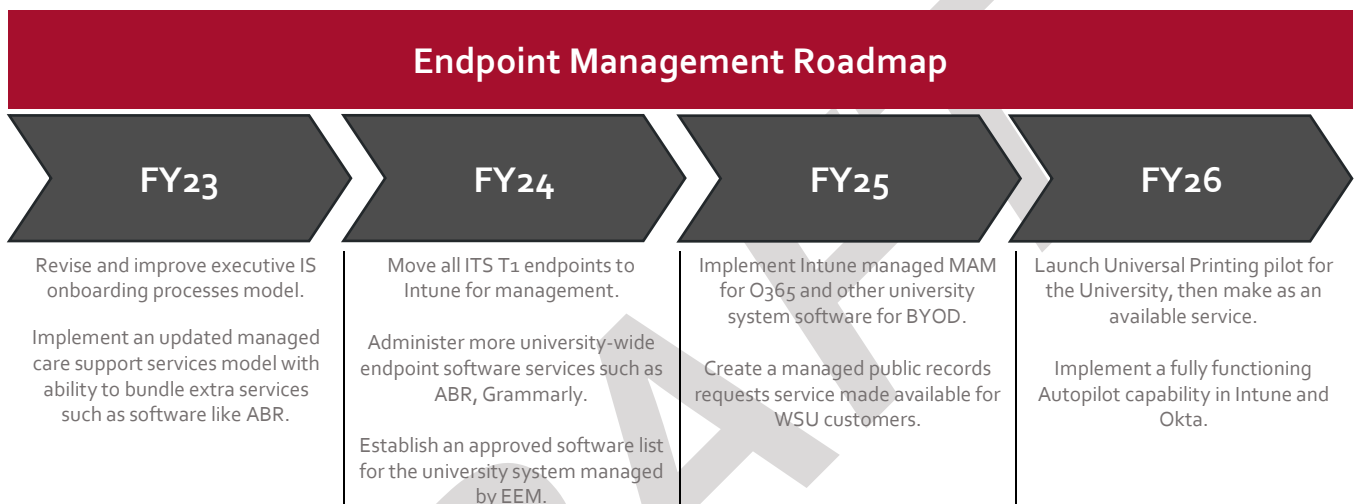




## Endpoint Management

### Goals:

- Act as system-wide endpoint support, as far as maintaining system-wide endpoint baselines and software.
- Expand customer base to Provost and Chancellor.
- Provide additional centrally managed, automated services for the management of endpoints across WSU.





## HPC/SLA UPS

### Goals:

- Redesign the electrical supply capabilities and replace aging infrastructure in ITS 1010 as necessary.
- Continue to support the backup power needs and expansion of HPC and SLA customer's equipment.
- Consolidate four UPS's down to two modular and more efficient UPS's and provide redundant power to all racks.
- Replace old circuit breaker panels with modular Power Distribution Racks.
- Move UPS's out of ITB 1010 and into their own space, reducing the risk of fire hazard in ITB 1010.

### HPC/SLA UPS Roadmap

FY23/24	FY25/26	FY27/28	FY29/30
<p>Move all racks from UPS MC to UPS ME.</p> <p>Requires purchasing breaker/whips to max out both Power Distribution Racks that were installed in 2021.</p> <p>Requires purchasing compatible PDUs for all racks.</p> <p>UPS MC will be decommissioned.</p> <p>Sustains Kamiak growth for at least 2 years and removes risk of UPS MC failure.</p> <p><b>Cost ~ \$150,000</b></p>	<p>Install Spokane UPS (Eaton 9395 225kVA 480V) in place of UPS MC.</p> <p>Purchase/install UPS maintenance bypass.</p> <p>Purchase/install 2x Power Distribution Rack and connect SPO UPS.</p> <p>Purchase/install breaker/whips to half populate PDRs.</p> <p>Balance load between SPO UPS and UPS ME.</p> <p><b>Cost ~ \$160,000</b></p>	<p>Renovate another space to become UPS room.</p> <p>Purchase new modular 250kVA UPS and install in UPS room.</p> <p>Decommission UPS ME and connect new UPS to PDRs (2021).</p> <p>Purchase additional breaker/whips to fill PDRs and start migrating racks from old UPS's.</p> <p><b>Cost – Unknown</b></p>	<p>Purchase second new modular 250kVA UPS and install in new space.</p> <p>Decommission SPO UPS and connect new UPS to PDRs.</p> <p>Decommission UPS MD and UPS ME.</p> <p>Decommission and remove old breaker panels and wiring in 1010.</p> <p><b>Cost – Unknown</b></p>

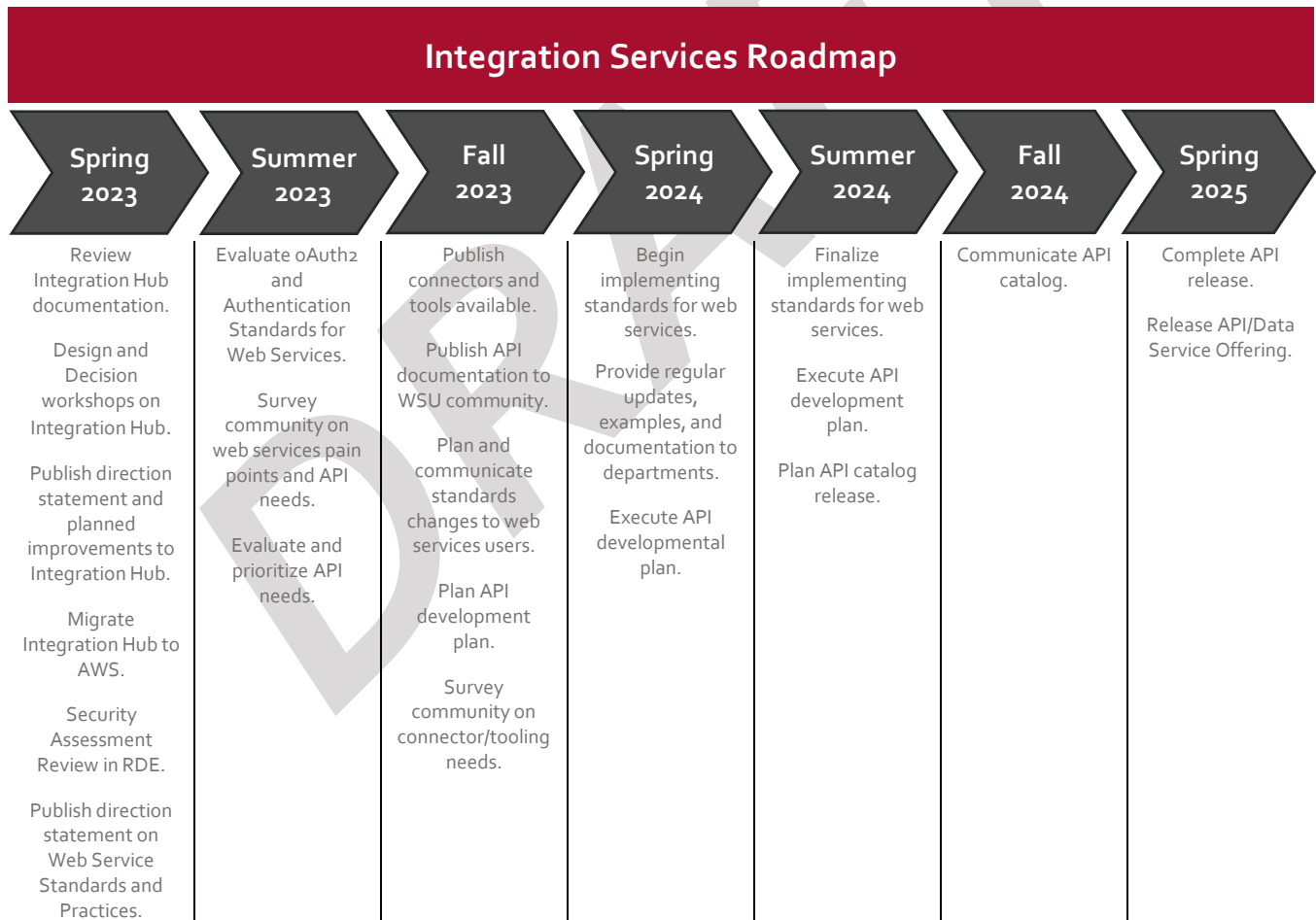


## Integration Services

Enterprise Systems (SIS, LMS, Data Visualization, etc.) all rely on integrations to transfer and make data available. The Enterprise Systems teams utilize a centralized integration platform wherever possible to facility agility and standards based integrations. These tools and by virtue of these tools - a service is realized to the university. This roadmap encompasses the following goals that Enterprise Systems wishes to accomplish that enable institutional effectiveness.

### Goals:

- Engage with university community to understand gaps and challenges departments face integrating software and solutions at WSU.
- Implement and engage in a practice of continuous improvement to our integration services.
- Deliver solutions and services that allow integrations and implementations to be based on standards and tools rather than a design to implementation solution.





# O365/AD

## Goals:

- Migrate existing service functions to modern cloud services and align services with direction of other enterprise services.
- Enable institution to manage endpoints from cloud-based services.
- Enables areas and colleges to manage their own resources in accordance with WSU policy and state requirements.
- Retire services that are legacy in nature or underutilized.
- Improve service offerings with modern cloud solutions.

## New Capabilities:

- Role Based Access Control in Azure AD, Office 365, and cloud SaaS Active Directory Domain Services (AD DS) originating from Okta.
- Automated provisioning and deprovisioning.
- More robust, discreet, and customizable service management and entitlement.
- Greatly improved security in functionality, features, and reduced attack surface.
- Just-In-Time (JIT) and Just-Enough-Access (JEA) model for administrative roles.
- New administrative model to replace the Tiered Administration Model.
- Identity-based data management and removal.

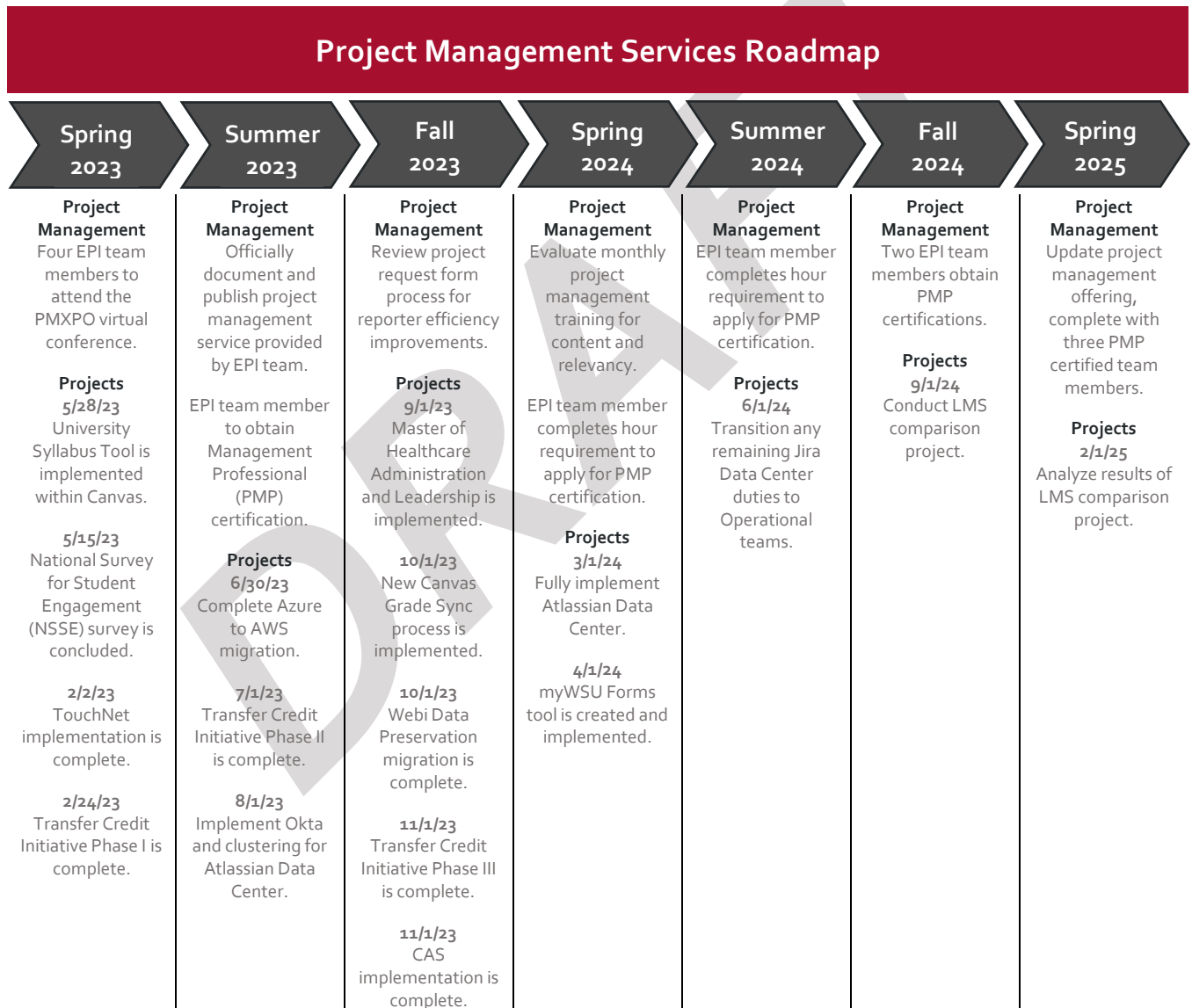
O365/AD Roadmap				
2023 H2	2024 H1	2024 H2	2025 H1	2026 h2
<p><b>Teams</b> Teams Secure Storage Pilot.  Automatic Teams cleanup and removal.</p> <p><b>AD DS SaaS</b> AD DS SaaS Solution section.</p> <p><b>AD DS</b> Transition of PAM security principals to mapped security principals.  Migration of Tier 2 endpoints SaaS endpoint management.</p> <p><b>Azure AD</b> Migrating hybrid Azure AD joined devices to native Azure AD joined devices.</p> <p><b>SO</b> SharePoint site collection cleanup and removal.</p> <p><b>Other</b> Active Directory Federation Services (AD FS) service migration to Okta.  RADIUS Service retirement.  Active Directory Certificate Services (AD CS) retirement.</p>	<p><b>Teams</b> Teams Secure Storage Service Offering.</p> <p><b>AD DS</b> Transition of PAM security principals to AD mapped security principals.</p> <p><b>EO</b> Removal of WSU email forwarding service.  Removal of Alumni Email Service.  Removal of non-Outlook/OWA clients.</p> <p><b>EOP</b> Spam and phishing changes.  Mail routing changes.</p> <p><b>Tier o</b> Retirement of Tiero Environment.</p>	<p><b>AD DS SaaS</b> Migration of Tier 1 AD systems to AD DS SaaS.</p> <p><b>AD DS</b> LDAP application migration to Okta, Azure AD, or AD DS SaaS.  Child domain migration to cloud apps or AD DS SaaS.  Migration of on-premise distribution lists to Okta.  Migration of users and groups to Okta.  Deprecate AD DS Service.</p> <p><b>Exchange</b> Retire on-premises Exchange services and service cleanup.</p>	<p><b>Other</b> Active Directory Domain Naming Services (AD DNS) retirement.  Active Directory Federation Services (AD FS) retirement.</p>	<p><b>AD DS</b> Retire AD DS Service.</p>



## Project Management Services

The Enterprise Projects and Implementations (EPI) team works with all departments of Enterprise Systems and ITS. The team drives project management and implementation duties on high level projects impacting all campuses of WSU. Team members are skilled in project management, collaboration, and communication. Since the inception of the team in February 2021, team members have managed many WSU wide projects including Microsoft Bookings for Advisors, the implementation of Canvas LMS, and the migration of myWSU to Amazon Web Services. While the EPI team continues to lead across a wide variety of projects, the team also continues to drive project management processes, knowledge, and certifications within ITS.

**Goal:** Efficiently and effectively provide project management services to high impacting ITS projects.







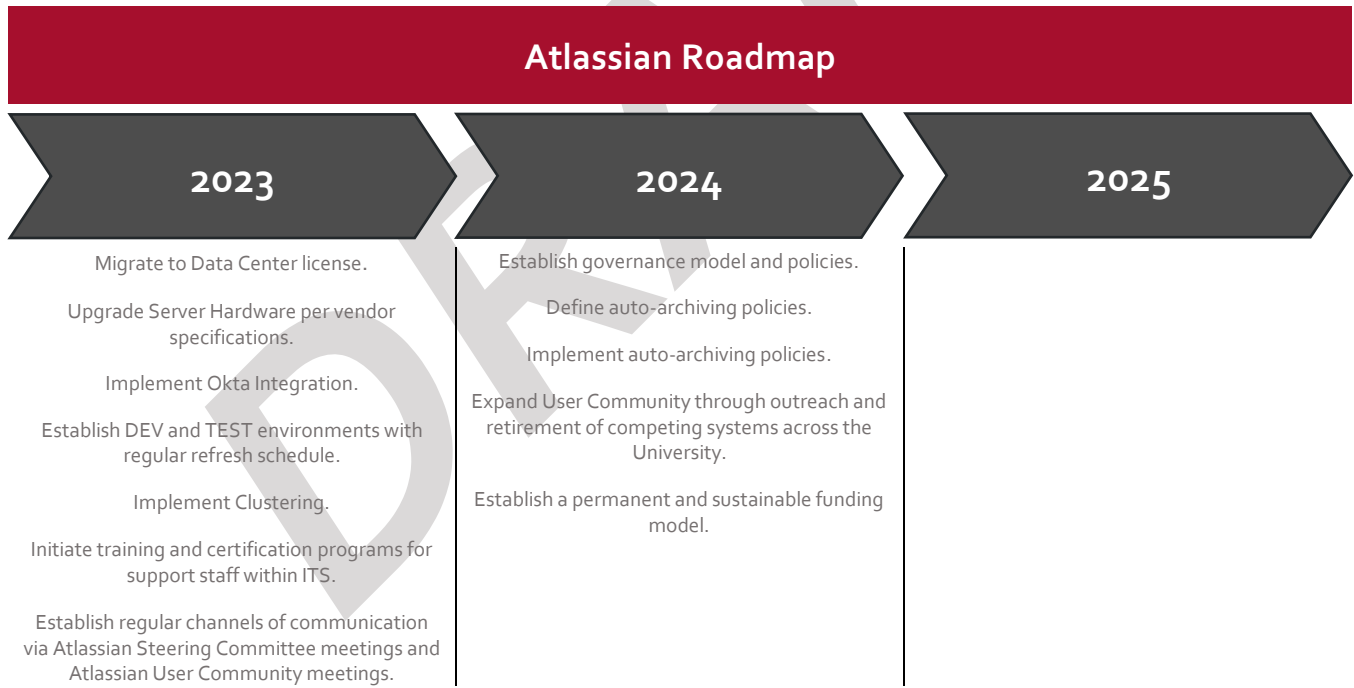
# Ticketing, Project Management, and Knowledge Base

## Jira and Confluence

The market for social software in the workplace includes software products that support people working together in teams, communities, or networks. These products can be tailored to support a variety of collaborative activities. Buyers are looking for virtual environments that can engage participants to create, organize and share information, and encourage them to find, connect and interact with each other. Business use of these products ranges from project coordination within small teams or homogeneous groups, to information exchange between employees across an entire organization.

## Looking Forward

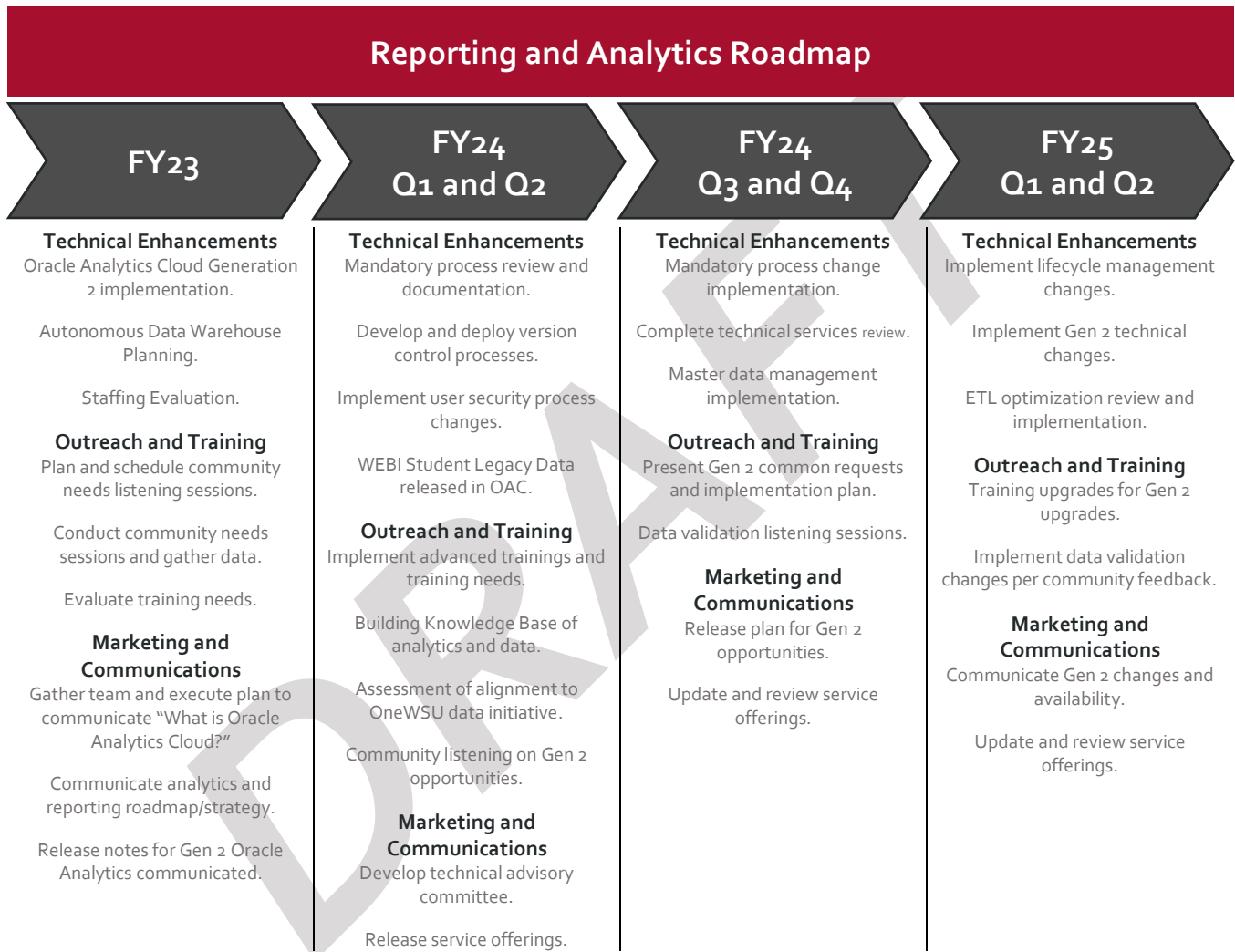
- Upgrade License to Data Center and quickly take advantage of additional functionality available through this license.
- Strengthen our overall Atlassian support model through professional training and certification.
- Develop a more formal Atlassian community, including a governance model, Steering Committee, User Community, etc.





## Analytics

The culmination of this plan is a practice of continual improvement and outreach on service offerings that are provided through our data management systems. The immediate needs are to upgrade to Generation 2 Oracle Analytics Cloud and implement Autonomous Data Warehouse. Those changes along with Surveying community needs on training and services that can be provided inform the remainder of the plan.





## Course Evaluation

### Course Evaluation System (CES)

Providing course evaluation and Learning Experience Management tools, Explorance is a leading provider of Learning Experience Management (LEM) solutions for adaptive learning. Explorance's Blue software enables institutions to continuously improve the learning experience within their organization.

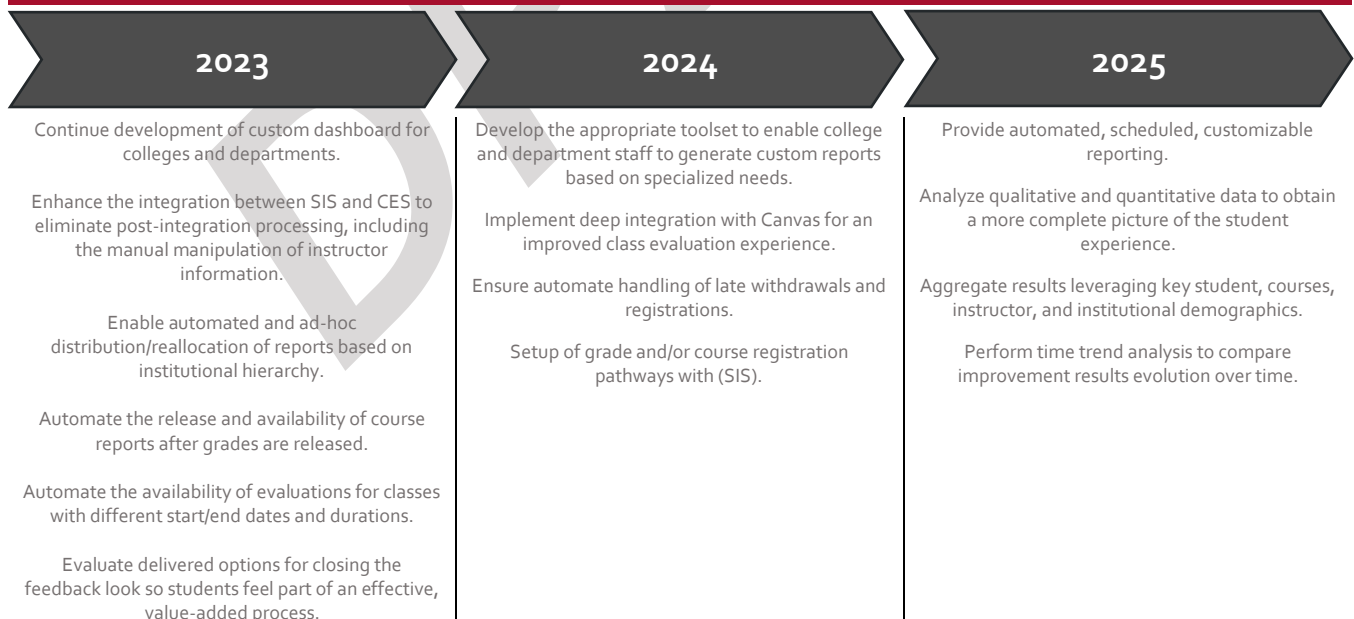
As education technologies continue to revolutionize the industry, educational institutions must invest wisely to address the demand for increased accountability while enhancing the teaching and learning experience.

Explorance distinguished itself by developing Blue solutions which leverage all four of the elements in Gartner's Nexus of Forces – information, cloud, mobile, and social – to create an adaptive learning experience. Explorance's social feedback hub, Bluepulse, illustrates how Explorance's Blue solutions enable institutions to implement a cycle of continuous improvement through in-term course evaluation, corrective actions, ongoing progress assessment, and a focus on providing high return on expectations (ROE) to all stakeholders.

### Looking Forward

- Move toward Full Automation.
- Improve Response Rates.
- Develop Quality Insights.
- Evaluate the value proposition of Bluepulse.

## Course Evaluation Roadmap





## Control-M, BMC Software

Control-M simplifies complex application workflow orchestration, making it easy to define, schedule, manage and monitor application workflows, ensuring visibility and reliability, and improving SLAs. This product is intended for. Developer. Director of Information Technology. Development Manager.

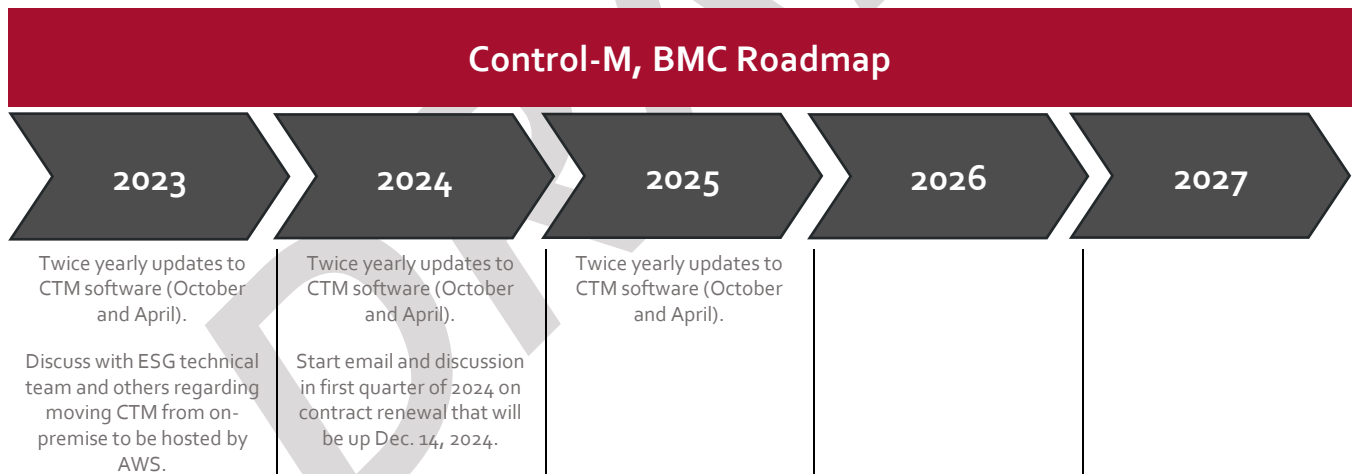
Control-M provides advanced operational capabilities easily consumed by Dev, Ops and lines of business:

- Advanced workflow orchestration capabilities and connectivity to any application, any data source, and all your critical systems of record, from mainframe to cloud.
- Proactive SLA management with intelligent predictive analytics.
- Robust support for audits, compliance, and governance.
- Proven stability with thousands of companies scaling from tens to millions of jobs with zero downtime.

### Looking Forward

Move toward hosted solution for CTM Servers vs. having on WSU campus, thereby reducing downtime experienced due to WSU maintenance schedules.

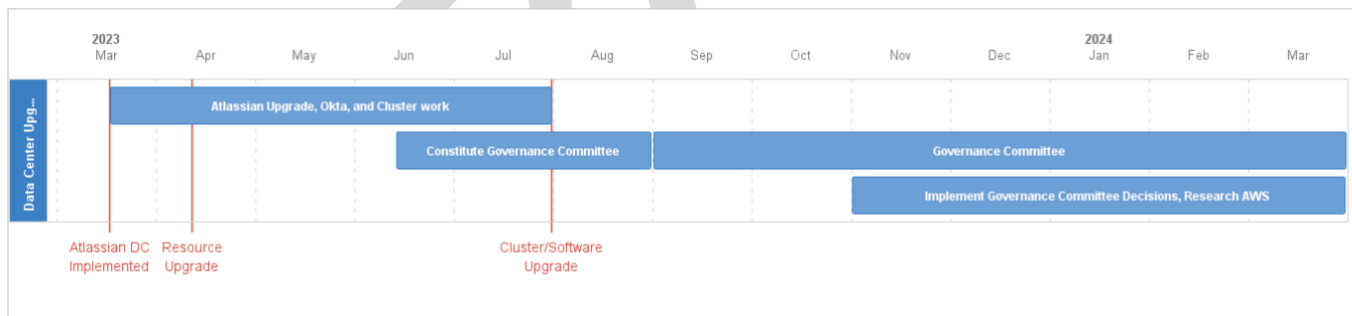
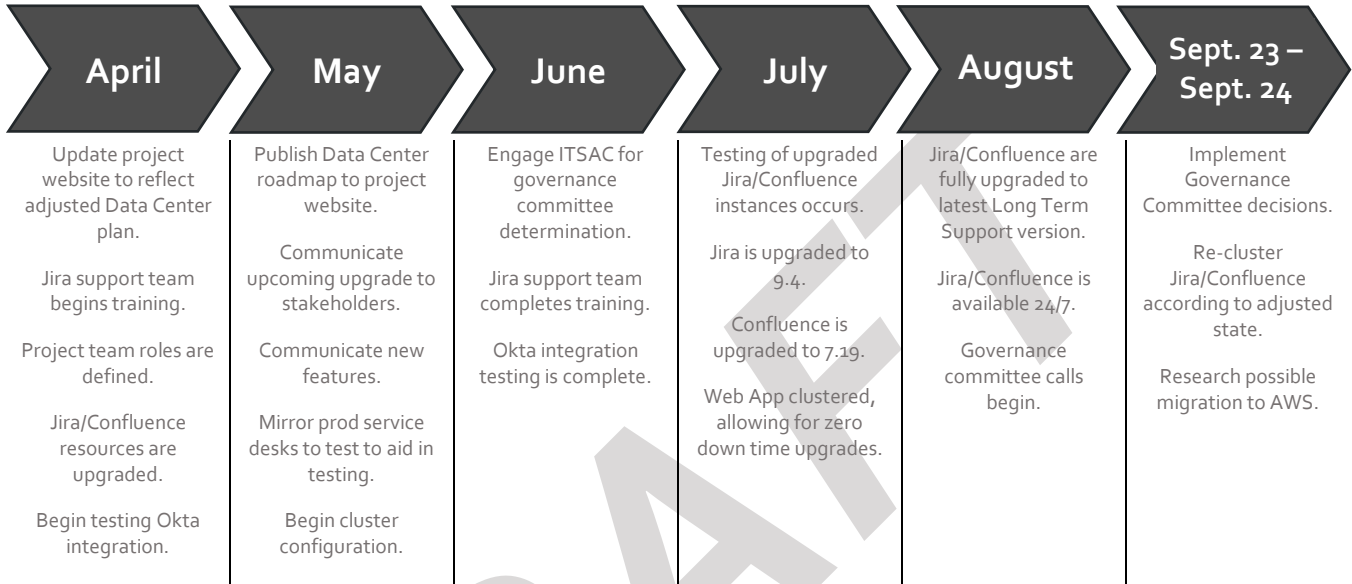
Ability for external areas to have their own process flows to monitor and run as desired. With that comes training, security settings established and active monitoring.





## Data Center

### 2023 Atlassian Data Center Implementation Roadmap



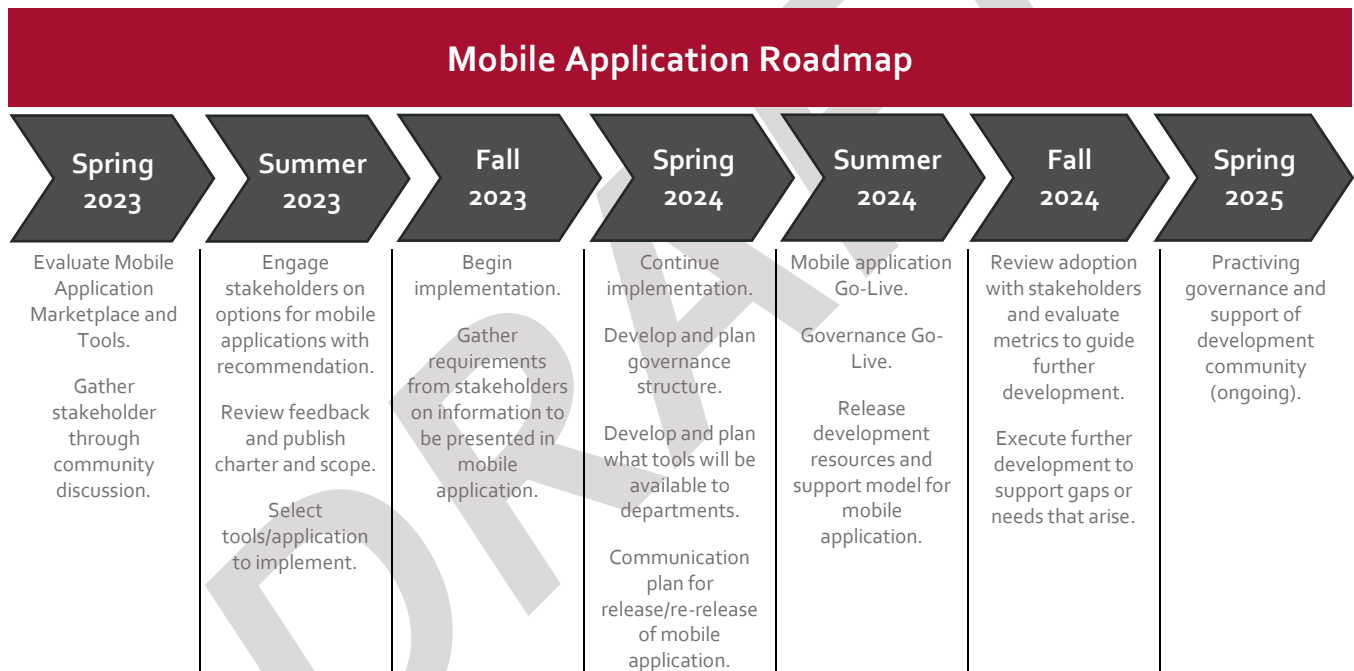


## Mobile Application

WSU has utilized CampusM to fulfil mobile application needs for a number of years. Enterprise Systems wants to evaluate current usages of our mobile application and what other options are available to fulfill a mobile application and framework that meet WSU needs.

### Goals:

- Evaluate university needs and requirements for mobile applications.
- Select a platform that meets the most needs and requirements identified by the community.
- Implement the mobile application or release development toolkit to the university.
- Develop governance structure and development pipeline to enable university departments to leverage the mobile application.





# Current ITS Projects

Project	Description	Timeline	Mapping to WSU System Strategic Plan
IAM Roadmap	Secure funding or concrete deferral of the IAM roadmap, which will affect the replacement of home-grown IAM systems with Okta workflows and automation. In the case of concrete deferral, generate issue paper formalizing deficiencies in existing IAM practices and resourcing.	6/30/27	Institutional Effectiveness and Infrastructure
Establish Infrastructure Working Groups	Establish working groups for DNS, FWaaS, Gitlab Ultimate, and WAN to drive core services cooperatively with stakeholders and partners.	6/30/24	Institutional Effectiveness and Infrastructure
Cloud Management Platform	Secure funding for a unified cloud management platform that can operationalize functional management tasks to IT units including ISS, NEA, and CDS, or concrete deferral which will generate issue paper formalizing business continuity weaknesses in the ITS cloud practice.	12/31/23	Institutional Effectiveness and Infrastructure
WAN	Build central network hub for WSU system with inter-links to each campus and a 100Gbps DIA circuit.	6/1/23	Institutional Effectiveness and Infrastructure
Telecommunications Roadmap	Establish working group and processes to update design standards to reflect new decision making around service demarcation and technology selection.	6/30/24	
Network Engineering Roadmap	Harmonize border and core architectures for all campuses in the WSU system around a collapsed-core routing and FW model.	6/30/26	



<b>Develop Splunk Roadmap</b>	Develop initial roadmap for Splunk service to determine initial direction of current service offering and provide a timeframe for future service architecture discussions	12/31/23	Institutional Effectiveness and Infrastructure
<b>Implement Individual Email Policy</b>	Policy to reduce enterprise data risk by eliminating the ability for employees to automatically forward email from the central system.	6/30/23	Institutional Effectiveness and Infrastructure
<b>Complete Service Account Removal Project</b>	Project to reduce risk to ITS systems by removing service accounts that are not properly secured by adherence to the current password policies.	12/31/23	Institutional Effectiveness and Infrastructure
<b>Develop AG/ITS lifecycle processes for legal holds</b>	New process to outline agreed upon steps to implement and remove employee data holds	6/30/23	Institutional Effectiveness and Infrastructure
<b>Develop Primary Datacenter UPS Roadmap</b>	Develop roadmap for replacement of aging major UPS devices in ITB 1010 to facilitate continued support of HPC advancement and Pullman campus server co-location services	3/31/23	Institutional Effectiveness and Infrastructure
<b>Implement Admin By Request across ITS and Endpoint customers</b>	Project to implement tool needed for managing user computers as risk is reduced by removal of Admin rights on individual assigned computers.	6/30/23	Institutional Effectiveness and Infrastructure
<b>Teams Secure Storage Implementation</b>	A new service offering to provide for a secure location within our MSFT Teams environment for storage of HIPPA related data files.	9/30/23	Institutional Effectiveness and Infrastructure
<b>Sunset alumni email service</b>	Project to reduce risk by eliminating over 100,000 unused email address and mailboxes for previous students and employees (keeping email addresses for all newly departing students)	6/30/23	Institutional Effectiveness and Infrastructure
<b>Develop Active Directory roadmap</b>	Roadmap for future direction of AD implementations within the production environment	6/30/23	Institutional Effectiveness and Infrastructure





<b>Implement Plan to Sunset Windows Server 2012</b>	Determine plan for Server 2012 EOL in November 2023	9/30/23	Institutional Effectiveness and Infrastructure
<b>Sunset non-Outlook email clients</b>	Process to remove all email clients not meeting current security requirements. Outlook appears to be the only viable client that meets all requirements at this time. Project currently on hold.	6/30/24	Institutional Effectiveness and Infrastructure
<b>Sunset alumni email service</b>	Project to reduce risk by eliminating over 100,000 unused email address and mailboxes for previous students and employees (keeping email addresses for all newly departing students)	6/30/23	Institutional Effectiveness and Infrastructure
<b>Develop Active Directory roadmap</b>	Roadmap for future direction of AD implementations within the production environment	6/30/23	Institutional Effectiveness and Infrastructure
<b>Develop and Implement Plan to Sunset Windows Server 2012</b>	Determine plan for Server 2012 EOL in November 2023	6/30/23	Institutional Effectiveness and Infrastructure
<b>Sunset non-Outlook email clients</b>	Process to remove all email clients not meeting current security requirements. Outlook appears to be the only viable client that meets all requirements at this time. Project currently on hold.	6/30/24	Institutional Effectiveness and Infrastructure
<b>Implement Evaluate My Transfer Credit in myWSU for Prospective Students</b>	Enhance the delivered utility to allow guest users the ability to self-report their transfer credit to see what credit they can earn at WSU and how that credit will be applied towards a WSU degree.	FY2023	Student Experience
<b>myWSU Academic Planner</b>	Beyond populating the planner with courses that satisfy unmet degree requirements, a Time Block feature has been added to facilitate the creation of a term schedule.	FY2022	Student Experience



<b>Degree Recommender</b>	Implemented a tool that generate multiple what-if reports for a student and display the results in a sorted fashion, based on the number of satisfied degree requirements.	FY2024	Student Experience
<b>University Syllabus</b>	Provide an automatic solution to append canned University Syllabus content to each Canvas course space	FY2023	Institutional Effectiveness and Infrastructure
<b>Transfer Credit Initiative</b>	Develop a tool for potential transfer credit students to view how their transfer credit equates to WSU credit.	FY2023	Outreach, Extension, Service, and Engagement
<b>NSSE</b>	Manage and administer outreach efforts to increase the engagement in the National Survey for Student Engagement.	FY2023	Student Experience
<b>Jira Data Center Implementation</b>	Upgrade Jira and Confluence (WSU's current ticketing, project management, and knowledge base solution) to an upgraded and supported version.	FY2023	Institutional Effectiveness and Infrastructure
<b>Webi Data Preservation</b>	Migrate financial data from a legacy system to a supported system.	FY2022	Institutional Effectiveness and Infrastructure
<b>SIS - Admissions</b>	Subscribed to Common App for undergraduate applications and to CAS for graduate applications and built integrations for each.	FY2023	Student Experience



# Future ITS Projects

Project	Description	Timeline	Mapping to WSU System Strategic Plan
Develop comparative narratives between A5 and current solutions	Investigate what sunsetting Proofpoint and potentially other services in favor of O365 A5 licensing might look like, including evaluating gaps, limitations, and strengths between each comparative service.	3/31/23	Institutional Effectiveness and Infrastructure
POC for AWS production data backup	Project to test replication of production data backups to AWS	3/31/23	Institutional Effectiveness and Infrastructure
Develop System-wide Digital Voice Roadmap	After completion of appropriate POCs, this roadmap will provide for direction and timing of future plans to replace or update the current VoIP phone system(s).	12/31/23	Institutional Effectiveness and Infrastructure
Develop plans to sunset on-campus Exchange	Working towards the final removal of Exchange on-premises. This would involve the removal/migration of on-premises distribution groups which is likely a project itself.	6/30/24	Institutional Effectiveness and Infrastructure
Sunset Scantron services	Replace the current test scanning service with an updated enterprise tool	6/30/24	Institutional Effectiveness and Infrastructure
Develop System-wide Digital Voice Roadmap	After completion of appropriate POCs, this roadmap will provide for direction and timing of future plans to replace or update the current VoIP phone system(s).	6/30/23	Institutional Effectiveness and Infrastructure
Develop plans to sunset on-campus Exchange	Working towards the final removal of Exchange on-premises. This would involve the removal/migration of on-premises distribution groups which is likely a project itself.	6/30/23	Institutional Effectiveness and Infrastructure
Sunset Scantron services	Replace the current test scanning service with an updated enterprise tool	6/30/23	Institutional Effectiveness and Infrastructure
myWSU Forms	Develop an electronic workflow procedure to streamline the approval and management of various academic process requiring one to many signatures.	FY2024	Institutional Effectiveness and Infrastructure



## Completed ITS Projects

Project	Description	Timeline	Mapping to WSU System Strategic Plan
ITS VM Infrastructure Technology Refresh	Complete the move of production VM servers from old HP to new Cisco hardware infrastructure	12/31/22	Institutional Effectiveness and Infrastructure
Implement Replicated Production Backups	Implement replicated production backups	3/1/23	Institutional Effectiveness and Infrastructure
Develop EIS Azure beachhead for ITS	Get Azure area setup for EIS testing and training as we move towards cloud implementations	3/31/23	Institutional Effectiveness and Infrastructure
Implement FLUID Interface for myWSU Self Service	Implemented new FLUID Interface for applicants, students, and staff within myWSU. Fluid provides a mobile friendly experience for users, responding to screen size and orientation.	FY2017	Student Experience
Upgrade PeopleSoft Campus Solutions from Release 9.0 to Release 9.2	Migrated Campus Solutions (myWSU) to Oracle Cloud Infrastructure (OCI), resulting in significant cost-savings to the University.	FY2017	Student Experience
Convert WSU Graduate School's MyGradSchool Database to myWSU	Eliminated shadow system within the Graduate School, enabled real-time data management, document workflows and approvals	FY2018	Institutional Effectiveness and Infrastructure
Configuration of Elson S. Floyd College of Medicine in myWSU	Configured PeopleSoft Campus Solutions to accommodate the new College of Medicine, including the ability to upload and create admission applications, schedule courses, manage enrollment, charge tuition, etc.	FY2018	Institutional Effectiveness and Infrastructure
Complete INTO Integration	Provided technical support, consultation, and configuration services to support the WSU-INTO partnership to bolster international applicant and student populations.	FY2018	Institutional Effectiveness and Infrastructure
Complete EAB implementation		FY2018	Student Experience



<b>Cancellation of enrollment project</b>	Implement a student-facing utility for cancelling enrollment that includes automated workflow to ensure that all the necessary offices are notified of a student's intent to cancel.	FY2018	Student Experience
<b>Implement notification framework</b>	Enabled automated notifications related to document workflow and Graduate Ballot Meetings within the Graduate School.	FY2018	Student Experience
<b>Complete digital textbook project</b>	Implemented interface between Barnes and Noble and myWSU to bring course material information into myWSU. This information—previously unavailable to students—is now displayed to students during the Class Search process, letting students see the true cost of a course prior to enrollment. This initiative was born out of the Open Education Resources initiative. More than 11,000 records are created automatically on a term-by-term basis.	FY2018	Institutional Effectiveness and Infrastructure
<b>Automate SAIG File Exchange with the Department of Education</b>	Automated daily file exchange with the Department of Education, eliminating hours spent on a daily basis to manage the exchange of data files.	FY2018	Institutional Effectiveness and Infrastructure
<b>Automate upload of Incoming course detail from Washington Community Colleges</b>	Established an automated data feed with Washington Community Colleges to facilitate the sharing of student transcript data to eliminate the need for manual data entry.	FY2018	Institutional Effectiveness and Infrastructure
<b>Deployed Financial Aid Lifetime Aid Summary</b>	This new tool—developed to satisfy reporting requirements adopted by the State of Washington—allows students and authorized third parties to review a cumulative summary of a student's financial aid awards and loans, including amounts borrowed, amounts outstanding and estimated payoff amounts. Users have logged more than 7,000 page views since go-live.		Institutional Effectiveness and Infrastructure



<b>Implemented changes to expand First Day pilot</b>	This project offers students significant savings on course materials, allowing them to choose between printed and electronic materials.		Student Experience
<b>Gender X</b>	Designed and configured myWSU to accommodate a new regulation adopted by the State of Washington that allows a person to select from three Gender values, including F, M and X. Processed more than 1,400,000 records during the conversion process.		Student Experience
<b>Enabled year-round enrollment at Tri-Cities</b>	Designed and built new Financial Aid Budget Formulas to accommodate year-round enrollment		Student Experience
<b>Implemented automated overrides for New Student Orientation registration periods</b>	The new process allows students to self-enroll in classes and eliminates the use of paper forms, having students wait in line, and the need to have staff on hand to process the override.		Student Experience
<b>Transfer ownership of Financial Aid Process to appropriate SFS staff</b>	A review of Enterprise Systems staff activity revealed several processes that were happening within Enterprise Systems that belonged with SFS staff. In collaboration with AVPs Dixon and Corwin, Enterprise Systems provided training and support as these processes were turned over to SFS staff. This transition of duties—and we anticipate many more to come—serve to free resources within Enterprise Systems to perform more mission critical duties and focus on ITS priorities.		Institutional Effectiveness and Infrastructure
<b>Completed Okta implementation</b>	Enabled the ability to provide Single Sign On capabilities to the University community.		Institutional Effectiveness and Infrastructure
<b>Implemented electronic balloting for Graduate School</b>	This new process eliminates the decades-old paper balloting process previously in place.		Student Experience
<b>Canvas Pilot for Fall 2019 and Spring 2020</b>	Desiring to move away from Blackboard, we conducted a pilot program with Canvas as an LMS.	FY2020	Student Experience



<b>Student, Employee and Guest Attestation for COVID-19 symptoms</b>	To comply with state and institutional requirements, we implemented a self-attestation mechanism for students, faculty, and staff.	FY2021	Institutional Effectiveness and Infrastructure
<b>Student Survey Spring 2020</b>	Designed, built, tested, and launched a survey tool within myWSU to capture student sentiment related to online learning.	FY2020	Student Experience
<b>My Academic Planner – Phase I</b>	Implemented the ability to automatically populate a student's planner with courses based on the courses that will satisfy unmet degree requirements.	FY2020	Student Experience
<b>Fluid User Class Search Redesign, Modification and Launch</b>	Implement an Advanced Search feature within the Class Search utility to allow users to search by campus, days, times, Gen Ed requirements, etc.	FY2020	Student Experience
<b>Automation and Electronification of Security Requests</b>	Implement workflow for security requests so that Area Approvers and Signature Authorities may review and approve or deny role requests electronically.	FY2020	Institutional Effectiveness and Infrastructure
<b>IBM Watson Chatbot</b>		FY2019	Institutional Effectiveness and Infrastructure
<b>Consolidation of all KB articles into Confluence</b>		FY2020	Institutional Effectiveness and Infrastructure
<b>Financial Aid Operations and Process Ownership Transition</b>	Provide training to SFS staff to be able to assume ownership of critical Financial Aid business processes, including Aid Year configuration, Budget maintenance, etc.	FY2020	Institutional Effectiveness and Infrastructure
<b>myWSU Operations and Process Automation</b>	Automated the copying of Adjustment Calendars, the creation of Grade Rosters, the copying of Waivers, and the generation of Graduate School Exam Announcements, the copying of Appointment Run Control IDs.	FY2020	Institutional Effectiveness and Infrastructure
<b>Barriers to Student Success: Enable ability to override Repeat Rule</b>		FY2020	Student Experience
<b>Advisor Summary API</b>	Initiated an integration to bring data from EAB into myWSU.	FY2020	Institutional Effectiveness and Infrastructure



<b>Streamline Scholarship Intake</b>	Implemented mechanisms within myWSU to process scholarships, eliminated a shadow system and allowing access to scholarship information to a larger audience.	FY2020	Institutional Effectiveness and Infrastructure
<b>WSU Medical School Patient Encounters</b>	Implemented a tool for Medical School students to record and track their Patient Encounters.	FY2020	Institutional Effectiveness and Infrastructure
<b>Canvas Go-Live Spring 2021</b>	After the successful completion of the Canvas pilot, we converted the entire University to Canvas and retired our relationship with Blackboard.	FY2021	Student Experience
<b>Modernization Initiative: OFM/AFRS Conversion and Integration</b>	Implemented a process to load OFM data from Workday into myWSU for data processing and the generation of reports to meet State of Washington reporting requirements.	FY2021	Institutional Effectiveness and Infrastructure
<b>myWSU-Workday General Ledger Integration</b>	Modernization Implementation	FY2021	Institutional Effectiveness and Infrastructure
<b>Imaging: Workday Financials</b>	Modernization Implementation	FY2021	Institutional Effectiveness and Infrastructure
<b>Imaging: Workday HCM</b>	Modernization Implementation	FY2021	Institutional Effectiveness and Infrastructure
<b>Automate Qualtrics Security Maintenance</b>		FY2021	Institutional Effectiveness and Infrastructure
<b>Point of Sale (POS) Implementation: TouchNet</b>	Implemented TouchNet Point of Sale System, launched electronic 1098-T's with plans to implement electronic refunds, eliminate the printing and mailing of documents and checks	FY2023	Student Experience
<b>Teams LMS Pilot</b>		FY2021	Institutional Effectiveness and Infrastructure
<b>Qualtrics Core and Customer acquisition</b>		FY2022	Institutional Effectiveness and Infrastructure
<b>Withdrawal Reason Codes</b>	Implemented reason codes within myWSU to track why students elected to drop a class.	FY2018	Student Experience
<b>myWSU to AWS</b>	Migration of myWSU (the Student Information System) from Oracle Cloud Infrastructure to Amazon Web Services).	FY2023	Institutional Effectiveness and Infrastructure





<b>Canvas Implementation</b>	Implementation of Canvas and migration from Blackboard completed Fall 2021.	FY2021	Student Experience
<b>Touchnet Technical Implementation</b>	Technical implementation of a new Point of Sale software for student payments.	FY2022	Institutional Effectiveness and Infrastructure
<b>Qualtrics Reimplementation</b>	Migration of Qualtrics support and maintenance to ITS.	FY2022	Institutional Effectiveness and Infrastructure
<b>Microsoft Bookings for Advisors</b>	Implementation and training of Microsoft Bookings for Academic Advisors	FY2021	Student Experience
<b>IBM Chatbot</b>	Implementation of customer service chatbot for Crimson Service Desk	FY2020	Student Experience
<b>DocuSign Implementation</b>	Implementation of DocuSign software	FY2019	Institutional Effectiveness and Infrastructure
<b>Intent to Enroll</b>	Creation of a process to manage students dropping classes that are enrolled in a future class.	FY2019	Institutional Effectiveness and Infrastructure
<b>Open Educational Resources</b>	Integration of course costs in myWSU to display a visual representation of the cost of course materials.	FY2020	Institutional Effectiveness and Infrastructure
<b>University Confluence KB</b>	Migration of all campus IT knowledge base documentation to one central KB.	FY2020	Institutional Effectiveness and Infrastructure
<b>Crimson Service Desk Rebrand</b>	Migrate ITS Service desk CougTech to the Crimson Service Desk	FY2019	Institutional Effectiveness and Infrastructure
<b>PeopleTools Upgrade</b>	Upgraded PeopleTools to version 8.59	FY2023	Student Experience
<b>Mainframe Preservation</b>	Migrated Legacy HR and Finance Data to data store along with providing dashboards and interfaces to exact data available in Mainframe. Decommissioned Mainframe and supporting Infrastructure	FY2023	Institutional Effectiveness and Infrastructure
<b>Cloud Migration (IBM/Azure)</b>	Migrated on-premises workloads (.NET/SSIS) to IBM Cloud - 2017; Migrated on-premise workloads (.NET/SSIS/Java) to Azure.	FY2017	Institutional Effectiveness and Infrastructure



<b>Early Academic Referrals System</b>	The Early Academic Referral System (EARS) program is designed to allow faculty and staff to refer undergraduate and pharmacy professional student to university resources for academic support. Early intervention is key to student success.	FY2022	Institutional Effectiveness and Infrastructure
<b>Invest in Cougs</b>	This student-focused program offers scholarship opportunities for participants as well as financial literacy education.		

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