

*Develop hardware standards and purchase hardware equipment across the UW institutions*

### DESCRIPTION OF THE SERVICE

UW-Shared Services will establish standards for hardware and technology equipment, informed by guidance from UW System Administration and the institutional IT departments. UW-Shared Services will also purchase hardware for institutions based on perceived demand and ad-hoc requests. This service will eliminate duplicate services on the comprehensive campuses and ensure that hardware and technology standards integrate with the overall UW System/Campus IT architectures.

UW-Shared Services will consult institutional IT departments to understand their current buying practices and hardware specifications. UW-Shared Services will then develop standards for hardware configurations and specifications, including customization options and exceptions.

UW-Shared Services will establish standard processes for customers to submit purchasing requests, process these purchase requests, and ensure hardware is distributed to the institutions. Institutions will provide funding for the hardware purchases to simplify financial transactions and ensure they appropriately budget for their hardware needs. UW-Shared Services will establish regular and recurring buying cycles (e.g., monthly, quarterly) to ensure up-to-date hardware inventory is available for the institutions.

#### SOURCE OF THE SERVICE

Institutional visits, e-mail suggestions, and feedback from: Chief Information Officers/IT Directors and UW System Administration

### FORMS OF THE SERVICE

#### ACTIONS



- On-Demand**  Customers may request to purchase standard hardware and equipment from UW-Shared Services via established processes.
- Ongoing**  UW-Shared Services will purchase hardware and equipment for institutions on established cycles.
- Monitoring**  There is not a need for UW-Shared Services to monitor hardware after it has been purchased and received by the UW institutions.

#### STANDARDS



- Practices**  UW-Shared Services will establish standard hardware configurations including customizable options and standard request processes.
- Trainings**  UW-Shared Services will provide online training on how to request new hardware for employees of the UW institutions.
- Systems**  UW-Shared Services will maintain enterprise systems to support hardware purchase tickets and publish standards for customers.

#### SUPPORT



- Passive**  UW-Shared Services will provide guidance on hardware purchases and request processes through the Resource Center on its website.
- Distance**  Customers will be able to ask for support and guidance on hardware purchases by calling or contacting the UW-Shared Services IT help desk.
- In-Person**  UW-Shared Services only plans on providing hardware purchase support remotely; institutional IT departments will need to manage on-site support.

**ANALYSIS**

BENEFITS	RISKS
<ul style="list-style-type: none"> <li>• Reduces costs of managing hardware inventory across the institutions by centralizing inventory</li> <li>• Reduces effort required by institutional IT departments to manage configurations and options</li> <li>• Reduces security risk due to standardization and consistency in hardware and configurations</li> <li>• Maximizes buying power and leverage</li> </ul>	<ul style="list-style-type: none"> <li>• May reduce options for faculty, staff, and students from the current offerings at their institutions</li> <li>• May not permit faculty, staff, and students to use platforms and hardware that they prefer depending on the options selected</li> </ul>

**PARTICIPATION MODEL**

The *Hardware Purchasing* service should be mandatory for all comprehensive institutions given the benefits of reducing cost and effort across the UW institutions by standardizing hardware options and configurations. Institutional IT departments should help identify the hardware options that are required to meet the needs of their constituents to ensure this service is responsive to all customers across the UW System.

RECOMMENDATION
<p><b>MANDATORY PARTICIPATION</b> For UW System comprehensive institutions and UW System Administration</p>

Implementing this service should have a relatively low fixed cost but would require some upfront effort to standardize options and configurations across the UW institutions. Also, given the scale that UW-Shared Services can achieve from offering these purchasing options and the relatively low costs of processing purchase requests, it would be reasonably inexpensive to implement this service across all UW institutions. Given the financial benefits that the UW System can achieve through combined buying power across the UW System, this service should be mandatory for all UW institutions.

**FUNDING MODEL**

The *Hardware Purchasing* service should be funded by UW-Shared Services base funding. Institutions should not be charged directly for this service, given the need to incentivize the use of these security operations and eliminate any potential barriers. Institutions would be responsible for providing funding directly for the hardware and equipment they request, but the administration of hardware standards should be base funded.

RECOMMENDATION	
<p><b>TRANSACTIONAL CHARGEBACKS</b></p>	<p><b>BASE FUNDING + CHARGEBACKS</b></p>
<p><b>CAMPUS ASSESSMENT</b></p>	<p><b>BASE FUNDING</b> This service should be funded by UW-Shared Services base funding</p>

Given the high financial benefits associated with central hardware standards and purchasing processes, UW-Shared Services should ensure that institutions use this service as much as possible. Charging the institutions through fees or chargebacks could create disincentives to using the standard hardware options, which would limit the benefits of this service.

Also, the administrative effort and cost of monitoring the use of the standards would likely be prohibitively high. Allocating base funding for this service should establish the appropriate incentives across the institutions to fully utilize these hardware options and configurations and should limit the administrative effort required to manage the funding model. Institutions would be charged for hardware using their existing fund codes to ensure streamlined billing and customers are appropriately funding the hardware they request.

*Establish a standard network architecture and management practices for the UW institutions*

### DESCRIPTION OF THE SERVICE

UW-Shared Services will work with UW System Administration and institutional IT departments to design a standardized UW System Local Area Network architecture, including establishing best network standardization practices for UW institutions to follow. UW-Shared Services will also establish hardware standards for network components including firewalls, switches, bandwidth, wireless access points and management systems. UW institutions will implement standard best practices as soon as feasible and implement standardized hardware components when new or replacement equipment is purchased.

#### SOURCE OF THE SERVICE

Institutional visits and feedback from: Chief Information Officers/IT Directors and UW System Administration

These network standardization practices should allow for the quick and efficient implementation of information security initiatives and for a uniform end-user experience across UW institutions. UW-Shared Services will work with the institutions to design and deploy the common network architecture, but the institutions will be responsible for and own the implementation of the network standards.

### FORMS OF THE SERVICE

#### ACTIONS



- On-Demand**
- Ongoing**
- Monitoring**

UW-Shared Services will not process or monitor UW institutions' network configurations or implementations through this service but could in the future given further interest from the institutional IT departments.

#### STANDARDS



- Practices**  UW-Shared Services will establish standards for network architecture and management practices of networks for institutions to implement.
- Trainings**  UW-Shared Services will provide support to institutional IT departments, but formal training for institutions on their networks is not warranted.
- Systems**  UW-Shared Services will not manage institutional networks directly but will maintain practices on its enterprise systems like the public website.

#### SUPPORT



- Passive**  UW-Shared Services will provide information and guidance on the network architecture to UW institutions through the Resource Center on its website.
- Distance**  Customers will be able to ask for support and guidance on the network standards by calling or contacting the UW-Shared Services IT help desk.
- In-Person**  UW-Shared Services only plans on providing support on the network standards remotely; institutions would own their own networks on-site.

**ANALYSIS**

BENEFITS	RISKS
<ul style="list-style-type: none"> <li>• Decreases financial, regulatory, reputational, and legal risk through standardization and consistency</li> <li>• Could improve network security environment through standardization</li> <li>• Could lead to improved network access, end user experience, and continuity across the institutions</li> <li>• Relatively inexpensive to scale across the system</li> </ul>	<ul style="list-style-type: none"> <li>• May require significant capital investment by UW System Administration to accelerate implementation</li> <li>• Could result in a long implementation if architecture/standards are changed as equipment is replaced</li> <li>• Could negatively impact end-user experience if not implemented appropriately and with adequate communication channels</li> </ul>

**PARTICIPATION MODEL**

The *Network Standardization* service should be mandatory for all comprehensive institutions given the need to mitigate the high impact and risk posed to faculty, students, and staff by network issues. Offering a standard architecture and common management practices for all UW institutions should be a relatively inexpensive means of mitigating this risk.

RECOMMENDATION
<p><b>MANDATORY PARTICIPATION</b>                      For UW System comprehensive institutions and UW System Administration</p>

Also, the level of complexity and difficulty in standardizing the architecture should be manageable given the nature of network configurations and the limited differences between institutions in their existing network standardization practices. Overall, UW-Shared Services should be able to provide a higher quality end-user experience across the UW System, provide guidance to UW institutions on the standards, and providing standard best practices that ensure institutions are able to manage their networks as part of the larger unified UW System community.

**FUNDING MODEL**

The *Network Standardization* service should be funded by UW-Shared Services base funding. Institutions should not be charged directly for this service, given potential for significant capital investment, the desire to incentivize use of the architecture, and reduction of the administrative burden of charging for this service.

RECOMMENDATION	
<p><b>TRANSACTIONAL CHARGEBACKS</b></p>	<p><b>BASE FUNDING + CHARGEBACKS</b></p>
<p><b>CAMPUS ASSESSMENT</b></p>	<p><b>BASE FUNDING</b>                      This service should be funded by UW-Shared Services base funding</p>

Given the high impact on students, faculty, and staff associated with network issues, UW-Shared Services should ensure that institutions leverage the network architecture and practices. Institutions will still be responsible for managing their own networks, so UW-Shared Services' costs for this service would be limited to maintaining the standards and consulting with the institutions on their implementations. Charging through fees or chargebacks could create disincentives to using the architecture.

Also, the administrative effort to monitor the use of UW-Shared Services' architecture and consultation services would likely be prohibitively high and reduce the value of this service. UW-Shared Services should focus on ensuring the network architecture is high-quality, meets institutional needs, and reduces risk across the UW System. Allocating base funding for this service should establish the appropriate incentives to fully utilize the network practices and architecture and should limit the administrative effort required to manage the funding model.

Coordinate security operations initiatives and provide security tools and practices across the UW System

### DESCRIPTION OF THE SERVICE

UW-Shared Services will, in collaboration with leadership from UW System Administration and institutional IT departments, establish a security operations group that consistently deploys security tools and protocols across the UW institutions. UW-Shared Services will support the Cisco security tool suite, which will remain the standard security platform for the UW System.

#### SOURCE OF THE SERVICE

Institutional visits and feedback from: Chief Information Officers/IT Directors and UW System Administration

UW-Shared Services will establish a common set of security practices, coordinate security and vulnerability management initiatives, monitor security breaches and issues, and deploy tools for phishing campaigns, network monitoring, internet threat detection, issue tracking, PII monitoring, and end point protection. UW-Shared Services will also promote good security practices and raise security awareness among UW employees through communication campaigns and trainings.

The institutional IT departments will be responsible for implementing these practices and tools at their institutions, and UW-Shared Services will monitor the success of ongoing security initiatives to learn and adopt the standard practices.

### FORMS OF THE SERVICE

#### ACTIONS



- On-Demand** ● UW institutions may request consultation, tool implementation, and incident response services from UW-Shared Services as needed.
- Ongoing** ● UW-Shared Services will manage ongoing security initiatives including campaigns, tool maintenance, and special projects.
- Monitoring** ● UW-Shared Services will monitor and report on issues that arise across UW institutions related to phishing, attacks, and breaches.

#### STANDARDS



- Practices** ● UW-Shared Services will establish standard information security practices and tools for use across UW institutions.
- Trainings** ● UW-Shared Services will provide virtual security training for employees of the UW institutions and track completion rates across UW institutions through the *Human Resources: Mandatory Employee Training* service.
- Systems** ● UW-Shared Services will manage the Cisco security tool suite, specialized security tools, and enterprise systems for ticketing and communications.

#### SUPPORT



- Passive** ● UW-Shared Services will provide information and guidance on information security to UW institutions through the Resource Center on its website.
- Distance** ● Customers will be able to ask for support and guidance on information security by calling or contacting the UW-Shared Services IT help desk.
- In-Person** ○ UW-Shared Services only plans on providing information security support remotely; institutions would provide on-site security support.

**ANALYSIS**

BENEFITS	RISKS
<ul style="list-style-type: none"> <li>• Decreases financial, regulatory, legal, and reputational risk through standardization and consistency</li> <li>• Reduces efforts to replicate security tools and practices across institutions</li> <li>• Relatively inexpensive to scale across the institutions</li> <li>• Eases the burden on institutional IT departments</li> </ul>	<ul style="list-style-type: none"> <li>• May cost some institutional IT departments to switch to the new security practices and tools</li> <li>• Could reduce incident response time if not implemented appropriately and with adequate communication channels</li> </ul>

**PARTICIPATION MODEL**

The *Security Operations* service should be mandatory for all comprehensive institutions given the need to mitigate the high risk posed by information security breaches, issues, and hacks for the UW institutions. There have been several high-profile security breaches and incidents in American higher education, so the severity and probability of UW facing such security risks is relatively high. Standardizing practices, tools, and training across the UW institutions, and advocating for information security measures among UW employees and audiences should help mitigate that risk.

RECOMMENDATION
<p><b>MANDATORY PARTICIPATION</b> For UW System comprehensive institutions and UW System Administration</p>

Also, given the scale that UW-Shared Services can achieve from offering these practices and tools and the relatively low upfront costs of developing the service, it would be reasonably inexpensive and easy to expand access to these security operations across all UW institutions. Given the ease with which this service could be expanded across the UW institutions and the risk associated with non-compliance, this service should be mandatory for all UW institutions.

**FUNDING MODEL**

The *Security Operations* service should be funded by UW-Shared Services base funding. Institutions should not be charged directly for this service, given the need to incentivize the use of these security operations and eliminate any potential barriers.

Given the high risk associated with information security issues and breaches, UW-Shared Services should ensure that institutions use this service as much as possible. Charging the institutions through fees or chargebacks could create disincentives to using the security operations tools and practices, which would limit the benefits of this service for the UW System.

RECOMMENDATION	
<p><b>TRANSACTIONAL CHARGEBACKS</b></p>	<p><b>BASE FUNDING + CHARGEBACKS</b></p>
<p><b>CAMPUS ASSESSMENT</b></p>	<p><b>BASE FUNDING</b> This service should be funded by UW-Shared Services base funding</p>

Also, the administrative effort and cost of monitoring the use of security operations tools and practices would likely be base funding prohibitively high. UW-Shared Services should not focus on measuring which institutions use security operations for funding purposes, but rather should focus on delivering this service in a high-quality fashion to reduce the overall information security risk across the UW System.

Allocating base funding for this service should establish the appropriate incentives across the institutions to fully utilize these security tools and practices and should limit the administrative effort required to manage the funding model.

*Administering and managing Student Information Systems for the UW institutions*

### DESCRIPTION OF THE SERVICE

UW-Shared Services will administer and manage Student Information Systems (SISs) for UW institutions and advise leadership in UW System Administration on broader SIS strategy. All institutions within the UW System currently use the PeopleSoft platform for their SISs.

UW-Shared Services will perform all necessary functions to maintain and update the SISs, including updating functionality, code, and system configurations; applying bundles, fixes, and security patches; developing interfaces and reports; and monitoring overall system performance.

The UW institutions will be responsible for and own their SISs and the associated data while UW-Shared Services will manage the SISs on behalf of the institutions. Similarly, UW-Shared Services will not manage the institutional databases or servers that support the SISs but could do so in the future based on institutional requests.

UW-Shared Services will require access to institutional SISs and their development environments to enable support and maintenance from a distance but will visit institutions periodically and as needed to ensure success.

#### SOURCE OF THE SERVICE

Institutional visits and feedback from: Chief Information Officers/IT Directors and UW System Administration

### FORMS OF THE SERVICE

#### ACTIONS



- On-Demand**  UW-Shared Services will respond to ad-hoc requests for support from the institutions as needed to ensure continuity and operation of the SISs.
- Ongoing**  UW-Shared Services will update configurations, develop code, and apply patches to the institutional SISs as needed for regular maintenance.
- Monitoring**  UW-Shared Services will monitor the performance and metrics for institutional SISs to ensure stability and service continuity.

#### STANDARDS



- Practices**  UW-Shared Services will establish standard documentation, development, and coding practices and publish standard configurations/specifications.
- Trainings**  UW-Shared Services will provide support to institutional IT departments, but formal training for institutions on their SISs is not warranted.
- Systems**  UW-Shared Services will maintain PeopleSoft servers (if requested) and enterprise systems to track service requests, communicate, and publish information.

#### SUPPORT



- Passive**  UW-Shared Services will focus on providing support for SISs through verbal and in-person communications given the nature of the service.
- Distance**  Institutional IT departments will be able to ask for support and guidance by calling or contacting the UW-Shared Services IT help desk.
- In-Person**  UW-Shared Services may travel to institutions to help support SIS maintenance and development to ensure high quality service.

**ANALYSIS**

BENEFITS	RISKS
<ul style="list-style-type: none"> <li>• Decreases financial, regulatory, legal, and reputational risk through professional and well-resourced SIS team</li> <li>• Reduces duplicative efforts across institutions to manage and update their SISs</li> <li>• Reduces the burden on institutions to hire or contract for PeopleSoft experts who are in low supply</li> </ul>	<ul style="list-style-type: none"> <li>• Will require upfront effort to train and transfer knowledge on the existing SISs to UW-Shared Services</li> <li>• Could reduce response time if not implemented appropriately and with adequate communication channels</li> </ul>

**PARTICIPATION MODEL**

The *Student Information Systems* service should be optional for any comprehensive institutions that need support in maintaining their SISs. While there would be benefits of achieving scale and reducing costs by implementing this service across all institutions, there is less immediate need given that many comprehensive institutions have current capabilities to support their SISs and there is an available market of external services to support and maintain SISs.

RECOMMENDATION
<p><b>OPTIONAL PARTICIPATION</b>                      For any of the comprehensive institutions in the UW System that opt into this service</p>

Ultimately, UW institutions should be permitted to opt into this service when it is appropriate given the current state of their SIS teams. As some employees turn over, institutions may choose to opt into this service given the relative ease of leveraging central support and the difficulty in hiring additional technical talent in certain areas of the state. All of the institutions use their own PeopleSoft instances and there are different institutional needs for the SISs. These differences and current staff availability mean that this service should be optional for institutions, at least initially.

**FUNDING MODEL**

The *Student Information Systems* service should be funded by a combination of UW-Shared Services base funding and transaction-based chargebacks. The chargebacks should be based on an hourly rate for development time on special projects and upgrades as requested by the institutions, but the base funding should cover the majority of the maintenance costs.

This service should be at least partially base funded to incentivize institutions to use this service. By offering base funding, the institutions will not need to be concerned about the costs of maintenance and necessary upgrades during tough financial situations.

RECOMMENDATION	
<p><b>TRANSACTIONAL CHARGEBACKS</b></p>	<p><b>BASE FUNDING + CHARGEBACKS</b>                      This service should be funded by a combination of funds</p>
<p><b>CAMPUS ASSESSMENT</b></p>	<p><b>BASE FUNDING</b></p>

However, because of the high costs of qualified developers and system administrators, institutions should pay at least partially for time devoted to enhancements of their systems, so they internalize the costs and prioritize their project requests.

This funding model should allow UW-Shared Services to adequately maintain the SISs and minimize the administrative effort required to track support offered to each institution while still establishing some incentives for the institutions to prioritize their enhancement requests.



*Administer and support a standardized VoIP telecommunications service for UW institutions*

### DESCRIPTION OF THE SERVICE

UW-Shared Services will, in collaboration with UW-Whitewater, establish a standardized Voice Over IP (VoIP) telecommunications service for the UW institutions. UW-Shared Services will standardize the system architecture, identify the appropriate types of telephones, and standardize other aspects (e.g., Jabber, e911) of the VoIP system informed by guidance from UW System Administration and the institutional IT departments.

#### SOURCE OF THE SERVICE

Feedback from: Chief Information Officers/IT Directors and UW System Administration

This service will result in a unified VoIP system and directory for UW institutions. UW-Shared Services will be responsible for maintaining, monitoring, and updating the VoIP system and for offering support to institutions as problems and questions arise. UW-Shared Services will also be responsible for maintaining and communicating standards to the institutional IT departments on common management practices for their own environments within the system.

The institutional IT departments will be responsible for managing their own environments within the VoIP telecommunications system, including moving, adding, and changing telephones and call managers. It will be critical for institutions to continue to own and manage their own telephones in the VoIP system.

### FORMS OF THE SERVICE

#### ACTIONS



- On-Demand** ● UW-Shared Services will respond to questions, support requests, and issues to ensure continuity of the VoIP systems across the comprehensive institutions.
- Ongoing** ● UW-Shared Services will manage the tools and environment for the VoIP system and offer ongoing bridging services.
- Monitoring** ● UW-Shared Services will monitor the performance of the VoIP servers and software to ensure the stability, continuity, and quality of service.

#### STANDARDS



- Practices** ● UW-Shared Services will establish standards for the architecture, phones, management practices, and other components of the VoIP system.
- Trainings** ○ UW-Shared Services will provide support to institutional IT departments, but formal training for institutions on the VoIP system is not warranted.
- Systems** ● UW-Shared Services will manage the VoIP infrastructure/software and maintain systems such as ticketing, workflow, and knowledge management.

#### SUPPORT



- Passive** ● UW-Shared Services will provide information and guidance on the VoIP system to UW institutions through the Resource Center on its website.
- Distance** ● Customers will be able to ask for support and guidance by calling or contacting the UW-Shared Services IT help desk.
- In-Person** ○ UW-Shared Services will provide VoIP services remotely after the initial implementation; institutions will provide on-site support.

**ANALYSIS**

BENEFITS	RISKS
<ul style="list-style-type: none"> <li>• Provides a unified phone system and directory for UW institutions</li> <li>• Reduces effort and cost for institutional IT departments to manage current telecommunications systems</li> <li>• Ensures institutions will own their own environments</li> <li>• Reduces security risk due to standardization</li> </ul>	<ul style="list-style-type: none"> <li>• Will necessitate additional cost at some institutions to switch to the new VoIP system</li> <li>• Could increase incident and issue response times based on distance</li> <li>• Some VoIP projects reveal 911 functionality problems</li> </ul>

**PARTICIPATION MODEL**

The *Telecommunications* service should be optional for any comprehensive institutions that need support in this area. While there would be benefits of achieving scale and reducing costs by implementing this platform across all institutions, there is less immediate need given the lower risk profile for the UW System from telecommunications, the limited cost reductions, and the lower complexity inherent in telecommunications systems.

RECOMMENDATION
<p><b>OPTIONAL PARTICIPATION</b> For any of the eleven comprehensive institutions in the UW System that elect or opt into this service</p>

Ultimately, UW institutions should be permitted to opt into this service when it is appropriate given the context and current state of their existing telecommunications systems. While there is systemic risk related to telecommunications, it is lower than in other IT areas – for example, the severity of impact if the telecommunications system is breached is lower than if some of the database systems with sensitive information were breached. Also, while there are some cost savings from transitioning to one single telecommunications system, the relative savings is lower than in other areas given that the institutions will still need to manage their own environments.

**FUNDING MODEL**

The *Telecommunications* service should be funded by an assessment fee charged to the institutions that opt in. The fee structure will be based on a per-line charge on a graduating scale based on the total number of lines. The billing cycle (monthly, quarterly, annually) is flexible and adaptable to institutional needs.

Since this service would be optional, it should be funded by the institutions that opt into the service. This service should not be base funded since it is not mandatory and there is not a strong case to incentivize participation. It should also not be managed through a transaction-based chargeback model as the administrative effort to monitor direct costs and effort to support individual institutions would be prohibitively high.

RECOMMENDATION	
<b>TRANSACTIONAL CHARGEBACKS</b>	<b>BASE FUNDING + CHARGEBACKS</b>
<p><b>CAMPUS ASSESSMENT</b> This service should be funded by campus assessment fees</p>	<b>BASE FUNDING</b>

Since institutions would still administer their own environments on the VoIP system, they would pay the standard assessment fees to gain access to the VoIP system and then manage their own costs of administering their environment and users. Funding this service through structured fees assessed to the institutions upfront should limit the administrative burden of managing the service and ensure the appropriate groups are charged for the service.