Huron Education

UNIVERSITY OF WISCONSIN SYSTEM

Information Technology Business Case Development

University of Wisconsin System Administration

Business Cases 1, 2, & 3

August 2015

Executive Summary

BUSINESS CASES

This document presents 3 business cases developed over the course of the 12 weeks that Huron was engaged by UWSA.

Contents

Business Case Template

Business Cases

BUSINESS CASE OVERVIEW

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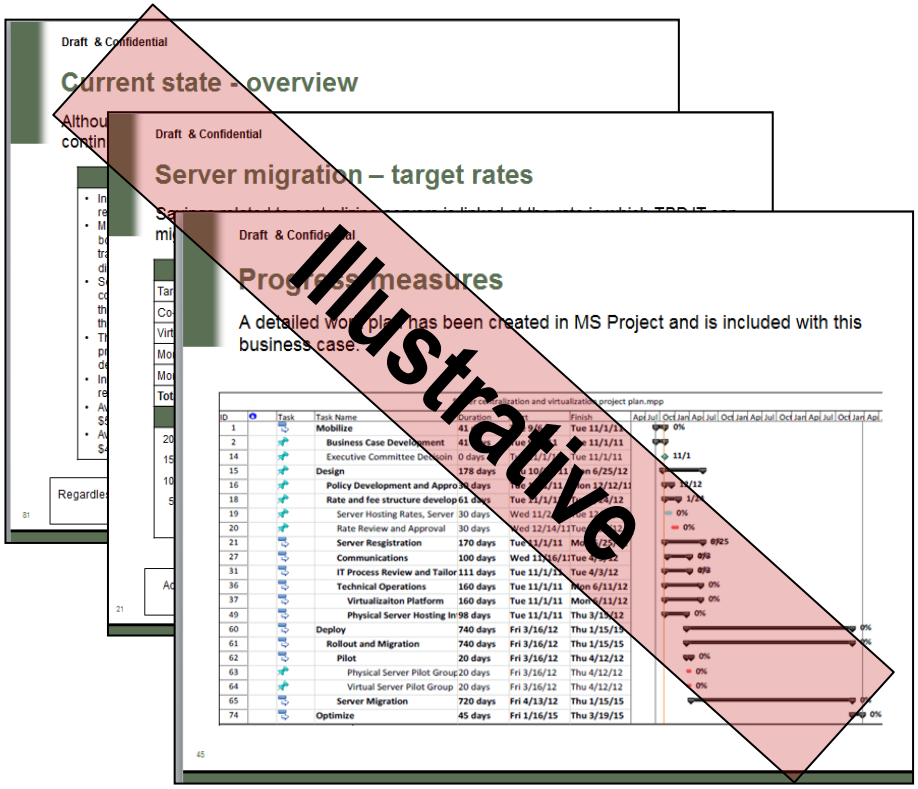
Huron's business cases are structured proposals that outline the benefits and considerations of an initiative to add informational and analytical value to decision-making.

Business cases are designed to:

- Quantify the impact of recommendations
- Provide analysis to support and justify the findings
- Create an impetus to take action

Strong business cases draw conclusions based on:

- Current-state assessment
- Benchmarking, gap analysis or option evaluation
- Cost benefit analysis



Data Assumptions and Notes:

- Data available at the time of this report was either inconsistent, incomplete, or unknown. This underscores the need for a more standardized and transparent approach to data collection and reporting.
- Projected financial impact displayed may not include full cost of implementation. For opportunities selected to pursue, the UW should engage in more robust data collection and analysis to identify the full scope of implementation, resource requirements, and associated costs.
- Analyses may not incorporate campus-level initiatives taking place to reduce costs in reaction to the announced budget cuts. Additional consideration should be given to reductions that have already taken place at the institutional level.

Organizational Context

Business Cases

ORGANIZATION CONTEXT

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The work that culminates in the business cases presented in this document was conducted during a period of immense challenge with an uncertain budget future and therefore unclear responses to cuts. Before we get into the detail of the business cases, we wish to acknowledge the engagement of the IT community across the University of Wisconsin system campuses, including the CIOs, and the engagement of Provosts and Chief Business Officers in providing input, data, guidance, perspective, institutional and historical context, and encouragement.

Business Cases

ORGANIZATION CONTEXT

Providing the full context is infeasible, however, there are several critical elements of context that are important to understand when considering the ideas and recommendations presented in this document.

Organizational Context:

- The University of Wisconsin System is facing reductions in state funding by approximately $125 million per year
- Those cuts are the largest of a series of cuts the University has received over the past decade
- The campuses that comprise the UW System operate predominately independently with several noted exceptions including: (System-wide high-speed network, Common Systems Review Group, VoIP collaboration, virtualization collaborations)
- Recent leadership turn-over throughout the UW System (Chancellors, Provosts, UW system leadership)
- Culture of decentralized and distributed decision making both at the system and institutional level

IT Trends:

- Rapid pace of innovation
- Changing user preferences require that IT functions be increasingly nimble and adaptive
- Increasing adoption of digitization and technology across nearly every facet of the academy
- Increased capacity and capability for 3rd party services (e.g., Amazon Web Services)
- Students who are “digital natives” served by faculty and staff with vastly different attitudes, capabilities, and understanding of technology

Business Cases

BUSINESS CASE OPPORTUNITY IDENTIFICATION

Huron utilized a process by which a broad group of stakeholders provided contextual knowledge of UWS, engaged in identifying opportunities, and provided input into language / grouping of opportunities.

- Initiated data request to all campuses
- Conducted multiple CIO working sessions
- Utilized ITMC brainstorming notes
- Distributed survey to all CIOs, CBOs, and Provosts

Identified 52 Opportunities

- Synthesized opportunities, applied prioritization framework, and presented to Advisory Committee

Combined multiple opportunities into three proposed business cases

- Finalized opportunities presented to Executive Leadership Team for consideration

Business Cases

CONSIDERATIONS

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The following contextual considerations were identified through our working sessions, surveys, and discussions with UW stakeholders.

1. **Culture:** UW Institutions have a high degree of autonomy; this independence is ingrained in institutional cultures to varying degrees. Feedback received from institutional stakeholders indicates that this may be very difficult to overcome for certain opportunities identified.
2. **Collaboration**: Institutions have begun collaborating with respect to IT initiatives, both as a result to improve service and to reduce costs (e.g., leveraging institutions for VoIP or backup location for servers).
3. **Flexibility**: CIOs believe that while centralization may make sense for certain initiatives / opportunities, special consideration should be given to the need to remain flexible / sufficiently nimble to respond to institutional and market demands in order to better serve constituents and students.
4. **Trust:** Our discussions with stakeholders and respondents to the survey indicated that there is a lack of trust with respect to centralization initiatives. Historically, results have been mixed and the corresponding service enhancements and costs reductions have not been achieved.
5. **Timing:** The timing / implementation of opportunities should be carefully considered as it will have significant impact on change management, available funding, and service provided to constituents.
6. **Accountability:** For any opportunity pursued, there must be clearly articulated service expectations and responsibilities among the institutions and UWSA.

Business Cases

EFFECTIVE IT DECISION MAKING STRUCTURES

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A disciplined governance structure aligns investment decisions with institutional and system priorities. Leadership aligned at the appropriate levels can focus IT priorities with long-term strategies and goals.

IT Decision Making Structures

Decision making structures in the case of IT are:

- Mechanisms through which clear and repeatable sets of data, inputs, analyses, priority-setting, and accountability are provided
- Supported by processes and norms that engage stakeholders and increase transparency

Decision making structures in the case of IT are not:

- IT strategy, but the processes and organization to enable strategic decisions and successful execution
- Bureaucratic structures to slow the evaluation and execution of initiatives

<u>Components of Successful IT Decision Making Structures:</u>

- Clearly delineated decision rights and ownership
- Transparency and active communication with stakeholders
- Decisions aligned with strategic direction
- Stakeholder control of cost management and investment
- Defined triage and intake process for new issues that require attention
- Process for business case analysis, review, and input based on institutional needs and appropriate justification
- Consistent, repeatable processes for executing approved initiatives that are scalable for large and small projects

Business Cases

BUSINESS CASE OPPORTUNITIES

The following opportunities were selected by UWSA leadership for business case development.

Business Cases:

1. Migrate specific ERP systems currently hosted internally to third-party providers.
2. Explore alternative delivery models for IT services and administration.
3. Engage in enhanced strategic sourcing for IT hardware, etc.

Business Case Opportunities & Strategic Enablers

Business Cases

IDENTIFIED COST SAVINGS AND STRATEGIC ENABLEMENT OPPORTUNITIES

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Each opportunity will be presented in the following "menu" format representing summary-level analyses found within the business cases.

	Opportunity	Annual Financial Impact	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Timeframe (Months)
#	High-Level Description					
1	2	3	4	5	6	7

1	Opportunity number
2	Description of each opportunity worded as an action to clarify the opportunity, not to represent a recommendation
3	Estimation of the annual cost savings or revenue enhancement (Net initial investment required)[1]
4	Assessment of the risk assumed if implemented on a scale of low to high, either for the UW System or institutional-level
5	Assessment of the indirect or "systemic" effects of the opportunity on other opportunities for efficiency
6	Assessment of the complexity of moving forward with implementation for each opportunity
7	Estimate of the timeframe to realize efficiency savings (beginning from a decision to implement)

Business Cases

IDENTIFIED COST SAVINGS AND STRATEGIC ENABLEMENT OPPORTUNITIES

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	Opportunity	Annual Est. Savings	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Implementation Timeframe
Business Case # 1						
1	Consolidate hosting of SISs	$$$$	Medium	Medium	Medium	12-36 Months
2	Reduce customizations within SIS and consolidate instances	Enabling	Low	High	High	24-36 Months
3	Explore vendor managed infrastructure and rationalize current infrastructure for HRS and SFS	$$$$	Medium	Medium	Medium	6-18 Months
4	Reduce customizations within HRS and SFS	Enabling	Low	High	High	36-60 Months
5	Develop financial model allocating the costs of customizations to requesting campus	Enabling	Low	High	Low	0-6 Months
6	Develop a total cost of ownership model for future customization requests	Enabling	Low	High	Low	3-6 Months
7	Develop a System-wide IT decision making process and mechanism	Enabling	Low	High	Low	6-12 Months
8	Include cloud option as part of vendor system selection for Budget System	Strategic Investment	Low	High	High	12-36 Months
9	Explore transition of non-ERP systems to cloud solutions	TBD	TBD	TBD	TBD	TBD

Business Cases

IDENTIFIED COST SAVINGS AND STRATEGIC ENABLEMENT OPPORTUNITIES

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	Opportunity	Annual Est. Savings	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Implementation Timeframe
			Business Case # 2			
10	Centralize IT security resources	Enabling	Low	High	Medium	6-12 Months
11	Consolidate IT Helpdesks	$$$$	Medium	Medium	High	12-24 Months
12	Consolidate High Performance Computing	Enabling	Low	Medium	Medium	6-24 Months
13	Consolidate datacenter facilities	$$$$	High	High	High	24-48 Months
14	Identify additional areas for system-wide collaboration	TBD	TBD	TBD	TBD	TBD
15	Re-Organize IT Leadership	$$$$	Medium	High	High	24-48 Months
			Business Case # 3			
16	Create System-wide standardized bundles for laptops, desktops, and peripherals	$$$$	Low	Medium	Medium	6-12 Months
17	Enforce policies for preferred purchases (Madison foregone savings displayed)	$$$$	Low	Low	Low	0-6 Months
18	Develop a collaborative, System-wide procurement function to take advantage of scale	Enabling	Low	High	High	12-24 Months

Business Case #1:
Evaluate Alternative Hosting Models for Primary Systems

Business Case # 1

OBJECTIVES

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Our objective in this business case was to evaluate the feasibility of migrating primary information systems to alternative hosting models or cloud based environments.

Objectives: Huron was asked to evaluate the feasibility and / or impact of transitioning UW's ERP systems to alternative hosting models or cloud-based solutions. The following were incorporated into the analysis:

- Identify available options for hosting (e.g., centrally, cloud-based)
- Identify primary solutions available (e.g., Oracle, Workday)
- Evaluate the relative level of cloud maturity (e.g., infrastructure, SaaS / Cloud)
- Evaluate each system's readiness to transition to cloud-based solutions (e.g., level of customizations)

Future-State Considerations:

- Systems are inter-connected and the development of a holistic approach to future-state system integration and process re-design is recommended
- The impact of bolt-on and other applications should be considered as part of future-state requirements determination
- Cloud-based solutions continue to mature; the UW should develop a comprehensive roadmap to system upgrades and an overall cloud adoption strategy
- Upgrade to Cloud / SaaS solution may require multiple steps – cannot "flip a switch"

Though the focus of this business case was on the UW's primary systems (SIS, HRS, SFS, Budget), Huron believes that additional services should be considered for cloud computing.

Business Case # 1

CONTEXT AND BACKGROUND

HuronEducation

The rapid evolution of technology is fundamentally changing the way companies and higher education institutions consider, consume, and manage IT.

Context:

- As technology continues to become more pervasive across all facets of university activities, the demand to do more with less becomes stronger
- UW institutions are having issues recruiting, hiring, and retaining technical IT staff (e.g., DBAs)
- Responses to the problem this poses include changing what institutional IT does, what system-level IT does, and what is procured from third-parties
    - Vendor solutions continue to mature
    - Scale economies may drive down cost
    - Vendor pricing models impact the beneficiaries from increased efficiencies
- Timing and approach to any transition will be critical factors in determining success and realization of efficiencies

Business Case # 1

WHAT IS CLOUD COMPUTING

Huron Education

Cloud computing is the delivery of IT resources and applications through the use of the internet rather than through the utilization of a local server or personal computer.

Who is Using Cloud Computing?

- Companies: Netflix does not own or operate their own datacenters → outsourced to Amazon
- Higher Education: Consortiums such as Unizin or Internet2 → collaborations able to leverage scale
- Personal Users: All iPhone users have access to Apple's iCloud storage → personal cloud

Characteristic	Comments	Benefits
Scale	Immediate provisioning and de-provisioning of compute resources	Increases ability to manage and plan for IT resources
Speed	Often offers improved infrastructure and speed over traditional, on premise environments	Servers or new environments can be deployed in minutes / hours vs. days / weeks
Cost	Utilize a pay-as-you-use pricing model	Reduced capital expenditures and increased ability to manage budgets
Resiliency	Geographically dispersed infrastructure	Improved ability to mitigate risks

Business Case # 1

WHAT IS CLOUD COMPUTING

Characteristics	Localized	Private Cloud	Virtual Private Cloud	Public Cloud
Location	On Premise	Off Premise	Off Premise	Off Premise
Hardware Owner	Institution	Vendor	Vendor	Vendor
Payment Model	Capital + Support	Provision + Usage	Monthly / Usage	Pay-per-use
Scalability	Low-Medium	Medium	High	Very High
App. Migration Effort	None	Low	Low	Dependent on App.
Break / Fix Approach	Repair H/W	Repair VM or H/W	Repair VM	Recreate VM

Essential Characteristics*

1. On Demand: Consumer can provision computing capabilities as needed, such as server time and network storage, without requiring human interaction with each service's provider
2. Broad Network Access: Capabilities are available over the network and accessed through standard mechanisms that promote heterogeneous thin/thick client platforms (e.g., mobile phones)
3. Resource Pooling: Provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and re-assigned according to consumer demand
4. Rapid Elasticity: Capabilities can be rapidly and elastically provisioned, in some cases automatically, to quickly scale out and rapidly released to quickly scale in
5. Measured Service: Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts)

**Source: EDUCAUSE*

Business Case # 1

WHAT IS CLOUD COMPUTING

In addition to the localized (on premise) hosting model, “X as a service” options are changing the way corporations and higher education institutions manage, provision, and invest in IT resources.

Level of Local Control

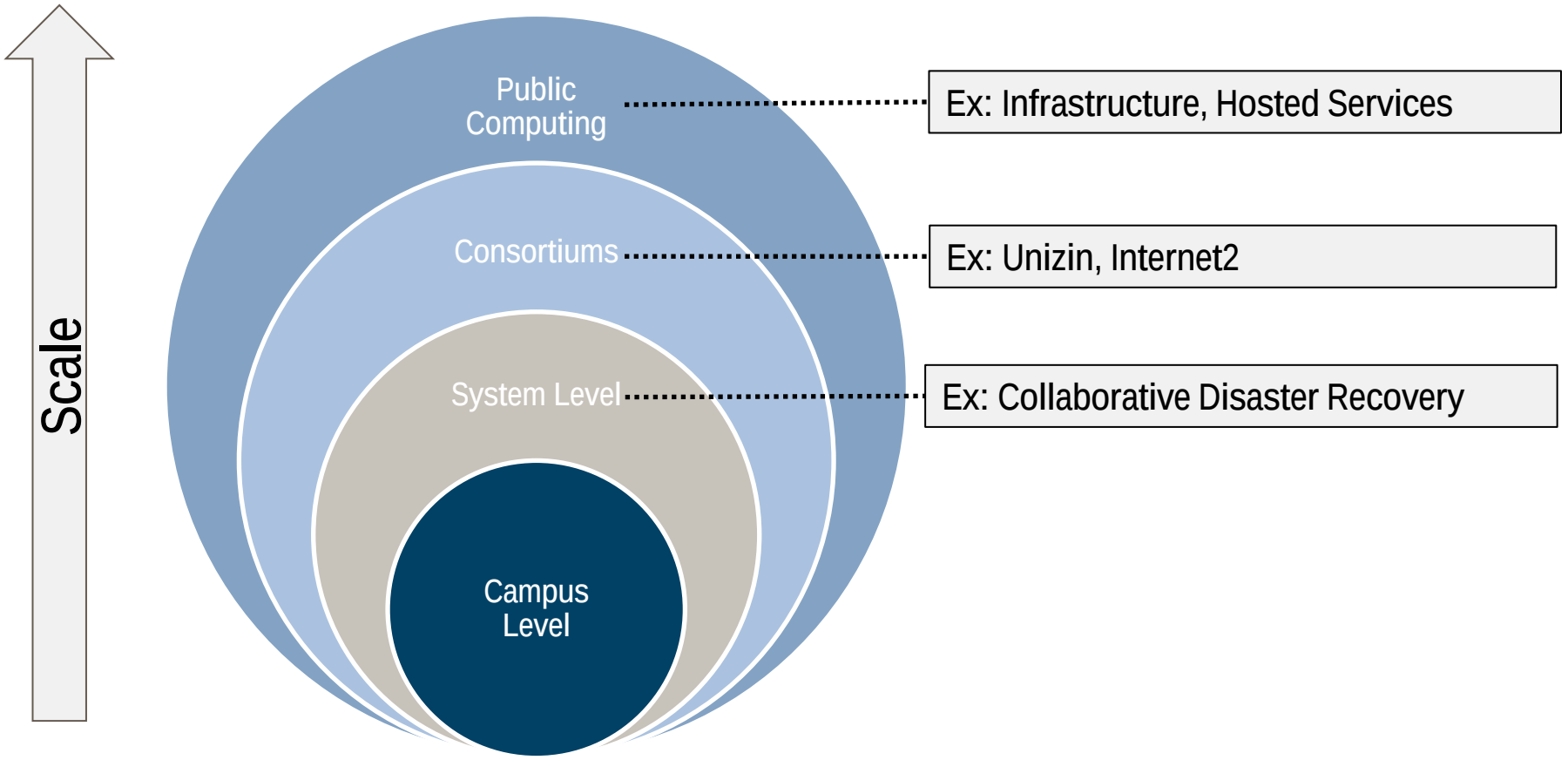
Level of Standardization

	Infrastructure as a Service (IaaS)	Platform as a Service (PaaS)	Software as a Service (SaaS)
Overview	Virtualized computing infrastructure (pooling of resources)	Web and mobile application development using pre-configured components	Delivers on-demand applications that are hosted and managed by vendor
Benefits	• Vendor manages infrastructure • Highly scalable • Reduced capital expenditures	• Service provider maintains programming languages, application servers, and databases	• Reduced upgrade times • Pay-as-you-use pricing model • Encourages standardization
Considerations	• Reduced control of local IT resources • Requires careful analysis of actual resources required	• Increased vendor lock-in • Integration and support to existing applications	• Customizations can quickly increase costs to support and upgrade complexity • High vendor lock-in
Example Companies Providing Service	• Amazon, Microsoft, Google, Rackspace, IBM, HP	• Amazon, Oracle, Microsoft, Engine Yard	• Salesforce, Microsoft, Google

Business Case # 1

WHAT IS CLOUD COMPUTING

Within higher education and more broadly, organizations seek increased efficiency through a transition to a hybrid service delivery environment comprised of a network of internal and external service providers.



Business Case # 1

LEADING HIGHER EDUCATION ERP VENDORS

Huron Education

Increasingly, vendors and companies are investing in cloud-based solutions as a transition from "traditional" ERPs.

Comments:

- Industry investment in "cloud" based ERP systems is strong and appears to be the signaled direction of technology migration
  - PwC predicts that by 2016, investments by companies in SaaS solutions will double to $78 billion, vs. investments in traditional ERP systems, declining by over 30% to less than $15 billion*
  - Gartner predicts that by 2018, at least 30% of service-centric companies will move the majority of their ERP applications to the cloud**
  - Gartner predicts that by 2017, 70% of hybrid ERPs (combination of cloud and "traditional" solutions) will fail to improve cost-benefit outcomes unless cloud applications provide differentiated functionality – cloud applications do not provide value without careful consideration of process, etc.
  - Companies like Oracle and Workday are rapidly investing in, and developing, integrated cloud solutions

SAP workday ORACLE IBM

Source:
**Forbes: Five Catalysts Accelerating Cloud ERP Growth in 2015*
***Gartner*

Business Case # 1

HIGHER EDUCATION CLOUD CONSORTIUMS– UNIZIN AND INTERNET 2

Huron Education

Large, Higher Education led consortiums are changing the way cloud-based services are developed and made available to institutions, research centers, and other governmental / industry partners.

Unizin

- Founded in 2014
- Consortium founded and led by higher education institutions with a focus on developing a new approach to digital learning
- Sought an alternative option for learning management systems with a focus on collaboration rather than institution-specific initiatives
- Cloud-scale service operator and integrator supporting Digital Education offerings to partners including Content, Software Platforms, and Analytics
- Designed to better support faculty and enable student success
- Focus to provide “common gauge rail approach” for infrastructure – encourages faculty collaboration

INTERNET 2®

- Founded in 1997
- Non-profit computer networking consortium
- Institutions / partners can provision network and other services
- Connects over 60,000 U.S. educational, research, government, and community anchor institutions
- Develops and deploys network technologies such as large-scale performance measurement and management tools, secure identity and access management tools, and the ability to schedule high-bandwidth, high-performance circuits
- Creates a faster alternative to the internet and fostered creativity, research, and development not previously possible

Business Case # 1

SELECT EXAMPLES OF ERP CLOUD COMPUTING IN HIGHER EDUCATION

Huron Education

Increasingly, institutions are pursuing cloud-based options to reduce expenditures, re-allocate resources towards strategic initiatives, and enhance services provided to constituents.

Select Examples of Managed Services (Primary Systems)		
Institution	Service Pursued	Stated Institutional Reasoning
Cornell University	Cloud HCM and Payroll	• Elimination of difficult and time-consuming upgrades • Wanted to streamline administrative operations
Brown University	Cloud Expenses, Financials, HCM, Payroll, and Time Tracking	• Ability to re-allocate resources to mission critical endeavors • Cost of ownership and business model concept – institution does not want to be designing business processes
Boise State University	Oracle ERP Planning Cloud	• Ability to achieve savings from process improvements • Reduced infrastructure costs, ability to re-purpose staff, and eliminate costly upgrades
Case Western Reserve	Opted for vendor managed application and production support rather than invest in new infrastructure	• Infrastructure reliability & speed – increased service provided while avoiding investment in capital expenditures • Reduced Risk – improved disaster recovery, data security, ability to recruit and retain staff

In addition to cloud ERPs, some institutions have developed a more holistic approach to the cloud. The University of Notre Dame instituted a “cloud first” program with the goal of moving 80% of IT services to the cloud by 2017.

Business Case # 1

BENEFITS / CONSIDERATIONS OF CLOUD COMPUTING

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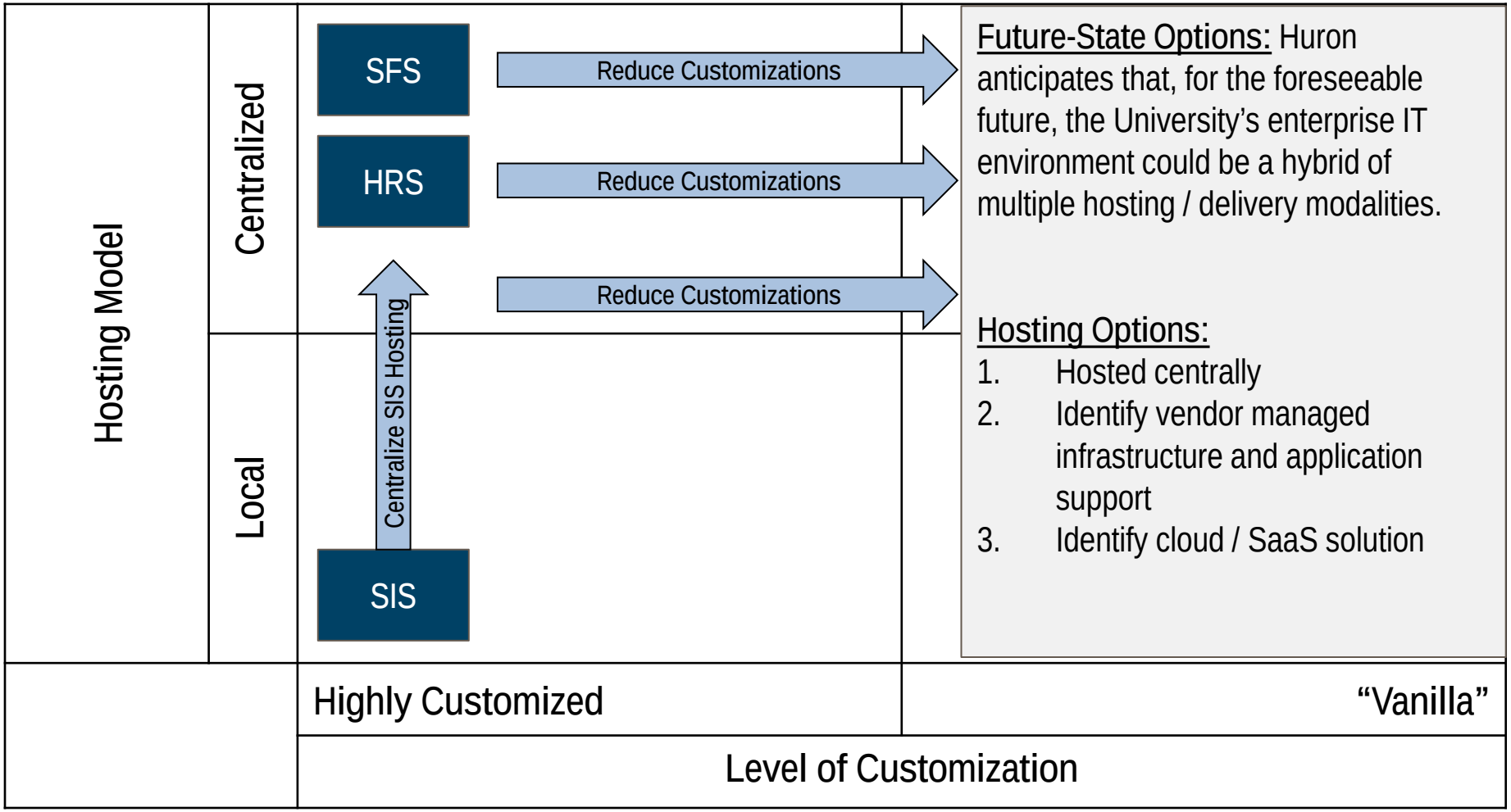
While cloud computing can offer significant benefits with respect to service, standardization, and cost, the movement to a cloud environment will require significant due diligence prior to migration.

Benefits	Considerations
• Cloud-based computing is emerging as a more mature market than it was several years ago • Reduces costs (transition from CapEx and OpEx) • Increases focus on core business and strategic vision – frees up internal resources • 24/7 service and support • Pay-per-user / pay-as-you-use model vs. building and maintaining infrastructure • Accelerates innovation • Potential reduction in deployment / upgrade time due to increased standardization • Not dependent on location →Increased mobilization • Changes the role of institutional IT staff – focus transitions to service management and other institutional priorities	• Transition to cloud-computing cannot take place overnight – requires appropriate due diligence and appropriate vendor management mechanisms • Inhibits customizations and increases standardization (customizations may result in increased costs) • Requires clearly articulated Service Level Agreements that define expectations and services provided to constituents • Requires that the vendor remains compliant with state and federal rules and regulations – certain cloud models (e.g., SaaS) may require additional costs to support new regulations • Increases focus on data security – management of data security changes from on premise model to vendor managed, potentially requiring changes in current policies / technical standards • Increased cost / and ramp-up time (e.g., hiring and training staff) of transition away from cloud computing – can become heavily vendor dependent

Business Case # 1

HOSTING OPTIONS FOR CURRENT SYSTEMS

There are several hosting options available for each system. At present, the largest short-to-intermediate term opportunity that exists is centralized hosting of Student Information Systems (SISs).



Future-State Options: Huron anticipates that, for the foreseeable future, the University's enterprise IT environment could be a hybrid of multiple hosting / delivery modalities.

Hosting Options:

1. Hosted centrally
2. Identify vendor managed infrastructure and application support
3. Identify cloud / SaaS solution

Business Case # 1

SIS RECOMMENDATION OVERVIEW

Although precise costs[1] for operating current SISs are unknown, a high-level quantification indicates UW institutions can realize significant savings by consolidating from campus-based to central hosting of SISs.

Est. Current State Operating Costs ($000s)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Current State Low (20 Inst. FTE)**	$4,500	$4,500	$4,500	$4,500	$4,500
Current State High (35 Inst. FTE)***	$6,000	$6,000	$6,000	$6,000	$6,000
Oracle Consolidation Recommendation – Accelerated ($000s)					
Annual Cost	$5,200	$2,100	$2,100	$2,100	$2,100

Est. Current State Operating Costs ($000s)					
	Year 1	Year 2	Year 3	Year 4	Year 5
Current State Low (20 Inst. FTE)**	$4,500	$4,500	$4,500	$4,500	$4,500
Current State High (35 Inst. FTE)***	$6,000	$6,000	$6,000	$6,000	$6,000
Oracle Consolidation Recommendation – Multi-Year ($000s)					
Annual Cost	$3,500	$3,200	$3,200	$2,400	$2,100

Table Assumptions:

- Current-state salary and fringe estimated to be $95,000 for all FTE salary calculations
- Current-state localized FTE ranges identified through survey and subsequent discussions among CIOs (range 20-35 FTE)
- Future-state hosting assumes centralized staff increased by 4 FTE to manage centralized hardware, etc.
- Multi-year approach assumes financing of Oracle equipment – Future-state consolidation figures provided by Oracle
- UW CIOs suggest potential hardware savings will vary as same hardware supports multiple campus-level service

* Current state of discussions with CIOs
** Initial survey responses from institutions
***All estimates are based on discussions conducted between UW institution CIOs and UWSA CIO. Data provided by UWSA CIO.

Note: (1) See Appendix for cost estimates using available data

Huron estimates that, System-wide, the UW could achieve significant annual savings by consolidating the hosting of SISs to a single location with additional savings opportunities through reducing customizations.

Business Case # 1

STANDARDIZATION OF INSTITUTIONAL BUSINESS PROCESSES

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In addition to consolidating hosting of all SISs to a centralized model, the UWS should engage in a comprehensive business process review to identify and remove lower-value-add customizations.

Drivers of Disparate SIS Processes

- Institutional move to PeopleSoft was incremental – development of business processes not coordinated
- Processes developed around available functionality. As functionality improved, business processes may have remained – unclear level of utilized system functionality
- Disparate use of bolt-on technologies and applications results in increased institutional customizations and localized support required

Move Towards Standardization

- Requires directive from System and Institutional leadership to engage in business process and coding structure evaluation and re-design
- Recognize and develop common approach to addressing differences in campus processes
- Develop a systematic approach and strategy for future-state SIS implementation that identifies commonalities among institutions

Achievable Outcomes from Standardized Processes & Data Coding

- Allows institutions to re-allocate IT resources to more strategic objectives rather than supporting institution-specific customizations – may also provide institutions and the system to consolidate systems / applications
- Enables the development of real-time or predictive analytics vs. point-in-time review
- Reduces complexity and enables deployment of shared services for back-office / administrative processing without impact to constituents

Business Case # 1

VENDOR MATURITY AND UWS READINESS

Huron Education

At this point in time, large-scale cloud-based SIS solutions are several years from mainstream adoption. The UWS should utilize this timeframe to develop an approach to process and data standardization.

Vendor Maturity:

- Gartner predicted (2014) that SIS SaaS models are at least 5-10 years from widespread adoption
- Primary cloud-based vendors, Oracle Campus Solutions and Workday Student, are at least 2-3 years away from being fully functional, cloud-based student lifecycle solutions – both currently building, testing, and rolling out modules

Examples of Standardization Effort	Representatives
Examples of Data Coding Differences (Student Records): • Basic student demographic information (e.g., gender, ethnicity) • Academic identifiers – taking courses at multiple institutions, course completion / withdraw • Coding of students (e.g., resident, distance education) Examples of Institutional Process Differentiators: • Academic calendars • Registration timelines • Posting of grades • Student billing cycles • Application of student aid packages (e.g., merit aid) • Tracking student advising sessions • How / where data are stored	System-wide standardization will require a sizeable effort from UW staff across multiple units, including representatives from each of the following areas: • Faculty Representation • Financial Aid • Registrar • Bursar • Institutional Research • Academic Advising • Technical Staff • Professional School and Distance Learning Programs – tend to be more complex • Standardization may require significant changes to current campus business processes and operating culture

Business Case # 1

HRS & SFS OVERVIEW

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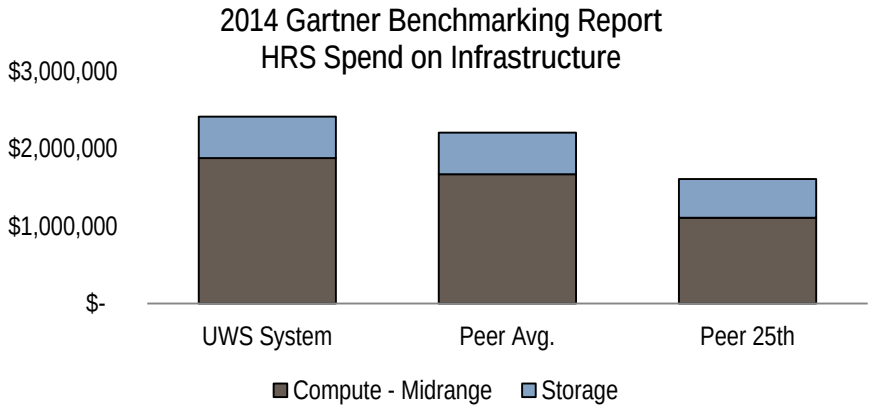
The current HRS and SFS systems are at similar points with respect to centralization and support. Over the next several years, both will be considered for upgrades.

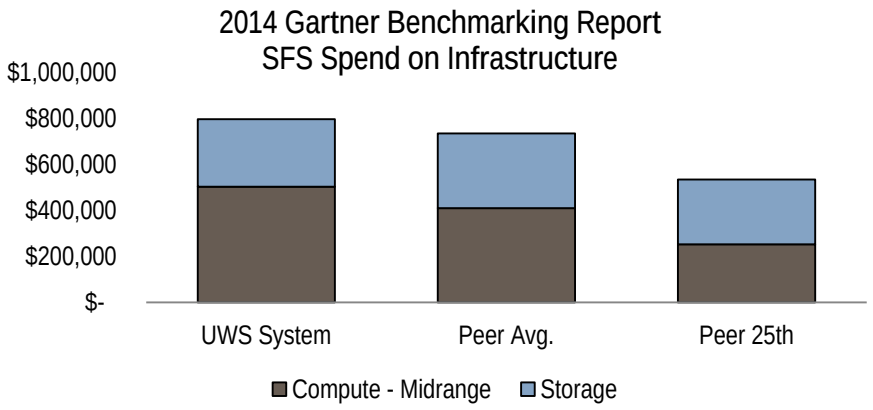
System	Current State	Opportunity	Reasoning
SFS	• Centrally hosted and supported at DoIT and funded through CSRG • Current version: 9.1 • Approximately 290 unique modifications • Recently reduced number of instances and back-up schedule to reduce costs	• Explore vendor managed infrastructure (IaaS) • Explore upgrade to PeopleSoft 9.2 and alternative infrastructure hosting • Refine and standardize business processes and then explore upgrade to cloud solution	• Upgrade decision will likely be made in the next few years • IaaS model has potential for reduced short-to-mid-term costs while processes are standardized in preparation for cloud solution • Upgrade to 9.2 or cloud solution presents different cost scenarios, timelines, and impact to UW business processes
HRS	• Centrally hosted and supported at DoIT and funded through CSRG • Current version 9.0 • System customizations are in part due to state legislation and lack of systematic IT governance • Unique customization examples include multiple TAMS, time clock, JEMS, duplicated personnel systems (UPS)		

Business Case # 1

HRS & SFS OVERVIEW (CONT'D)

According to the Gartner Benchmarking Report completed for the UWS, infrastructure costs exceeded those of identified peer institutions. The opportunity exists to evaluate annual infrastructure costs for each system.





Gartner HRS and SFS Benchmarking Analysis:

- Range of annual potential savings for HRS and SFS infrastructure between $200k - $800k and between $60k - $262k to Peer Avg. and Peer 25th (respectively)

Hosting Model Considerations:

- Review current state infrastructure support to identify where reductions can occur (e.g., number of instances, back-up schedules, number of active projects)
- Engage with vendor to evaluate alternative hosting infrastructure costs to support instances → requires increased focus on vendor management and full analysis of operating infrastructure requirements

Business Case # 1

HRS & SFS OVERVIEW (CONT'D)

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The UWS should address the underlying drivers of customizations, and overall costs prior to moving to cloud-based solutions.

Reasoning: Inefficiencies exist that cannot be solved simply by implementing a cloud-based solution. Cloud-based solutions provide the opportunity to standardize business processes that meet future-state business models.

- Lack of a formalized mechanism through which System-wide IT decisions can be made and the current model of distributing the costs of customizations into the CSRG charges (across the board) means that requestors of customizations or configurations may not fully understand implications / costs with requested customizations and there is no group formally charged to review and approve/ deny requests

- Inefficient processes or one-off customizations are costly and cannot be solved by moving to a cloud-based system
  - Identification of future-state processes / users requirements (e.g., Establish minimum threshold to be granted administrator access in HRS) can result in reduced costs under a pay-per-user structure
  - Utilize a common approach to talent acquisition management systems
  - Review of current policies will identify what is / is not operationally required – differentiate between legislative requirements and UWS policy
  - Reduce number of bolt-on / support applications system-wide

Short-term savings may be achieved through a vendor-hosted infrastructure, the UW should accelerate its strategy of removing customizations to further reduce costs and to prepare for a potential transition to the cloud.

Business Case # 1

BUDGET SYSTEM CONSIDERATIONS

HuronEducation

As Oracle and other companies are investing in the cloud and following a cloud-first mentality, the University may consider a cloud-based option as part of its consideration for a new budget system.

	On-Premise Hosted Model	Cloud Based Model
Benefits	• Increased control over customizations and configuration of system • Greater control over system including data, upgrade timing and cycles	• Fewer local IT resources needed to operate and maintain system • Quicker installations and upgrades • Earlier access to system enhancements • May be lower cost (depending on licensing structure and number of users)
Considerations	• Large, complex universities / systems may require unique hardware to maintain system performance • May require specialized technical staff (who are hard to recruit and retain) to maintain and operate system	• Some functionality not yet available on cloud instances • Upgrades happen on vendor's schedule • Data/system integration for custom / local systems may be more difficult

Depending on the vendor selected, the University should consider cloud based options for a new budget system.

Business Case # 1

RECOMMENDATIONS

The UWS should take several steps over the next 36-48 months to achieve immediate cost reductions and position the System to successfully transition to cloud based solutions as they mature.

	Opportunity	Annual Est. Savings	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Implementation Timeframe
Business Case # 1						
1	Consolidate hosting of SISs	$$$$	Medium	Medium	Medium	12-36 Months
2	Reduce customizations within SIS and consolidate instances	Enabling	Low	High	High	24-36 Months
3	Explore vendor managed infrastructure and rationalize current infrastructure for HRS and SFS	$$$$	Medium	Medium	Medium	6-18 Months
4	Reduce customizations within HRS and SFS	Enabling	Low	High	High	36-60 Months
5	Develop financial model allocating the costs of customizations to requesting campus	Enabling	Low	High	Low	0-6 Months
6	Develop a total cost of ownership model for future customization requests	Enabling	Low	High	Low	3-6 Months
7	Develop a System-wide IT decision making process and mechanism	Enabling	Low	High	Low	6-12 Months
8	Include cloud option as part of vendor system selection for Budget System	Strategic Investment	Low	High	High	12-36 Months
9	Explore transition of non-ERP systems to cloud solutions	TBD	TBD	TBD	TBD	TBD

Business Case #2:
Evaluate Alternative IT Administrative and Service Delivery Models

Business Case #2

CURRENT STATE IT ADMINISTRATION & SERVICE DELIVERY

Each UW has built and supports localized information technology structures designed to meet the needs of their institution, resulting in system-wide duplication and disparate operating models.

Overview:

- Aligned with the decentralized nature of the UWS, each campus has its own IT organization(s) providing a range of similar services (e.g., Network and Infrastructure, Client Services, Enterprise Systems, Academic Technologies) to similar constituencies (e.g., faculty, students, staff) supporting similar functions (e.g., teaching, research, administration)
- Campus specific organization of IT activities varies greatly from campus to campus, reflective of the differences in campus structure, culture, and operational norms
- Campus IT organizations and CIOs have engaged in a range of collaborative ventures (e.g., Disaster Recovery, back-up support), though participation in these ventures is voluntary and they lack an overarching approach to governance

Huron utilized the following guiding principles regarding the consolidation of IT services; cost reduction, mission enablement, standardization, and service enhancement to constituents.

Business Case #2

CURRENT STATE IT ADMINISTRATION & SERVICE DELIVERY

Huron Education

The opportunity exists to systematically re-envision the way IT is administered and services are delivered.

In order to fully explore the concept of collaboration, we have structured and focused our thinking in two areas: function-specific opportunities that are achievable within the current operating context and holistic opportunities that would require a reimagining of the way IT services are delivered across the University of Wisconsin.

Function Specific Assessment:

Hypothesis: The UWS could lower cost, improve service, or a combination of the two by creating a cross-campus capacity to support specific functions, including:

- Training
- IT Security
- Helpdesk and IT Support
- IT Purchasing
- Research Computing
- Network Support / Investments
- Datacenters

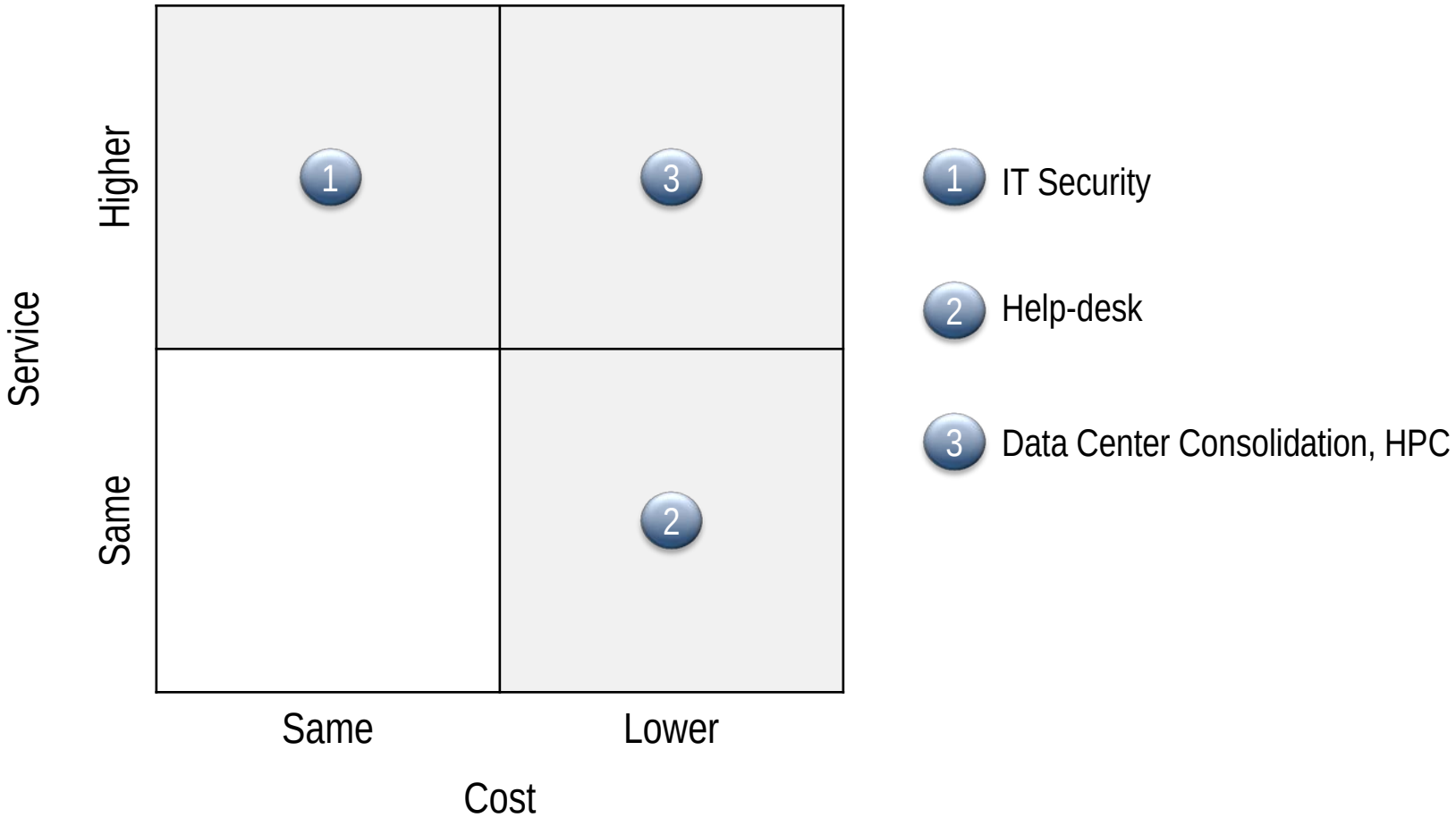
Holistic Approach:

Hypothesis: The UWS could add substantial capability and expertise without a significant increase in expenditure or significant reduction to the administrative costs of Information Technology by organizing the provision of IT at a "System" level.

Business Case #2

TYPES OF IT MODELS

While there are nuances to operating models, there are two primary types that the UWS should consider - consolidation of service-specific operations or a more holistic approach to IT.



Business Case # 2

EXAMPLE 1: IT SECURITY

The opportunity exists to create a centralized team of UW IT security staff focused on developing, implementing, and ensuring system-wide standards and technical controls are met.

Impetus for Change: Institutions are increasingly exposed to security threats:

- Auburn University publically exposed over 360,000 SSNs while replacing a broken server
- Penn State's Engineering School exposed staff, student, and public/ private research partner information over a period of two years because of a breach in the school's computers
- Additional institutions recently impacted by security threats: Johns Hopkins, Carnegie Mellon, UC Berkeley, MIT, University of Maryland, North Dakota University, Butler University, and Indiana University (among others)

Current State:

- 13 known UW contacts (headcount) related to IT security, some split time with other local responsibilities
- Not all campuses have financial resources or ability to attract / retain dedicated IT security staff
- System-wide UW Baseline for IT security has been developed over the previous two years, though it is unclear if some or all campuses have met those standards at this time
- Disparate approach to IT standards, coupled with shared / common systems present potential systematic vulnerabilities for individual campuses

Business Case # 2

EXAMPLE 1: IT SECURITY (CONT'D)

Huron Education

Transitioning to a IT Security team that is, perhaps geographically dispersed but with central reporting, while complex, can provide the UWS with a standardized approach to IT security.

<u>Challenges with transition:</u>

- Lack of standardized IT functions system-wide result in disparate current state operations and standards
- Lack of an existing formalized governance mechanism to empower centralized security efforts (e.g., policy development and enforcement)
- Centralized security team would require financial and staff resources from institutions:
  - Institutional FTE resources to assist in centralization efforts, new policy development, and implementation efforts (e.g., identification of localized current state)
  - Funding to support centralized team and potential changes in current practices to meet system-wide standards (e.g., changes in system configurations)
  - Training of current staff on newly developed policies

Business Case # 2

EXAMPLE 1: IT SECURITY (CONT'D)

The deployment of a centralized team should be considered as an enabler of a comprehensive and systematic approach to developing and enforcing standards and risk mitigation strategies.

Impact of Consolidation:

- Standard approach to system-wide IT security management and risk mitigation
- Standard technical auditing and accountability → standardized audit procedures, timing, review, etc.
- Consistent approach leads to reduced institutional and systematic vulnerabilities
- Alignment of IT procurement and lifecycle management with end-point risk
- Consistent data security and retention policies

Similar Example – UWSA Internal Audit

- UWSA recently centralized system auditors as a way to provide increased consistency and a more formalized approach to process review
- Chief Auditor reports directly to President Cross and the Board of Regents – delegated authority to develop a systematic, unbiased, approach to review

Benefits of Centralized IT Security Model

- Consistent, systematic approach and standards to IT security
- Authority to assess, implement, and refine standards in an expedited fashion
- Proactive and coordinated approach to meeting newly established standards

Business Case # 2

EXAMPLE 2: HELPDESK (HD) OVERVIEW

Huron Education

Currently, each institution maintains centralized helpdesks for IT support. Madison and Milwaukee list distributed IT support via locally managed helpdesk (e.g., college level).

Helpdesk Overview (System-wide)

- 20 known centrally managed helpdesks – Madison and Milwaukee list distributed IT support (e.g., respective Colleges)
- Approximately 339,000 total centralized HD tickets received ranging from basic inquiries through more resource intensive application support
- Disparate data tracking utilized system-wide resulting in inconsistent data availability – no consistent metric tracking
- Multiple instances and types of ticket management systems and virtual self-service knowledge management documents. Institutions do collaborate with respect to knowledge bases (e.g., UW Milwaukee utilizes UW Madison's knowledge base)
- Institutional operating hours vary - most adjust hours for fall/spring/summer terms
- Institutions are utilizing student workers to encourage career development, retention, etc.

*Data Assumptions:

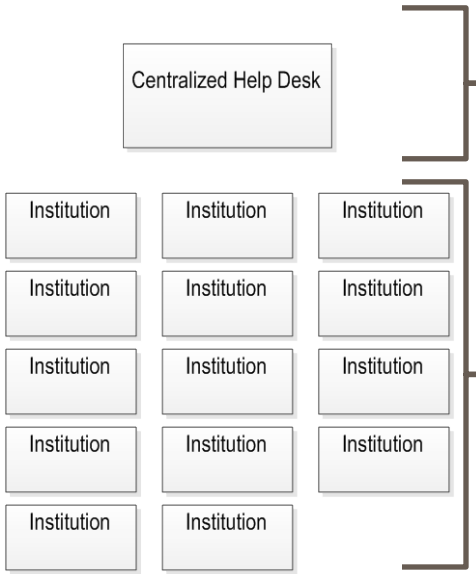
- Does not include distributed Helpdesk staff – number of distributed helpdesks not fully known. Madison and Milwaukee list distributed help desks for certain colleges / schools
- Institutional FTE defined as FTE Faculty, FTE Staff, or FTE Student
- Aggregate ticket information uses most recent complete year as provided by CIOs or publically available information on websites.
- Central HD Ticket information not available for Eau Claire, Oshkosh, or Colleges / Extension – an estimation was made by multiplying the average known (Ticket/Inst. FTE) by the number of institutional FTE

Business Case # 2

EXAMPLE 2: CONCEPTUAL FUTURE STATE HD MODEL

HuronEducation

A hub-and-spoke model for helpdesk delivery will require additional analysis, planning, and potential investment to ensure a seamless transition and uninterrupted service provided to staff and students.



Central Helpdesk:

- Highly trained "generalist" and tier-2 staff respond to all incoming tickets, or route calls appropriately to institutional level (e.g., desktop / classroom support)
- Utilizes a routing resolution priority whereby the most serious issues are prioritized using a single ticketing system

Distributed Support:

- "On-the-ground" staff and students assist with physical desktop support, laptop re-imaging, classroom set-up, etc.
- Promotes the increased use of student workers which can lower operating costs while contributing to student success and retention (e.g., financial, career building)
- Distance learning faculty and students likely not significantly impacted by change in operations

Change Components

- Disparate knowledge management / virtual self-service systems will need to be consolidated
- Requires the development of unified processes and standardized escalation procedures
- Requires development of system-wide Service Level Agreement
- Constituent change management efforts to new processes
- Development of a formalized training program for all student workers
- Future-state FTE distribution – some institutions may require additional on-site staff to meet institutional policies (e.g., Stout with student laptop program)

Business Case # 2

EXAMPLE 2: FUTURE-STATE HELPDESK BENEFITS AND CONSIDERATIONS

Huron Education

Centralizing helpdesk activities provides for increased standardization of service provided, the ability to monitor metrics and demonstrate accountability to stakeholders, and support a growing "bring your own device" trend.

Ex: Helpdesk / Desktop Support Consolidation	Comments
Institutional Example: University of Minnesota	• Evaluated current Helpdesk and desktop support staffing (collegiate and non-collegiate) – operated 72 separate helpdesks • Identified an annual range of savings / staff re-allocation of $7.3 - $9.1 million • Transition to consolidated future-state is still in progress – achieved annual savings of approximately $2.3 million

Benefits	Considerations
• Consistent ticket tracking and reportable system-wide metrics • Consistent, systematic approach to constituent support (e.g., response times, escalation procedures, follow-up, etc.) • Enables the standardization of technologies supported • Increased use of students can further reduce overall costs while maintaining consistent levels of service – ability to scale up / down during academic and summer terms	• Requires change management efforts to coach stakeholders on new process • Requires highly trained centralized staff versed in multiple applications and devices • May require standardization of applications, hardware, etc. supported • UWS can choose to outsource “after-hours” ticketing management to third-party vendor – requires additional analysis

Business Case # 2

EXAMPLE 3: CENTRALIZED HIGH PERFORMANCE COMPUTING (HPC)

Huron Education

The opportunity exists to develop a policy that centralizes research computing and enables all institutional faculty, researchers, and students to provision computing resources upon request.

Examples of HPC Across UW	Considerations for Centralization	System-wide Mission Enablement
• UW Madison • UW Milwaukee • UW La Crosse • UW Eau Claire • Some institutions use XSEDE	• Implementation should coincide with UW Institutions grant funded HPC cycles • Leverage existing dedicated infrastructure	• Provide access to cutting-edge computing resources to all UW faculty, researchers, and students • Utilize a pay-as-you-use cost recovery model

Examples of Shared HPC Computing	Comments
Multi-Institutional Example: POD IU	• High performance computing cluster available for on-demand use by any domestic or foreign researchers associated with institutions of higher education, federally funded R&D center, or other federal / state entities • Collaborative effort among Indiana University, UVA, UC Berkeley, and U. Michigan and Penguin Computing • Utilizes a “pay-as-you-go” pricing model with same configurations as existing government supercomputers → cost effective solution to access compute resources

Huron recommends further analysis regarding realizing scale of existing shared system research / high performance computing investments and the development of an implementation timeline that incorporates technology refresh cycles.

Business Case # 2

EXAMPLE 4: CONSOLIDATE SYSTEM-WIDE DATACENTERS / SERVER FACILITIES

Huron Education

Currently, each institution maintains their own respective datacenter(s). The opportunity exists to explore the consolidation of system-wide data-centers and server facilities, resulting in achieved economies of scale.

Anticipated Approach / Data Issues	Known Information
• Assess current inventory of datacenter / server facility equipment, policies, procedures, usage statistics, operating costs, space, etc. • Review level of virtualization and identify estimated near-term savings by increased virtualization • Identify estimated savings by co-location / consolidated facilities and potential cost avoidance Available data was either inconsistent or not provided at all. Huron was not provided with UW Whitewater survey.	• Estimated number of "centrally" managed datacenters is 22* • Limited current server, data center/ facility inventory, etc. – some institutions provided detailed server information others did not participate • Generally, institutions indicated they have or plan to engage in server virtualization (Centrally) • Distributed / departmental level datacenters / server facilities is unknown, though UW Madison estimates their number to be approximately 96 • UW Madison initially estimated a 5-year savings of ~$6.8 million, primarily by co-locating data centers / server facilities • UW Stout's strategic plan highlights institutional datacenter consolidation as a priority

*Data received was either not explicit in naming number of datacenters or was inconclusive based on wording. Some institutions did not provide data resulting in estimation of a minimum of one datacenter / institution.

Business Case # 2

EXAMPLE 4: CONSOLIDATE SYSTEM-WIDE DATACENTERS (CONT'D)

HuronEducation

The consolidation of UW datacenters would be a complex initiative spanning several years of planning, rationalization, and migration efforts.

Consolidation Complexities & Components:

- Comprehensive inventory of current infrastructure
- Comprehensive understanding of Tier 1, 2, and 3 applications
- Identification of future-state infrastructure needs
- Identification of future-state datacenter locations
- Identification of project funding and future-state budget model for operation
- System-wide disaster recovery plan
- Development of a institutional data and application migration plan → migrate institutions gradually

Representative Example: New York State & SUNY

- In 2013, Governor Cuomo announced the consolidation of 50 New York State Datacenters and server rooms spanning 140,000 square feet into one location at SUNY College of Nanoscale Science and Engineering
- Currently engaged in increased server virtualization, physical co-location, and a systematic review of current applications to reduce amount of storage and compute resources required
- Consolidated datacenter is a 50,000 square foot tier 3 facility promising 99.982% availability
- Estimated $1 billion in savings over 20 years (~$50 million per year)
- Effort is part of an overall consolidation effort by the state of New York to realize IT savings estimated to be $100 million / year

*Data received was either not explicit in naming number of datacenters or was inconclusive based on wording. Some institutions did not provide data resulting in estimation of a minimum of one datacenter / institution.

Business Case # 2

EXAMPLE 4: CONSOLIDATING SYSTEM-WIDE DATACENTERS (CONT'D)

Huron Education

Huron recommends that further analyses be conducted to identify the full extent of the opportunity, including a systematic data collection and evaluation process to understand the true current state.

Benefits of Data Center Consolidation	Data Required for Comprehensive Analysis
• Reduced Costs: Reduced network and application infrastructure results in lower hardware costs, energy consumption, space requirements, and avoidance in capital expenditures. • Increased Control for IT: Simplified architecture and the ability to deploy management strategies and protocols designed to maximize bandwidth utilization and performance • Reduced Scope of Security: Reduced number of sites leads to a standardized approach to physical center management. Similarly, reduced centers leads to more consistent disaster recovery planning, implementation, and execution of solutions. • Improved Compliance: Promotes process and system automation (reducing staff involvement) and aligns procedures and functions with policies, regulations, standards, and service metrics. Additionally, it encourages comprehensive auditing and demonstration of operational compliance.	• System-wide inventory of: o Centralized and de-centralized datacenter and server facilities, PUE analysis, level of server virtualization / utilization, and total current state operating costs o Plans to reduce level of hosted applications (e.g., SIS centralization reduces localized infrastructure) o Planned or anticipated capital expenditures for servers, equipment, and facilities o Future state compute and storage requirements o Development of a system-wide master plan to realize facilities savings over the next 10 years *Consolidation efforts can be achieved by two primary methods; 1) consolidate current infrastructure into 3 regionalized datacenters (e.g., Geographically), or 2) outsource to a vendor managed provider (e.g., AWS, IBM)*

UW Madison anticipates saving ~$7M over 5 years through the consolidation of its data centers and server facilities; based on the scale and scope of computing across the System, Huron anticipates that number to increase for a coordinated UW-wide effort.

Business Case # 2

HOLISTIC APPROACH: REORGANIZE INFORMATION TECHNOLOGY DELIVERY

HuronEducation

The UW has the opportunity to significantly increase service and/or reduce costs by reorganizing the provisioning and administration of IT at a "System" level.

Considerations:

- Current model of a campus-centric service model creates significant redundancy in activities and services across the System
- Alternative models seeking to organize IT services at a different level (e.g., regional, campus profile) are without precedent at the University of Wisconsin and run counter to the prevailing organizational cultures
- Alternative models present significant opportunities to increase service and / or reduce costs; these benefits should be considered in the context of the changes to institutional control, challenges with culture, and institutional strategies

Decision: Huron does not believe this to be a binary (yes/no) decision. Ultimately, careful consideration should be given to the following decision components:

- Mix (and location) of leadership / management – how will governing group be selected?
- Services provisioned – what will this group be responsible for?
- Financial impact – how will budgets / investment priorities be established?
- Changes in risk profile - how does re-organization impact institutional / system risk?
- Changes to control – how will re-organized decision-making be managed and enforced?

Business Case # 2

REORGANIZE INFORMATION TECHNOLOGY DELIVERY

Although differences exist in scope, diversity, and scale of institutional-specific IT, institutional based CIOs have significant commonality in organization and service provision.

	Estimated FTEs / IT Unit					
Institution	Client Services	Network & Infrastructure Services	Enterprise Software & Application Services	Instructional Technology Services	Administration/ Finance/ Other	Est. Total FTEs
Eau Claire	13.8	13.0	15.9	10.9	1.0	54.6
Extension / Colleges	4.0	18.7	1.0	6.0	11.0	40.7
Green Bay	7.0	4.0	9.6	12.0	4.0	36.6
La Crosse	13.0	10.0	5.0	8.0	2.0	38.0
Milwaukee	25.0	39.0	16.8	8.0	7.0	95.8
Madison	67.5	204.2	90.7	75.6	25.8	463.8
Oshkosh	12.0	7.0	9.0	13.5	3.0	44.5
Parkside	4.0	3.0	5.0	5.0	8.0	25.0
Platteville	12.0	12.0	12.0	7.0	2.0	45.0
River Falls	4.0	13.0	10.0	2.0	2.0	31.0
Stout	9.0	9.0	7.5	10.0	4.0	39.5
Stevens Point	24.8	10.0		2.0	10.0	46.8
Superior	5.0	6.0	6.0		0.8	17.8
Whitewater	2.0			4.0	33.0	39.0
UWSA	1.0		13.0		3.0	17.0
Total	204.1	348.9	201.5	164.0	116.6	1,035.1

Assumptions:

- Categorized staff based on available organizational charts, public website information, or position descriptions within HR provided file. Description of categorization can be found in the appendix
- Positions not clearly marked or aligned to a single category placed in Administration/ Finance/ Other category
- Source: HR Personnel file received from UWSA, does not include distributed IT staff

Business Case # 2

REORGANIZE INFORMATION TECHNOLOGY DELIVERY

HuronEducation

In order to successfully transition to a System-wide model for the provision and leadership of IT services, the UWS would have to develop enhanced capabilities to support a new model.

<u>Required Core Capabilities:</u>

1. A mechanism through which the System could make decisions regarding IT priorities, budgets, service models, and service levels – currently, decision-making is institutionally focused
   - Campus leadership collectively should consider what technology is truly unique to campus strategic priorities and rationalize IT Services accordingly

2. Improved data environment, enhanced reporting, and performance measurement – currently, data are not readily available or fully understood resulting in the inability to inform decision-making

3. Articulation of the value added to faculty, institutional leadership, and the System of new IT-related roles both on-campus and at the system level

Business Case # 2

DECISION MAKING

HuronEducation

The University of Wisconsin has few System-wide mechanisms through which opportunities can be evaluated and decisions made as a "system."

Common Systems Review Group (CSRG), comprised of IT, academic, and administrative leadership, is one of the few examples of System-wide IT decision making (though the reality is that only approximately 4% of the CSRG budget is uncommitted per year and there are far more projects requesting funding than there is funding available).

To be successful, any new model will need to expand the remit of a group like CSRG.

Required Capabilities & Authority:

- Develop shared solutions
- Evaluate opportunities to transition campus based activities to "scale"
- Decide on service levels and functionality of shared systems
- Ensure IT services are aligned with budgets and campus requirements.

Changes to IT funding may include:

- Pay overhead costs for central IT out of a central fund and charge institutions on a direct or marginal basis
- Provide select IT services without a charge to institutions

The University of Wisconsin should empower the CSRG (or a variant) to expand it's remit to include the development of a capacity to make broader cross-campus IT decisions and to provide oversight of any System-wide services.

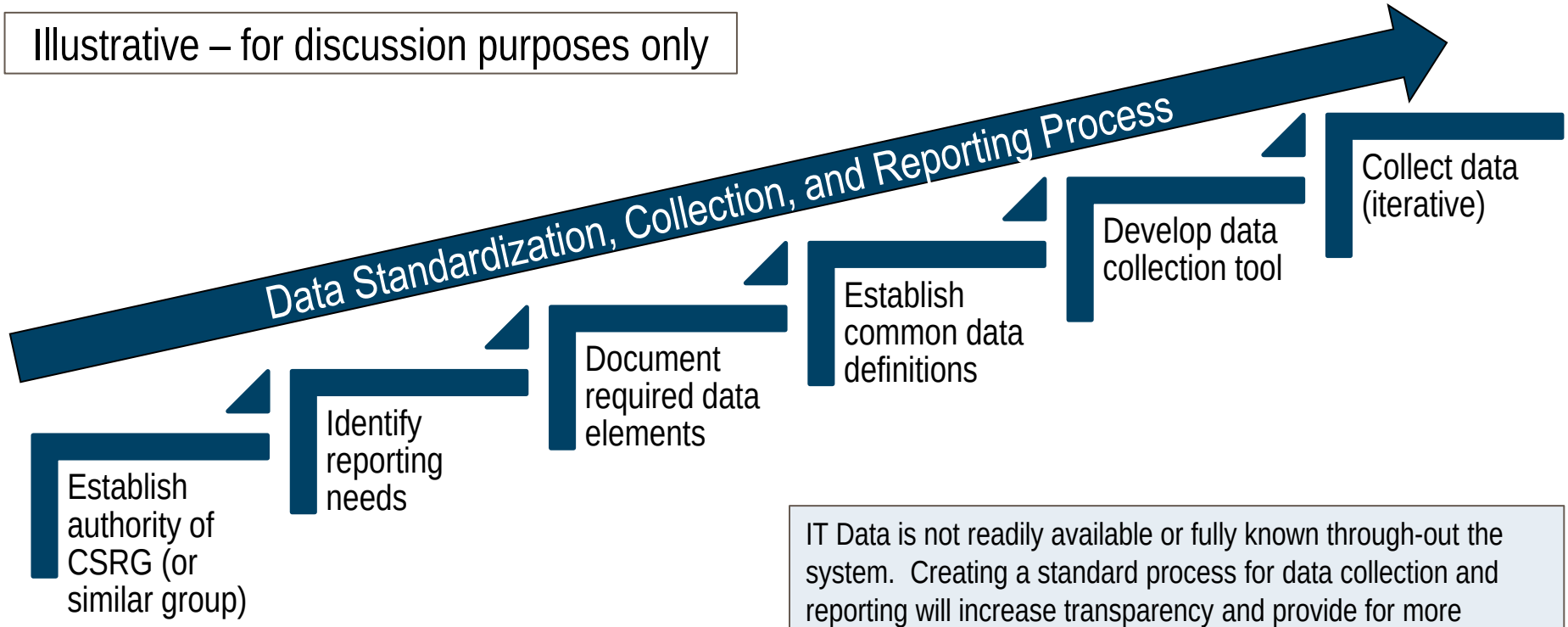
Business Case # 2

SYSTEM-WIDE CAPABILITIES

HuronEducation

The current campus-centric model means that the data that comprise IT investment are distributed throughout the organization, limiting the ability for effective system-wide decision making.

Illustrative – for discussion purposes only



IT Data is not readily available or fully known through-out the system. Creating a standard process for data collection and reporting will increase transparency and provide for more informed decision making

Business Case # 2

RE-ENVISIONING THE ROLES OF CAMPUS-BASED IT SERVICES

HuronEducation

If we consciously ignored the traditional boundaries of institutions and pushed our thinking beyond the current state, we believe the UW could serve campus-based IT needs through a regional CIO model.

Changing Role of the CIO:

- Shift from "technology – oriented" focus to "business – oriented" strategic partner
- Highly adaptable to rapidly changing IT landscape
- Focused on global security
- Driver of process innovation and improvement
- Shift from asset managers to service managers (e.g., cloud computing)

To successfully transition the role of the UW CIOs and allow them to focus on more strategic and value-add initiatives, IT services will need to be administered and provisioned differently than they currently are.

Business Case # 2

RE-ENVISIONING THE ROLE OF CAMPUS-BASED IT SERVICES

If campuses were able to procure more IT services from UW System, the time and attention of CIOs could shift from operational to strategic. Creating individual specializations would extend the services offered.

Illustrative – for discussion purposes only

IT Operations	Responsible for • Operating (service level and P&L responsive) enterprise-scale applications and services • Network architecture and maintenance • Managing vendor relationships	System-wide Responsibility
Implementation	Responsible for • Scaling new technology • Overseeing management of all IT "projects"	
Risk	Responsible for • Establishing system-wide risk management infrastructure • Advising institutions where resources don't exist • Working with institution-specific resources (where available)	
Data	Responsible for • Establishing and maintaining system-wide data governance • Managing core data inventory • Working with institution-specific resources (where available)	
Digital Officer(s)	Responsible for • Becoming "trusted strategic" and digital leaders on-campus IT • Supporting institution-specific teaching and learning technology • Supporting institution-specific strategic planning	Campus-based

Business Case # 2

POTENTIAL FUTURE-STATE SYSTEM-WIDE IT ADMINISTRATION MODEL (CONT'D)

HuronEducation

The defined roles of the System-wide IT Governance Group are critical to its success. To achieve a more strategic approach to IT, Institution- and System-leadership should empower it with decision-making authority.

Leadership Component	Proposed Role / Governance
System-wide IT Governance Group	• Governed by "board of directors" comprised of institutional and system leadership (CBOs, IT, Academic, Chancellor) • Provide strategic and directive oversight over IT related policies and initiatives • Provide budgetary oversight for systematic IT initiatives • Focus on transforming UWS IT to best support business / student management needs • Engage with other (external) institutions to identify collaborative opportunities
Leadership Components (Alternative CIO Model)	• Re-allocate Institutional IT Leadership – strategic and IT decision-making made at system-level • Reduced disparate IT administration services provided – move towards pooled resources focused on systematic standardization (e.g., Data Center, analytics)

<u>Structure Requirements:</u>

- Systematic support for new approach (UWSA, Chancellors) – draft governing group bylaws and reporting structure
- Negotiated and enforced SLAs with institutions – board and institutions must be held accountable to each other
- Formalized cost-recovery / funding model
- Decision-making authority for major IT initiatives – reduced campus autonomy for IT decision-making
- Early input into business decisions – IT must be integrated in business decisions and associated analyses
- Accountable to constituencies – elected board, communication channels, feedback loop, etc.

Business Case # 2

RECAP

The UWS should take several steps over the next few years to reorganize the way IT systems and services are organized and provisioned to realize both medium- and long-term cost reductions.

	Opportunity	Annual Est. Savings	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Implementation Timeframe
Business Case # 2						
10	Centralize IT security resources	Enabling	Low	High	Medium	6-12 Months
11	Consolidate IT Helpdesks	$$$$	Medium	Medium	High	12-24 Months
12	Consolidate High Performance Computing	Enabling	Low	Medium	Medium	6-24 Months
13	Consolidate datacenter facilities	$$$$	High	High	High	24-48 Months
14	Identify additional areas for system-wide collaboration	TBD	TBD	TBD	TBD	TBD
15	Re-Organize IT Leadership	$$$$	Medium	High	High	24-48 Months

Business Case #3:
Engage in Enhanced Strategic Sourcing for IT Hardware

Business Case # 3

CONTEXT AND BACKGROUND

Huron Education

Our objective in this business case was to evaluate specific IT categories where increased strategic sourcing and demand management could provide substantial savings to UW Institutions.

Objectives: Huron was asked to evaluate IT spend across the UW-System to determine where substantial cost savings can be achieved.

- Evaluate System-wide spend on IT-related products
- Evaluate vendor-specific IT spend to determine savings opportunities (Dell, HP, Apple)
- Evaluate the processes and structures by which IT purchases are made

Future-State Considerations:

- Actual cost-savings are dependent on the willingness of individual UW Institutions to collaborate on purchasing decisions, negotiations, and policy creation and compliance.
- Per UW Madison purchasing staff, collaboration efforts by the UW have historically been focused on the purchase of software products due to a history of mandatory IT hardware contracts at DOA

Business Case #3

RECOMMENDATION OVERVIEW

HuronEducation

The UW should take advantage of the magnitude of system-wide spend and seek opportunities to engage in enhanced strategic sourcing, demand management, and strategic procurement for IT-related purchases.

Current State Situation

- System-wide collaboration efforts for IT Hardware purchases are minimal
- IT hardware and software policies vary across UW institutions
  - Models available for purchase vary significantly across UW institutions
- No data warehouse exists to consolidate purchasing data across purchasing methods
- Data definitions, such as product naming conventions, are not standardized making it difficult to aggregate data for analysis

Recommendation Components

- Develop a system-wide collaboration function for IT hardware purchases
- Establish a single set of standardized desktop and laptop models available for purchase across all UW institutions
- Develop and establish system-wide policies related to IT Hardware purchases
- Implement guidelines and policies that require end users to provide a valid business need in order to purchase high-end or non-standardized desktop and laptop models (may need to reflect academic missions of UW institutions)

Considerations & Risks

- Actual achievable cost savings are dependent on the level of collaboration for contract negotiations, policy establishment, and implementation of demand management practice to ensure policy compliance
- P-card purchases generally represent a spend method for which no vendor discounts are received, however there are incentives at the campus level to use p-cards due to the rebates received

Opportunity	Annual Est. Savings	UWS Risk Exposure	Efficiencies Gained	Implementation Complexity	Implementation Timeframe
Create System-wide standardized bundles for laptops, desktops, and peripherals	$$$$	Low	Medium	Medium	6-12 Months
Enforce policies for preferred purchases (Madison foregone savings displayed)	$$$$	Low	Low	Low	0-6 Months
Develop a collaborative, System-wide procurement function to take advantage of scale	Enabling	Low	High	High	12-24 Months

Source: *Savings Estimates Based on Analysis of Laptops, Desktops, and Monitors; Additional Savings Opportunities are Likely Available in Other Peripheral Categories

Business Case #3

EXECUTIVE SUMMARY

Huron Education

Over the last several weeks, Huron has analyzed IT-spend across the UW System in order to understand the totality of IT-related spend and develop an understanding of where potential savings opportunities are available. Huron focused its analyses on laptops, desktops, and monitors for Apple, Dell, and HP. The analyses presented in this business case represent those areas in which Huron was able to identify significant cost savings opportunities within the limited timeframe available for analysis.

Total Estimated Spend (000's)		Total Estimated Annual Savings through Model Standardization (000's)
Dell	$17,572	$
Hewlett-Packard	$7,851	$
Apple	$3,461	$
Total Spend Analyzed	$28,884	$
Total IT-Related Spend	$116,455	
UW-Madison Forgone Savings*		$$
Total Estimated Annual Savings		$$

The savings presented above represent savings Huron believes the UW could achieve by reducing the number of laptop, desktop, and monitor models available to employees for purchase from each of the vendors analyzed. Huron believes additional savings are available to the UWS if it were to consolidate laptop, desktop , and monitor spend to two primary vendors: Apple and one non-Apple vendor. In addition, Huron believes there to be significant cost savings opportunities available to UWS in other IT-peripheral spend; however, Huron was unable to perform detailed analyses across peripheral spend within the limited timeframe available. Further analysis is necessary to determine savings opportunities.

Source: *Savings based on Reducing Foregone Savings by 20%-40%

Business Case #3

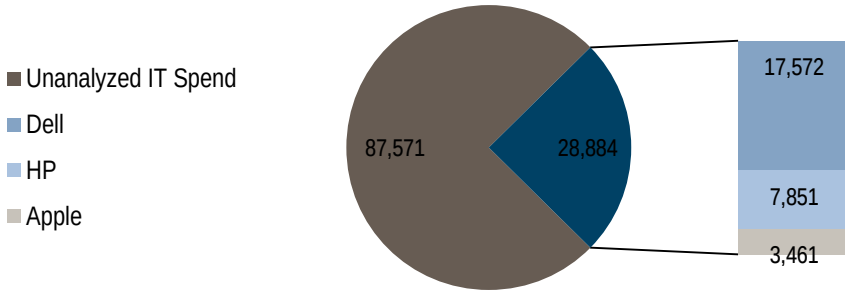
OVERALL DESKTOP/LAPTOP SPEND AND ANALYSIS SUMMARY

Huron Education

Huron estimates that a little over $116M is spent on IT-related products across the System annually, with desktop and laptop spend from Dell, HP, and Apple accounting for approximately 9%.

Institution:	Total IT Spend (000's)
Administration	$129
Colleges / Extension	$4,194
Eau Claire	$4,092
Green Bay	$2,025
La Crosse	$6,004
Milwaukee	$11,096
Madison	$51,670
Oshkosh	$3,744
Parkside	$1,343
Platteville	$2,953
River Falls	$2,566
Stout	$6,777
Stevens Point	$4,132
Superior	$1,303
System	$9,948
Whitewater	$4,479
Total	$116,455

Total IT Spend Analyzed ($000's)



Total Estimated Spend (000's)		Total Estimated Desktop/ Laptop Spend (000's)	Percentage of Spend
Dell	$17,572	$6,345	36%
Hewlett-Packard	$7,851	$2,490	32%
Apple	$3,461	$1,345	39%
Total Spend Analyzed	$28,884	$10,180	35%

Spend Category	Estimated Spend Dell, HP, & Apple (000's)	Estimated Annual Savings (000's)
Desktop/Laptop	$10,180	$

Based on detailed analysis of Dell, HP, and Apple, Huron estimates the UWS can reduce total expenditures on desktops and laptops through model standardization, and by achieving UW Madison negotiated prices, where applicable.

Source: *Savings based on Reducing Foregone Savings by 20%-40%

Business Case #3

MODEL STANDARDIZATION AND BUNDLING

In order to achieve savings, UW Institutions will need to collaborate and cooperate to ensure standardized models meet the technological needs of the majority of constituents across all campuses.

The UWS must take in to account the following considerations when evaluating potential models for standardization:

- Standardized models should vary in technological capabilities to ensure that administrative, academic, and research computing needs are all met
- IT organizations across UWS need to be active participants in engaging campus constituents to understand user preferences to define standardized models, and to build campus support for the established vendor and vendor products
- UWS needs to ensure that the preferences of all levels of stakeholders are included in the determination of standardized models to be offered

Business Case #3

DATA CHALLENGES & ANALYSIS METHODOLOGY

Huron Education

Huron obtained and aggregated SFS, MDS, and P-card procurement data from April 2014 through March 2015 to perform detailed IT spend analysis.

The following describes the data used for analysis, how it was combined, and the assumptions made by Huron to estimate total IT spend across the UWSA:

1. SFS, MDS, and P-card data was obtained from UWS and combined to estimate total IT spend in various categories
2. SFS data, as provided by UWSA, included the following IT-related SFS codes:

- 2200 – Telecomm-Blanket Encumbrance
- 2201 – Telecomm Services-Centrex
- 2210 – Telephone Service-NonSTS Tolls
- 2230 – Telephone Service-Install, etc.
- 2240 – Telephone Service-STS
- 2250 – Telephone-STS Access, Etc.
- 2260 – Communication-Misc.
- 2270 – Cellular Service
- 2271 – Cellular Equipment
- 2330 – Rental of DP Equip
- 2235 – Lease of DP Equip
- 2360 – Rental of Other Equip
- 2370 – Lease of Equipment
- 2410 – Leasehold Repairs & Maint.
- 2460 – Maintenance & Repair-DP Equip
- 2670 – Printing & Duplicating-State
- 2675 – Printing & Duplicating-NonStat
- 3150 – Software-Purchases
- 3151 – Software Maintenance Payments
- 3194 – Comp & Peripherals not Capital
- 3791 – Computer Exchange Repair Parts
- 4620 – Computer Equipment
- 4625 – Computer Equip-Cap Lease
- 4630 – Software Purchase Capitalized
- 4635 – Software-Capital Lease

3. The following P-card categories were included for analysis:

- Computer and Data Process
- Computer Network/Information Systems
- Computer Repair/Maintenance
- Computer Software Stores
- Electronics Stores
- Telecom Equipment
- Wholesale Computers

4. MDS data includes all Dell and Staples spend regardless of category; in addition, the following categories were included to identify IT spend:

- Electronic Components and Supplies
- Information Technology Broadcasting and Telecommunications
- Office Equipment and Accessories and Supplies
- Printing and Photographic and Audio and Visual Equipment and Supplies

5. In addition, Huron included MDS data where Huron was able to assign IT categories based on transaction detail information
6. Due to data and time constraints, Huron focused its analysis on a select high-spend IT vendors, including Dell, Apple, and Hewlett Packard

Business Case #3

DESKTOP, LAPTOP, AND PERIPHERAL MARKET

HuronEducation

The desktop and laptop, and peripheral IT hardware environments have become consolidated and commoditized, providing high spenders with the opportunity to negotiate favorable discounts with vendors.

Desktop and Laptop Environment:

- The PC market has consolidated through mergers and acquisitions
  - Dell, HP, and Lenovo are the major manufacturers in the market
  - Lenovo recently overtook HP in 2013 to claim the largest PC market share, in the global market
  - Desktops and laptops can also be purchased through major national IT distributors such as CDW-G and GovConnection
  - Typical PC life-cycles span 3 to 5 years, most Higher Education institutions employ a 4 year life-cycle
- A continuous cycle of commoditization and technological improvements create challenges in contract optimization (e.g., New technology carries an initial price premium)
- Pricing for computer hardware products is driven by several key factors; vendors place high value on long-term preferred / primary status contract relationships
  - Standardization: bundled configurations provide deep discounts to universities; many universities have developed preferred supplier relationships that offer standard/bundled configurations for specific products
  - Product configuration and customization: premium pricing for component upgrades
  - Volume: buying in bulk provides leverage in pricing negotiations
- Apple, a higher cost option compared to PCs, has recognized an increase in end user preference on college campuses among students, faculties, and staff members, especially for their iPad line of products

Peripheral IT Hardware Environment:

- Primary national distributors servicing Higher Education institutions include CDW-G and GovConnection, both offer a broad selection of products, including peripherals, computers, enterprise products, software, office equipment, etc.
- Equipment and supplies are also directly purchased from manufacturers (Dell, HP, etc.)
- Due to the diverse types of products and brand selections, maverick spend outside of main contracted vendors is common in this category, often through suppliers such as Amazon, Best Buy, TigerDirect, Newegg, etc.
  - Small peripherals, accessories, and equipment such as toner, printers, keyboards, etc. are also purchased through office supply vendors
- IT peripherals is a commoditized industry in which major vendors are capable of offering similar, products, pricing, and services

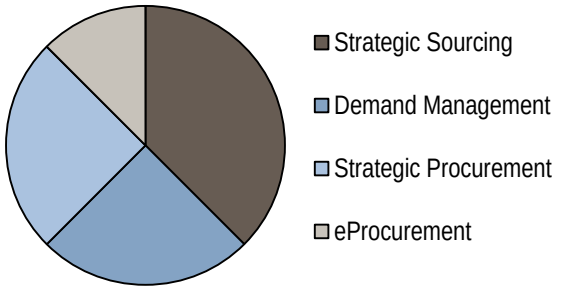
Business Case #3

PROCUREMENT OVERVIEW

There are multiple procurement levers the UWS can utilize to realize cost savings in strategic sourcing, demand management, and strategic procurement.

Procurement Levers	Approaches
Price Opportunity	• Evaluate supplier costs • Obtain lowest cost from incumbent supplier; if not, consider lower cost suppliers
Buying Power Leverage	• Concentrate volume • Conduct best price evaluation • Introduce new suppliers
Demand Management	• Modify consumption • Find alternative ways of fulfilling need
Product/Service Specification Rationalization	• Standardize specifications • Simplify specifications to reduce costs
Policy Review and Compliance	• Increase policy compliance • Create or modify supplier or consumption policies
eProcurement	• Channel users to preferred supplier agreements • Provide marketplace visibility for preferred suppliers • Create operating efficiencies for suppliers • Ability to pay vendors more rapidly

Typical Savings Opportunity Breakdown



The UW vision should be comprehensive:

- Organizational changes may be required to accomplish standardization and integration of strategy
- Focus on negotiating additional System-wide master agreements with high spend, primary suppliers to achieve greater discounts than currently received and improve customer relationships

The ability to achieve maximum savings is dependent on organizational willingness to coordinate in establishing buying power leverage and negotiating contracts, and the ability of the UWS to implement changes beyond the price opportunity.

Business Case #3

CURRENT STATE OVERVIEW

Huron Education

Current procurement processes, standards, and policies vary across UW Institutions leading to inefficiencies and increased costs.

Current State Assessment

- Minimal System-wide collaboration efforts to leverage UW purchasing power to negotiate additional product discounts
- Current System and Institution organizational structures hinder collaboration efforts with individual institutions making purchases mostly from State WCSA contracts
- Lack of system-wide standards for desktop and laptop models available for purchase
- At the institution level, utilization of standard desktop and laptop models appear to be encouraged but not mandated. The number of models available at each institution varies significantly
- End users have the ability to purchase from a variety of vendors, including Dell, Apple, HP, Lenovo, etc.
- Huron estimates that approximately $116M is spent on IT-related items across the System on a yearly basis

Institution:	Total IT Spend (000's)
Administration	$129
Colleges / Extension	$4,194
Eau Claire	$4,092
Green Bay	$2,025
La Crosse	$6,004
Milwaukee	$11,096
Madison	$51,670
Oshkosh	$3,744
Parkside	$1,343
Platteville	$2,953
River Falls	$2,566
Stout	$6,777
Stevens Point	$4,132
Superior	$1,303
System	$9,948
Whitewater	$4,479
Total	$116,455

Through System-wide collaboration for discount negotiations, product standardization, and improved policy creation and compliance, Huron believes the UW could achieve additional cost savings.

Source: *April 2014-March 2015 Financial Data Provided by UWSA,

Business Case #3

SAVINGS CALCULATIONS DESCRIPTION

Huron Education

Savings calculations were estimated by Huron using the following data and assumptions:

Huron obtained Dell, HP, and Apple data from varying sources. The following data sources were used to calculate weighted-average prices and to estimate savings for the selected vendors:

- Dell – Huron utilized UW institution spend data provided by the DOA
- HP – Huron utilized spend data for UW institutions provided directly by Hewlett-Packard
- Apple – Huron utilized UW institution spend data provided by UWSA

Huron understands that UW Madison bundle prices vary from weighted-average prices calculated using DOA data. Weighted-average prices calculated would include only those purchases through the state contracts, which do not have the same level of discounts as those obtained by UW Madison.

Business Case #3

DELL SPEND OVERVIEW

HuronEducation

Spend on Dell products is split across a minimum of 14 different vendors, though the majority seems to be purchased directly from Dell.

Current State Assessment and Observations
• Approximately $17.6M was spent on Dell merchandise across the UW System during the timeframe analyzed • UW Madison, UW Milwaukee, UW La Crosse, and UW Eau Claire are among the highest purchasers of Dell merchandise within the system • UW Madison negotiated additional discounts with Dell on top of the State contract, however, Dell was unwilling to extend the contract to the entire UW System during the time of the negotiation

Vendor	*Total Approximate Dell Spend (000's)
Dell	$17,330
Ronsberg Technology Partners Inc.	$103
Staples	$55
Avalon Technologies	$29
Other	$55
Total	$17,572

Institution:	*Total Approximate Dell Spend (000's)
Colleges / Extension	$739
Eau Claire	$1,114
Green Bay	$0
La Crosse	$1,220
Milwaukee	$2,244
Madison	$11,127
Oshkosh	$4
Parkside	$303
Platteville	$2
River Falls	$346
Stout	$3
Stevens Point	$20
Superior	$267
Whitewater	$8
Cities, Counties, Found., System	$175
Total	$17,572

The Dell contract on MDS is limited to UW-Madison; however, the opportunity exists to renegotiate with Dell to include all UW Institutions to purchase Dell products through MDS, providing the greatest total value to UW System.

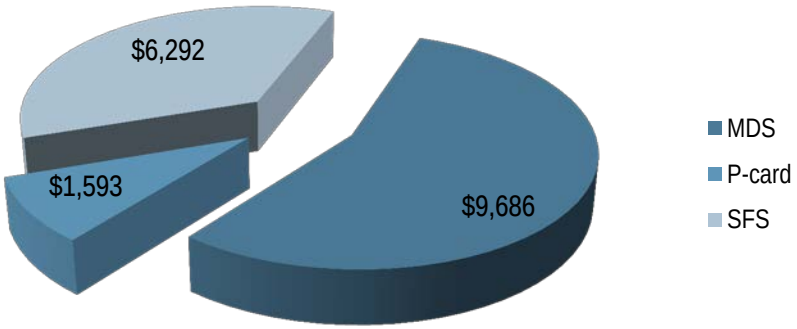
Source: *April 2014-March 2015 Financial Data Provided by UWSA, Includes Purchases of Dell Products from Non-Dell Suppliers

Business Case #3

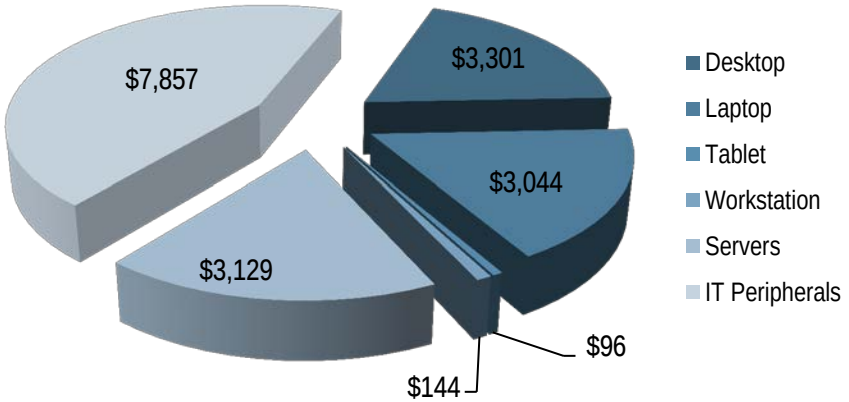
DELL SPEND BY PRODUCT CATEGORY

Spend with Dell is divided into six primary product categories including Desktops, Laptops, Servers, Workstations, Tablets, and IT Peripheral products (comprised of accessories, toner, monitors, etc.).

Dell Spend By Purchasing Method ($000's)



Dell Spend By Product Category ($000's)



Note: Servers include servers, switches, and server storage

Observations
• Close to $1.6M in Dell goods were purchased with P-cards • Combined Dell desktop and laptop spend accounts for $6.4M (36% of total Dell spend) • Server purchases, including rack servers, blade servers, tower servers, server storage expansion, and server switches, account for approximately $3.1M (18% of total Dell spend)

Source: *April 2014-March 2015 Financial Data Provided by UWSA, Includes Purchases of Dell Products from Non-Dell Suppliers

Business Case #3

DELL SPEND ANALYSIS

Huron Education

In addition to obtaining UW purchasing data, Huron received Dell spend data from the Department of Administration (DOA) that allows for a more detailed analysis.

Source	*Total Approximate Dell Spend (000's)	Comments
Department of Administration Data	$12,281	• Date range: April 2014-March2015
UWS Data	$15,761	• Date range: April 2014-March2015 • Data includes IT purchases directly from Dell from both SFS and MDS (P-card data would not be included in the DOA data)
Variance	$3,480	

- Based on conversations with UWSA Procurement staff, it was determined that the variance is likely caused by either Dell purchases that weren't covered under the State (WSCA) contract, purchases made by the UW on other (non-WSCA) contracts, or purchases that were not covered by any contract

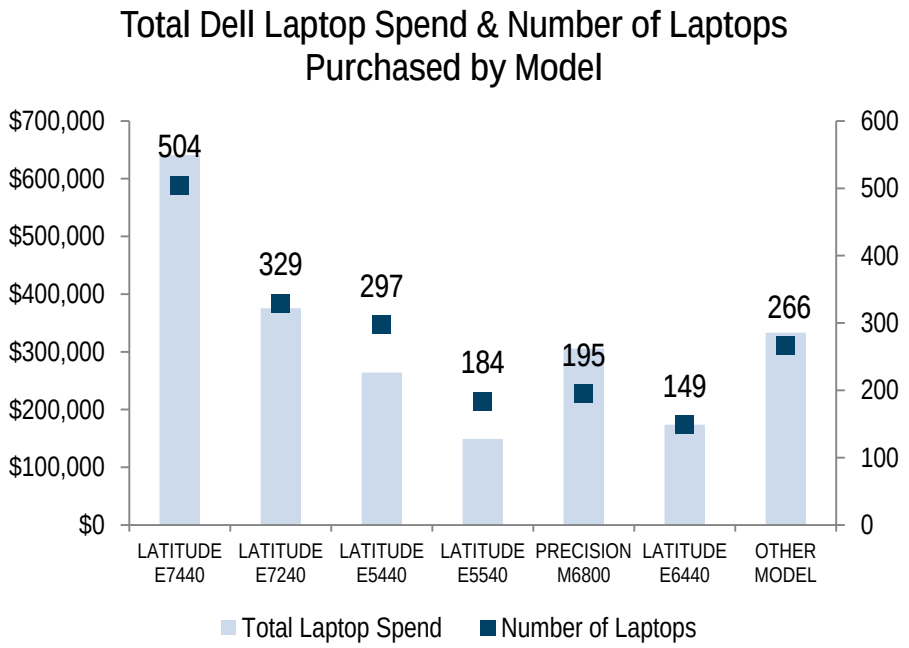
Huron utilized the DOA data for UW institutions as the basis for analyzing specific IT categories and for quantifying savings, as the data definitions were more standardized, providing for a more accurate analysis.

Business Case #3

DELL LAPTOP OVERVIEW

There are at least 23 Dell laptop models purchased across the UW, indicating the potential to realize savings through system-wide laptop model standardization.

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
LATITUDE E7440	504	$1,271
LATITUDE E7240	329	$1,141
LATITUDE E5440	297	$889
LATITUDE E5540	184	$810
PRECISION M6800	195	$1,568
LATITUDE E6440	149	$1,167
LATITUDE E6540	85	$1,434
XPS13	42	$975
LATITUDE 3340	32	$868
LATITUDE E7450	30	$1,424
LATITUDE E7250	17	$999
LATITUDE 3540	16	$852
LATITUDE 3440	7	$765
PRECISION M4800	7	$2,020
XPS DUO 12	6	$1,693
PRECISION M3800	5	$2,093
LATITUDE E6430	4	$1,181
XPS 9530	4	$1,569
XPS 13 9343	3	$1,271
DELL PRECISION M2800	2	$1,141
OTHER	4	Varies



Observations

- "Other" category includes 3 additional laptop models purchased within the UW System
- Most commonly purchased Dell laptop across the UW is the Dell Latitude E7440, accounting for at least 504 laptop purchases (29% of the total Dell laptop spend through the DOA)

Source: April 2014-March 2015 Financial Data Provided by DOA, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Business Case #3

UW MADISON DELL LAPTOP PRICES

HuronEducation

UW Madison was able to negotiate additional discounts with Dell on top of the WSCA contract by creating 6 preferred standardized laptop bundles.

UW Madison Negotiated Prices			
Laptop Model	Price Before Negotiation	Preferred Pricing	Additional Discount after WSCA Contract Pricing
Latitude 5450	$1,001.34	$779.00	23%
Latitude 5450 w/SSD	$1,091.04	$827.00	24%
Latitude 5550	$1,001.34	$779.00	23%
Latitude 5550 w/SSD	$1,091.04	$827.00	24%
Latitude E7250	$1,306.99	$949.00	27%
Latitude E7450	$1,283.02	$949.00	26%

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
LATITUDE E5440	297	$889
LATITUDE E5540	184	$810

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
LATITUDE E7440	504	$1,271
LATITUDE E7240	329	$1,141

Weighted-average prices calculated for comparable Dell laptop models utilizing UW institution data provided by the DOA are, on average, higher than the prices UW Madison was able to negotiate with Dell.

Source: April 2014-March 2015 Financial Data Provided by DOA, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price, UW Madison data provided by UW Madison Purchasing

Business Case #3

DELL LAPTOP SAVINGS OPPORTUNITY

Huron Education

Huron utilized Dell laptop prices negotiated by UW Madison on the E5 and E7 Series to estimate potential savings for the entire UW.

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
LATITUDE E7440	504	$1,271
LATITUDE E7240	329	$1,141
LATITUDE E5440	297	$889
LATITUDE E5540	184	$810
LATITUDE E7450	30	$1,425
LATITUDE E7250	17	$999
LATITUDE 5250	1	1,136

[1]Dell Laptop Savings Through Model Standardization	
UW Madison E5 Series Price	$779
UW Madison E7 Series Price	$949
Total Number of E5 and E7 Series Laptops Purchased through DOA	1,362
Total DOA Spend on E5 and E7 Series Laptops	$1,491K
Estimated Savings from Achieving 50% Adoption Rate at UW Madison Prices for all E5 and E7 Series Laptops	$

Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Additional Savings from Unaccounted SFS and P-Card Dell Laptop Spend Directly from Dell	
[2]Estimation of Additional P-Card E5 and E7 Series Laptop Spend	$101K
[3]Estimation of Additional SFS E5 and E7 Series Laptop Spend	$468K
Total Estimated Additional E5 and E7 Series Laptop Spend	$569K
Estimated Additional Savings Based on Estimated 50% Adoption Rate at 20% Savings Rate on E5 and E7 Series Laptops	$

Percentage Savings Rate: Estimated Savings achieving UW Madison E5 and E7 Series Prices/ Total DOA Dell E5 and E7 Series Laptop Spend

Huron estimates UW could achieve significant savings annually by renegotiating their contract with Dell to ensure that all E5 and E7 Series laptops are purchased at UW Madison negotiated prices and achieving a 50% adoption rate.

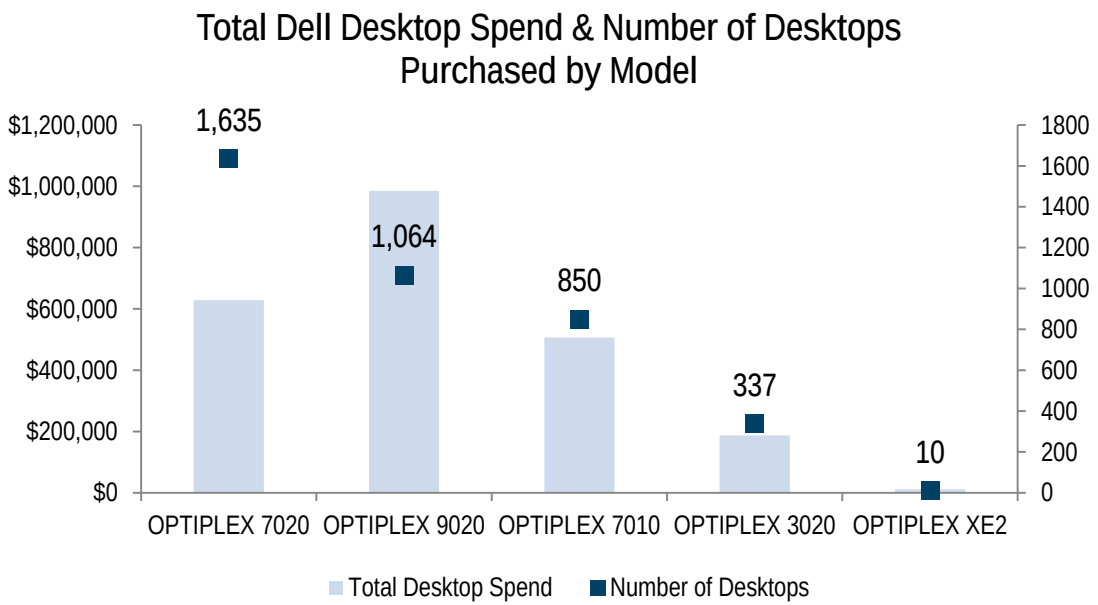
Source: [1]April 2014-March 2015 Financial Data Provided by DOA, [2]P-card Desktop Spend Estimated from April 2014-March 2015 Data Provided by UWS, [3]Additional SFS Desktop Spend Estimated from Data Provided by UWS

Business Case #3

DELL DESKTOP OVERVIEW

There are at least five known non-all-in-one Dell desktop models being purchased across UWS; Huron believes that by standardizing Dell desktop models, UWS could achieve significant cost savings.

Desktop Model	Quantity Purchased	Weighted-Avg. Price/Unit
OPTIPLEX 7020	1,635	$384
OPTIPLEX 9020	1,064	$926
OPTIPLEX 7010	850	$596
OPTIPLEX 3020	337	$556
OPTIPLEX XE2	10	$1,116



Observations

- The most common Dell desktop purchased across the system is the Dell Optiplex 7020, accounting for 1,635 desktop purchases (27% of total Dell desktop spend)
- The second most common Dell desktop purchased across the system is the Dell Optiplex 9020, accounting for 1,064 desktop purchases (42% of total spend)
- The Optiplex 9020, which accounts for more than 42% of total spend, has a significantly higher weighted-average price when compared to other commonly purchased models

Source: April 2014-March 2015 Financial Data Provided by DOA, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Business Case #3

DELL DESKTOP SAVINGS OPPORTUNITY

Huron Education

Huron estimated savings based on the prices UW Madison was able to negotiate with Dell on the Optiplex 7020 desktop model.

Desktop Model	Quantity Purchased	Weighted-Avg. Price/Unit
OPTIPLEX 7020	1,635	$384
OPTIPLEX 9020	1,064	$926
OPTIPLEX 7010	850	$596
OPTIPLEX 3020	337	$556
OPTIPLEX XE2	10	$1,116

Dell Desktop Savings Through Adoption of UW Madison Preferred Desktops	
UW Madison OptiPlex 7020 SFF with 8gig Price	$579
Number of Non-Optiplex 7020 and 7010 Machines Purchased	1,411
Total Spend Outside of Optiplex 7020 and 7010 Models	$1,183K
Estimated Annual Savings by Shifting 50% of Non-Optiplex 7020 and 7010 Machines to the UW Madison Purchasing Price	$

Additional Savings from Unaccounted SFS and P-Card Dell Laptop Spend Directly from Dell	
[2]Estimation of Additional Non-Optiplex 7020 and 7010 P-Card Desktop Spend	$466K
[3]Estimation of Additional Non-Optiplex 7020 and 7010 SFS Desktop Spend	$245K
Total Estimated Additional Desktop Spend	$1,292K
Estimated Additional Savings Based on Shifting 50% of Non-Optiplex 7020 and 7010 Machines at 16% Savings Rate to UW Madison Purchasing Price	$

Percentage Savings Rate: Estimated Savings from Achieving Optiplex 7020 Price for Non-Optiplex 7020 and 7010 Machines/Total Non-Optiplex 7020 and 7010 DOA Dell Desktop Spend

Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Huron estimates the UW could achieve significant annual savings if it were able to obtain the UW Madison price on the Optiplex 7020 machine and shift 50% of non-Optiplex 7020 purchases to the Optiplex 7020.

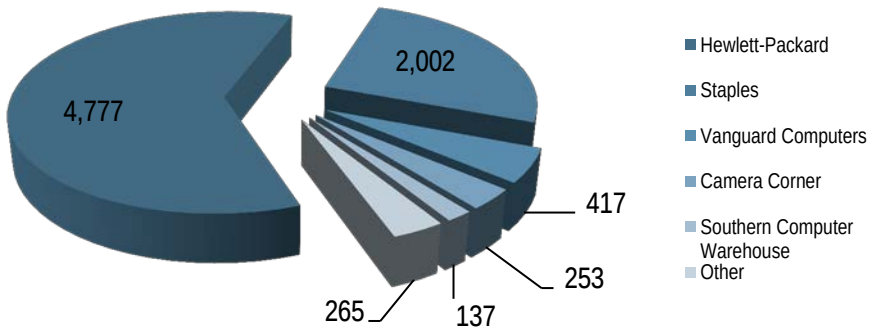
Source: [1]April 2014-March 2015 Financial Data Provided by DOA, [2]P-card Desktop Spend Estimated from April 2014-March 2015 Data Provided by UWS, [3]Additional SFS Desktop Spend Estimated from Data Provided by UWS

Business Case #3

HEWLETT-PACKARD SPEND OVERVIEW

Hewlett-Packard spend varies significantly across UW Institutions, and many vendors currently supply the UWS with Hewlett-Packard merchandise.

HP Spend by Vendor ($000's)



Institution:	Total Approximate HP Spend (000's)
Colleges / Extension	$143
Eau Claire	$140
Green Bay	$291
La Crosse	$84
Milwaukee	$240
Madison	$1,085
Oshkosh	$837
Parkside	$ 21
Platteville	$432
River Falls	$58
Stout	$1,983
Stevens Point	$1,094
Superior	$77
Whitewater	$1,234
Cities, Counties, Fed, State, etc.	$131
Total	$7,851

Current State Assessment and Observations

- Approximately $7.9M is spent on Hewlett-Packard merchandise across the UW System; however, only approximately $4.9M, or 61%, of the merchandise is purchased directly from Hewlett-Packard
- UW Stout, UW Stevens Point, and UW Whitewater are among the highest spenders of HP merchandise across UWSA, accounting for approximately 55% of total HP spend
- There are at least 19 vendors that provide the UWS with HP goods

There may be an opportunity to achieve savings by consolidating all Hewlett-Packard spend to a single vendor.

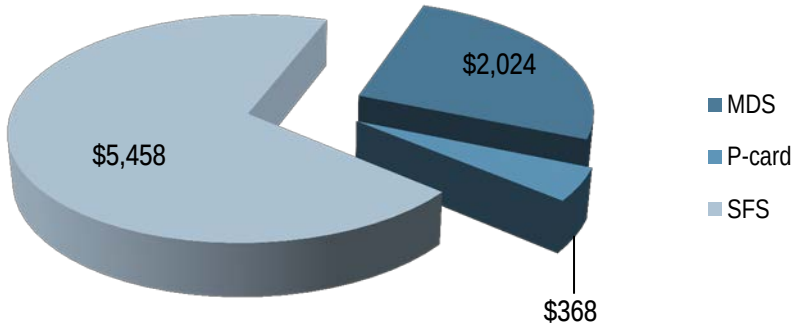
Source: April 2014-March 2015 Financial Data Provided by UWSA

Business Case #3

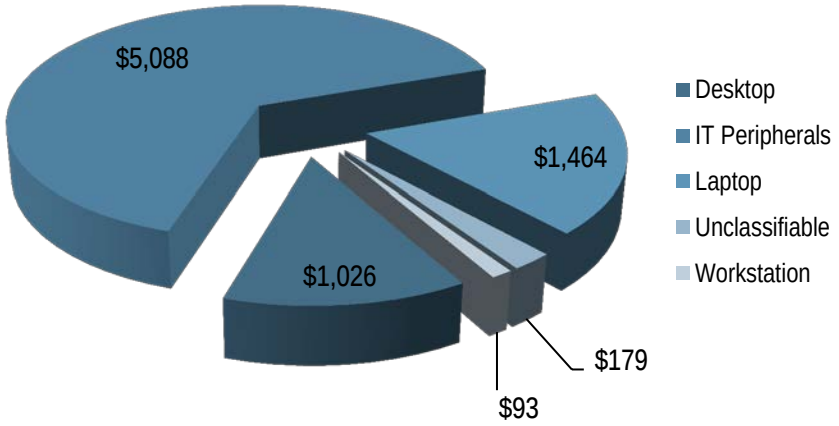
HEWLETT-PACKARD SPEND BY PRODUCT CATEGORY

Spend with HP is divided into five primary categories including Desktop, Laptop, Workstation, IT Peripherals, and Unclassifiable, which included items that Huron was unable to classify due to deficient data.

HP Spend By Purchasing Method ($000's)



HP Spend By Product Category ($000's)



Observations

- The majority of Hewlett-Packard merchandise is purchased through the SFS, accounting for approximately $5.4M (70% of total HP spend)
- UW purchased approximately $2.5M worth of HP desktops and laptops (32% of total HP spend)
- Due to blanket order purchases (purchases of multiple machines) and deficient description data, Huron was unable to classify close to $180K worth of HP spend

Source: April 2014-March 2015 Financial Data Provided by UWSA

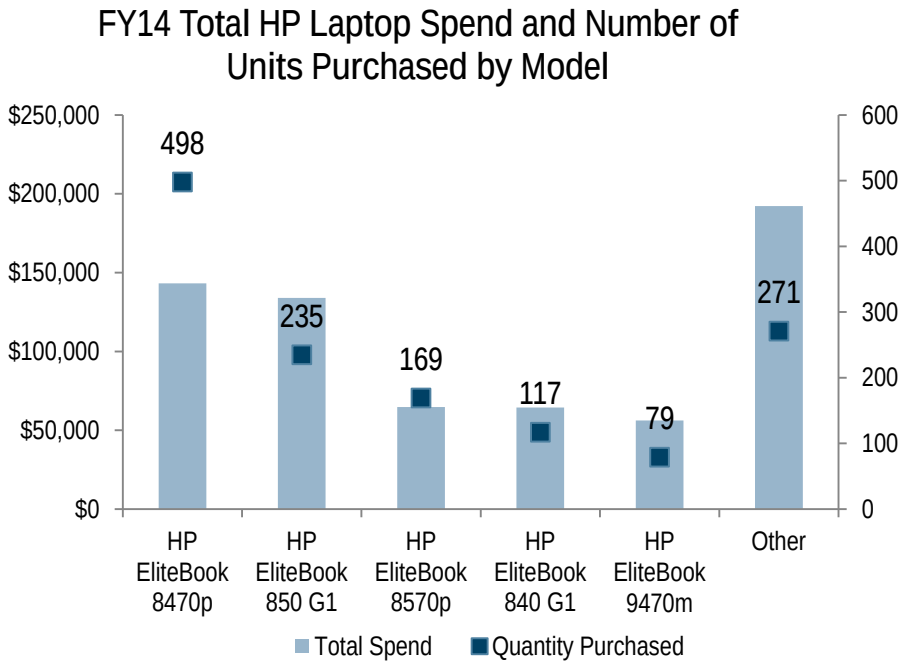
Business Case #3

HEWLETT-PACKARD LAPTOP OVERVIEW

Huron Education

Huron analyzed FY14 spend data provided by Hewlett-Packard and identified 21 different laptop models purchased directly from HP by UW Institutions.

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
HP EliteBook 8470p	498	$411
HP EliteBook 850 G1	235	$570
HP EliteBook 8570p	169	$383
HP EliteBook 840 G1	117	$575
HP EliteBook 9470m	79	$711
HP EliteBook Revolve 810	54	$766
HP EliteBook 820 G1	33	$627
HP EliteBook 2570p	30	$475
HP Pav 14 Chromebook	30	$299
HP ProBook 6570b	26	$274
HP EliteBook Revolve 810 G2	22	$846
HP ProBook 650 G1	16	$443
HP ProBook 6470b	15	$253
HP EliteBook 8770w	15	$2,966
HP ProBook 640 G1	11	$240
HP ZBook 17	7	$2,132
HP EliteBook 8570w	4	$840
HP EliteBook 2170p	3	$723
HP ZBook 15	3	$514
HP EliteBook Folio 1040 G1	1	$860
HP Chromebook 11	1	$279



Observations

- There were 21 different laptop models were purchased with a weighted-average price ranging from $240-$2,965
- The most commonly purchased laptop across UWS purchased directly from HP is the HP EliteBook 8470p, accounting for 498 total machines and approximately 22% of total HP laptop spend
- Weighted-average prices per unit for laptop models vary significantly indicating that a cost savings opportunity exists through model standardization and improved demand management.

Source: FY14 Data (July 2013-June 2014) Provided by Hewlett-Packard, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Business Case #3

HEWLETT-PACKARD LAPTOP SAVINGS OPPORTUNITY

Huron Education

Huron estimates that the UW could achieve a small amount of savings by creating 4 standardized HP laptop bundles in varying price ranges and ensuring that those are the models purchased by UWS employees.

Laptop Model:	Quantity Purchased		Weighted-Avg. Price/Unit
HP EliteBook 8770w	15	1	$2,966
HP ZBook 17	7		$2,132
HP EliteBook Folio 1040 G1	1	2	$860
HP EliteBook Revolve 810 G2	22		$846
HP EliteBook 8570w	4		$840
HP EliteBook Revolve 810	54		$766
HP EliteBook 2170p	3		$723
HP EliteBook 9470m	79		$711
HP EliteBook 820 G1	33		$627
HP EliteBook 840 G1	117	3	$575
HP EliteBook 850 G1	235		$570
HP ZBook 15	3		$514
HP EliteBook 2570p	30		$475
HP ProBook 650 G1	16		$443
HP EliteBook 8470p	498		$411
HP EliteBook 8570p	169		$383
HP Pav 14 Chromebook	30	4	$299
HP Chromebook 11	1		$279
HP ProBook 6570b	26		$274
HP ProBook 6470b	15		$253
HP ProBook 640 G1	11		$240

Weighted-Average Price for Groups	
Group 1	$2700
Group 2	$731
Group 3	$462
Group 4	$275

Estimated savings achievable by establishing 1 standardized model for each group at the group's weighted-average price point
$

Savings were based on approximately $650K of total HP laptop spend across UWS. The System may be able to achieve additional cost savings by negotiating higher discounts for standardized laptop models or consolidating vendors.

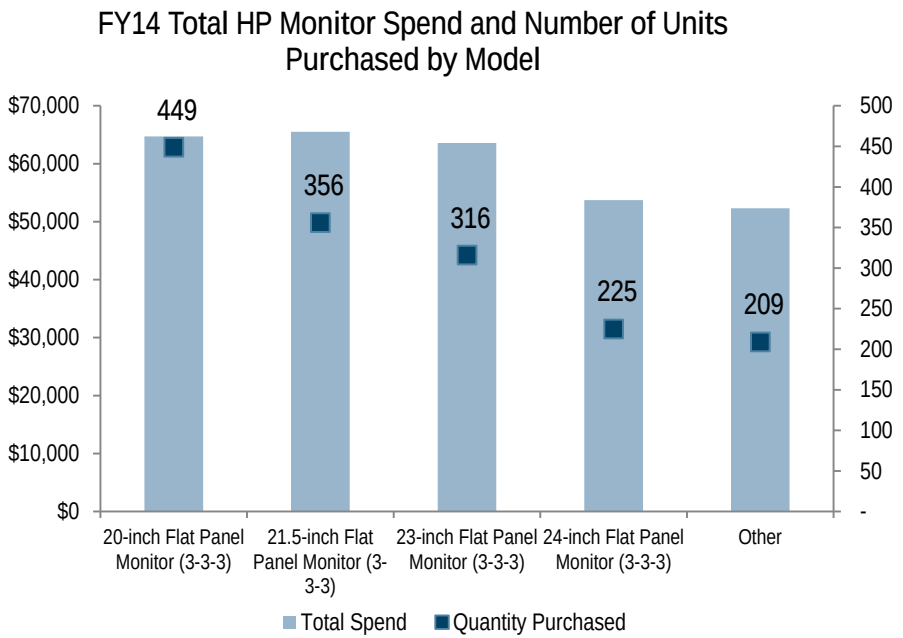
Source: FY14 Data (July 2013-June 2014) Provided by Hewlett-Packard, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Business Case #3

HEWLETT-PACKARD MONITOR OVERVIEW AND SAVINGS OPPORTUNITY

Huron Education

Based on analysis of FY14 spend data provided by HP, Huron estimates that UWS could achieve small savings by standardizing on the top 3 HP monitor models.



Monitor Model:	Quantity Purchased	Weighted-Avg. Price/Unit
20-inch Flat Panel Monitor (3-3-3)	449	$144
21.5-inch Flat Panel Monitor (3-3-3)	356	$184
23-inch Flat Panel Monitor (3-3-3)	316	$201

HP Monitor Savings Through Model Standardization	
Weighted-Average Price per Unit for Top 3 Models Purchased	$173
Total Number of Units Purchased Outside of the Top 3 Models	434
Total Spend Outside of Top 3 Models	$106K
Estimated Annual Savings by Moving All Purchases with Prices Greater than $173 to a Top 3 Model at a Weighted-Average Price of $172	$

Observations

- The most commonly purchased HP monitor across the UWS is the 20-inch Flat Panel Monitor, accounting for 449 machines and approximately 27.5% of total HP monitor spend
- 19 different HP monitor models were purchased in FY14, with weighted average prices ranging from $144 to $599
- Weighted-average prices per unit for HP monitor models vary significantly indicating that a cost savings opportunity exists through model standardization and improved demand management

Source: FY14 Data (July 2013-June 2014) Provided by Hewlett-Packard, Weighted Average Unit Prices were calculated using the number of machines purchased at each different unit price

Business Case #3

APPLE SPEND OVERVIEW

Huron estimates that close to $3.5M was spent on Apple products between April 2014 and March 2015, with UW-LAC, UW-OSH, and UW-WTW accounting for approximately 44% of total spend.

Current State Assessment and Observations

- Close to $3.5M is spent on Apple merchandise across the UW
- UW La Crosse, UW Oshkosh, and UW Whitewater are among the highest purchasers of Apple products
- Over $1.1M worth of Apple spend was unclassifiable, as the invoice description data was either absent or insufficient to determine the type of merchandise being purchased

Institution:	Total Approximate Apple Spend (000's)
Colleges / Extension	$43
Eau Claire	$242
Green Bay	$173
La Crosse	$602
Milwaukee	$292
Madison	$254
Oshkosh	$481
Parkside	$75
Platteville	$105
River Falls	$165
Stout	$208
Stevens Point	$330
Superior	$58
Whitewater	$432
Total	$3,461

Typically, it difficult to obtain discounts on Apple products, however, the UW should consider moving buyers towards competing products for which the UW has been able to obtain discounts.

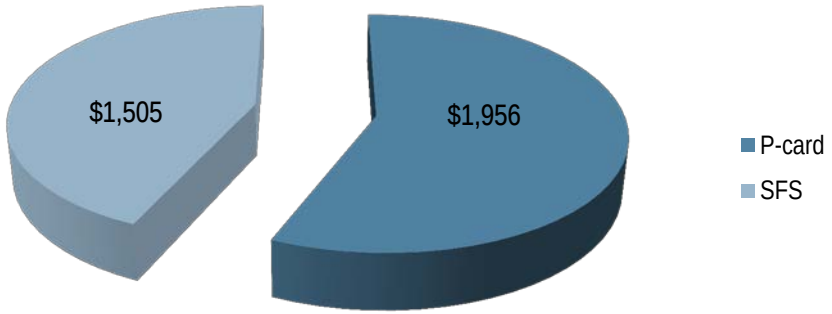
Source: April 2014-March 2015 Financial Data Provided by UWSA, Apple Items Purchased for Resale Excluded from Totals

Business Case #3

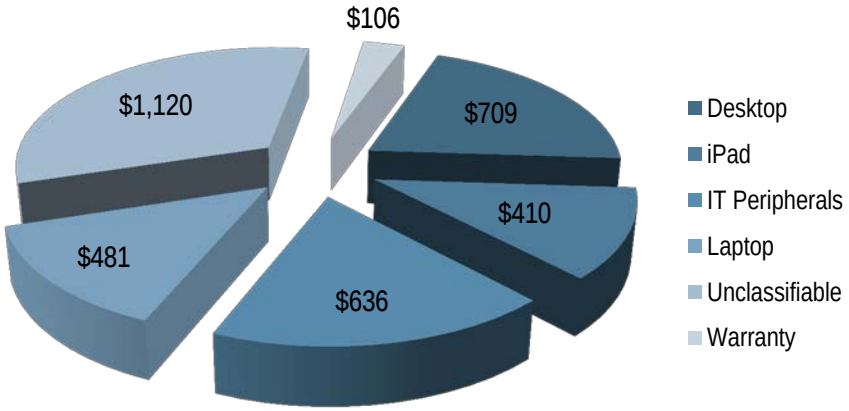
APPLE SPEND BY PRODUCT CATEGORY

Spend with Apple is divided into six primary product categories including Desktops, Laptops, iPads, Warranties, IT Peripherals, and spend that Huron was unable to classify due to missing description data.

Apple Spend By Purchasing Method ($000's)



Apple Spend By Product Category ($000's)



Observations

- The majority of Apple merchandise is purchased with P-cards, accounting for 57% of total Apple spend at ~$2.0M
- UWS spends approximately $1.2M on Apple desktops and laptops, accounting for approximately 34% of total Apple spend

Source: April 2014-March 2015 Financial Data Provided by UWSA

Business Case #3

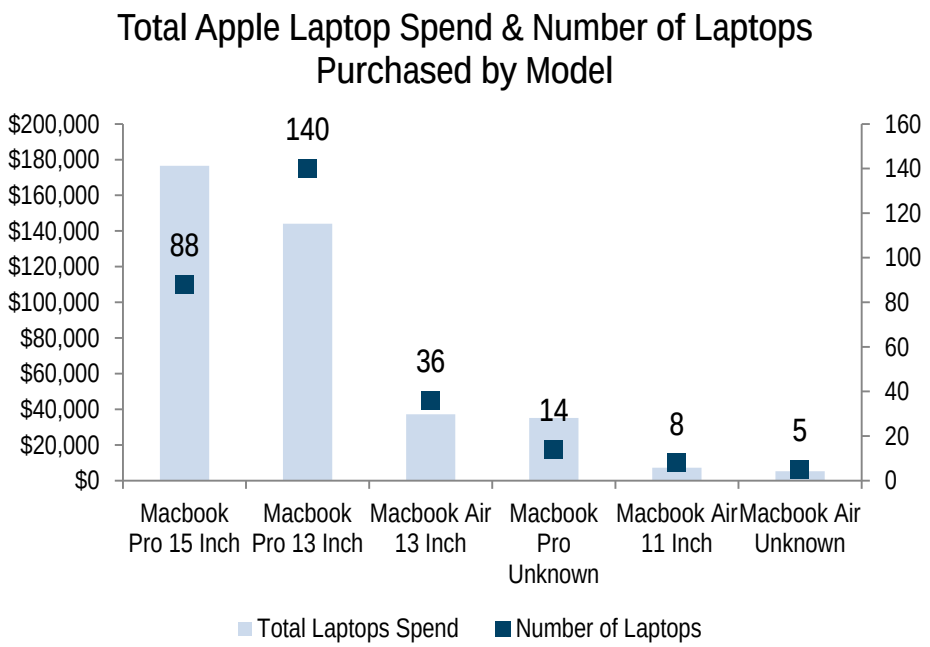
APPLE LAPTOP OVERVIEW AND SAVINGS OPPORTUNITY

Huron Education

Huron estimates that UWS could achieve cost savings by limiting Apple laptop purchases to either the Macbook Pro 13 Inch or the Macbook Air 13 Inch models.

Laptop Model:	Quantity Purchased	Weighted-Avg. Price/Unit
Macbook Pro 13 Inch	140	$1,029
Macbook Pro 15 Inch	88	$2,006
Macbook Air 13 Inch	36	$1,032
Macbook Pro Unknown	14	$2,509
Macbook Air 11 Inch	8	$908
Macbook Air Unknown	5	$1,047

Apple Laptop Savings Through Model Standardization	
Weighted-Average Price per Unit for Macbook Pro 13 Inch and Macbook Air 13 Inch	$1,030
Total Number of Units Purchased Outside of Chosen 2 Models with Prices Greater than $1,030	107
Total Spend Outside of Chosen 2 Models with Prices Greater than $1,030	$217K
Estimated Annual Savings by Moving 50% of Purchases Outside of Chosen 2 Models with Prices Greater than $1,030 to one of the 2 Chosen Models	$



Observations

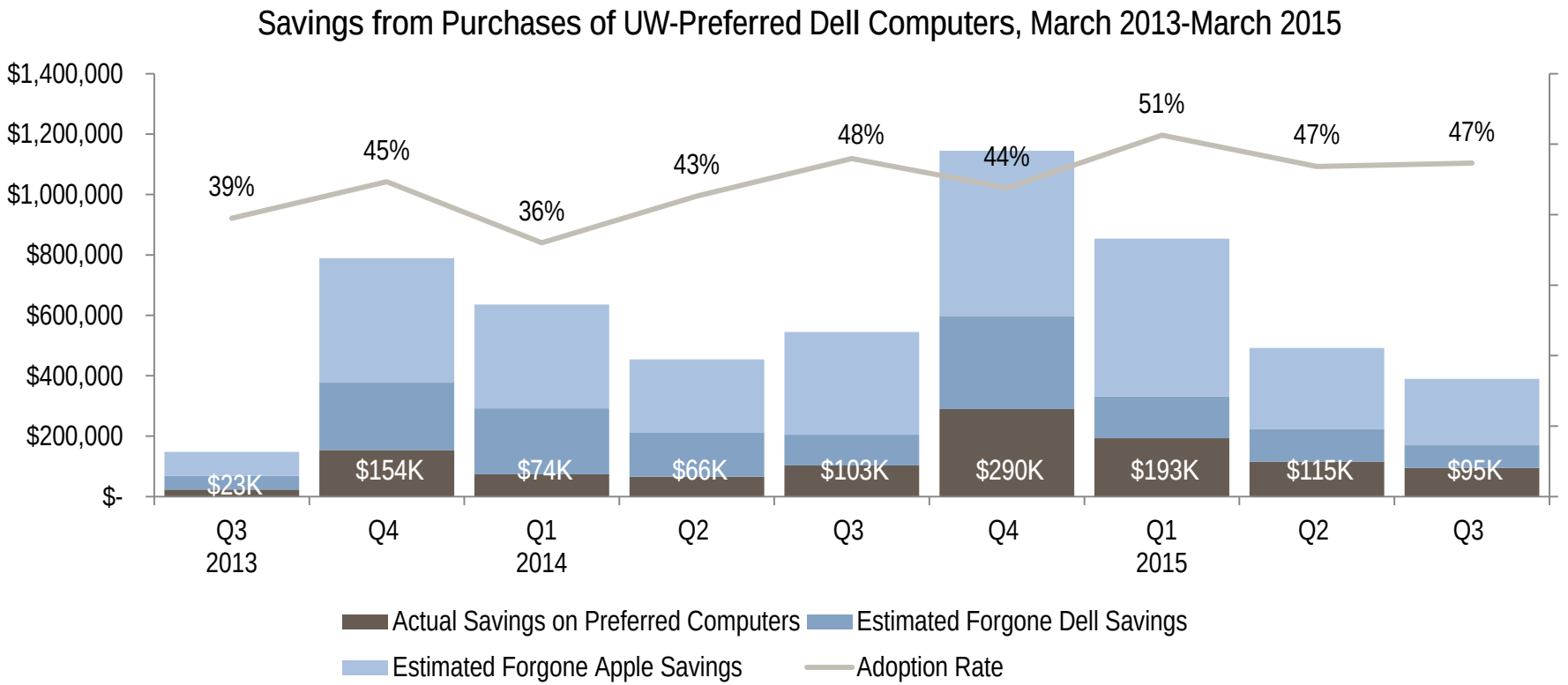
- Huron estimates that over $400K was spent on Apple laptops during the timeframe used for the analysis
- Huron was unable to identify Apple laptop models for approximately $48K in spend
- The most commonly purchased Apple laptop purchased was the 13 inch Macbook Pro, accounting for approximately 36% of total Apple laptop spend

Source: April 2014-March 2015 Financial Data Provided by UWSA

Business Case #3

SAVINGS CASE STUDY

UW Madison negotiated a contract with Dell which has allowed the University to realize additional savings of approximately $1.1M over the previous 2 years.



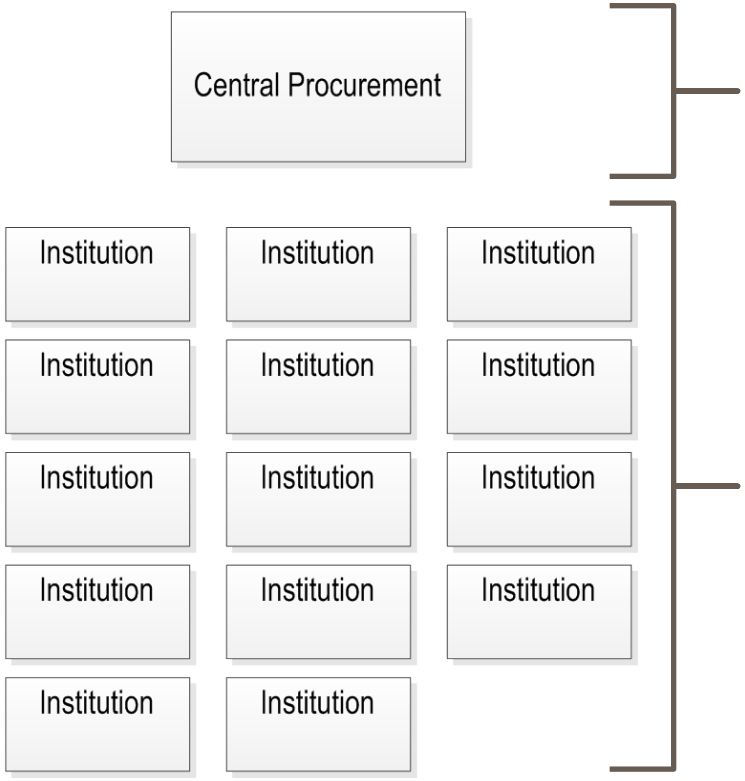
Savings were based on approximately $3.8M of Dell Preferred spend; in addition, UW Madison estimates that approximately $4.3M of additional savings were forgone through Non-Preferred Dell and Apple purchases.

Source: Estimated Savings provided by UW Madison

Business Case #3

COLLABORATIVE PROCUREMENT FUNCTION

The UW should develop a centralized procurement office that negotiates contracts, establishes policies and procedures, enforces demand management, and ensures policy review and compliance.



System-wide Procurement Function

- Develop a robust, system-wide procurement function to centrally negotiate contracts and manage high-spend vendors with highly trained procurement staff to take advantage of the purchasing power of the entire UW System

Distributed Representatives:

- Individuals from each campus would, where appropriate, aid in identifying high-spend vendors and coordinate with campuses to evaluate negotiating leverage

A system-wide procurement function does not necessarily need to be located at UWSA, however, there should be a central organizational effort to negotiate system-wide contracts and establish system-wide policies and standards.

Business Case #3

NEXT STEPS

Huron estimates that UWS could achieve significant costs savings through laptop, desktop, and IT peripheral standardization, and by renegotiating contracts to receive additional price discounts.

Option A			
Area	Opportunity Overview	Est. 5 Year Savings ($M)	
		Low	High
IT Hardware	Laptop, Desktop, and Peripheral Model Standardization	$$	$$$

Option B			
Area	Opportunity Overview	Est. 5 Year Savings ($M)	
		Low	High
IT Hardware	Standard Bundle Creation, Vendor Consolidation, and Apple Demand Management	$$	$$$

Area	Opportunity Overview	Est. 5 Year Savings ($M)
IT Hardware	Reduce UW-Madison Forgone Savings	$$
Organization	System-wide Collaborative Procurement Function	Strategic Enabler

5 Year Total Savings *Given Option A*	$$-$$$

5 Year Total Savings *Given Option B*	$$-$$$

1. UW-Madison Forgone Savings Based on Reduction by 20%-40% on a Yearly Basis
2. Apple Demand Management Involves Shifting 20-40% of Apple Spend to the Selected Non-Apple Vendor

General Sourcing Tactics
• Consolidate non-Apple Laptop and Desktop spend to one primary vendor • Use policy, marketing efforts, and contract tracking and analysis to drive utilization of established contract(s) • Review competitiveness of current pricing • Review demand patterns to identify opportunities to change service levels with minimal impact to end user

Source: *Savings Estimates Based on Analysis of Laptops, Desktops, and Monitors; Additional Savings Opportunities are Likely Available in Other Peripheral Categories

Appendix

Project Oversight

COMMITTEE MEMBERSHIP

Huron Education

Committee Members

Executive Leadership Team

- Ray Cross, President, University of Wisconsin System
- David Miller, Senior Vice President for Administration & Fiscal Affairs
- Jane Radue, Executive Director & Corporate Secretary, Board of Regents
- Jessica Tormey, Chief of Staff, Office of the President
- James Villa, Vice President, University Relations
- David Ward, Interim Senior Vice President, Academic & Student Affairs
- Julie Gordon, Associate Vice President, Financial Administration

Project Management Group

- Sasi Pillay, Associate Vice President, Office of Learning and Information Technology
- Jenna Weidner, Program & Policy Analyst – Advanced, Office of Senior Vice President for Administration
- David Kieper, Interim CIO, UW Green Bay
- Elena Pokot, CIO, UW Whitewater
- Robert Beck, CIO UW Milwaukee

Advisory Committee

- Sasi Pillay, Associate Vice President, OLIT
- David Kieper, Interim CIO, UW Green Bay
- Elena Pokot, CIO, UW Whitewater
- Robert Beck, CIO UW Milwaukee
- Mohammed Elhindi, CIO, UW La Crosse
- Stephen Reed, CIO, UW River Falls
- Chip Eckhardt, CIO, UW Eau Claire
- Ilya Yakovlev, CIO, UW Parkside
- John Krogman, COO of DoIT, UW Madison
- Werner Gade, CIO, UW Colleges / Extension
- Doug Wahl, CIO, UW Stout
- Bob Hetzel, CBO, UW La Crosse
- Tom Sonnleitner, CBO, UW Oshkosh
- Rob Cramer, CBO, UW Platteville
- Greg Summers, Provost, UW Stevens Point
- Faith Hensrud, Provost, UW Superior
- Johannes Britz, Provost, UW Milwaukee

Business Case # 1

SIS FINANCIAL CONSIDERATIONS – INSTITUTIONAL CURRENT STATE COSTS

Huron Education

The following represents estimated current state infrastructure costs associated with supporting localized hosting of SIS. Annual localized hosting costs identified through survey conducted by UWSA CIO.

Institution	FTE Support	FTE Costs ($000s)**	Infrastructure Costs ($000s)
Colleges*		118.3	
Eau Claire	1	40	45.1
Green Bay	1.15	118.4	13.0
La Crosse	7.76	792.7	253.5
Madison	9.3	880.8	442.0
Milwaukee	1.9	213.1	8.0
Oshkosh*	1.8	129.1	4.6
Parkside	0.3	141.9	
Platteville	1.2	368.8	234.0
River Falls	4	325.0	36.8
Stevens Point*	1.2	368.8	234.0
Stout	1.5	128.6	69.0
Superior*	2	141.9	
Whitewater	1.8	129.1	4.6
Total	34.91	$4,000	$1,344.6

Current-State and Projection Notes & Assumptions:

- Annual PeopleSoft Administration and Maintenance costs are $900,805
- Huron analyzed work completed to date with respect to current-state infrastructure support costs associated with Student Information Systems.
- Discussion between CIOs and UWSA CIO indicate base-level FTE support lowered to approximately 20
- Estimated current state costs may not fully represent true current state due to data available at time of analysis. Additional costs may be attributable to hardware, etc.
- Figures do not include FTE supporting localized bolt-on development (applications)
- Assumptions were made for certain institutions not participating in data collection process conducted by UWSA CIO
- Note: FTE personnel estimated assume salary and fringe of $95,000 rather than actual amount

*Indicates institutions for which Huron made assumptions regarding current-state costs – actual data not provided during survey or available at the time of analysis
**Includes contracted fully burdened labor
***Numbers may not add due to rounding

Business Case # 1

ADDITIONAL IT SERVICES AMENDABLE TO CLOUD COMPUTING

HuronEducation

The advent of cloud computing has fundamentally changed the way IT services can be delivered. Additional examples of vendor managed solutions can be found below.

<u>Additional Cloud-based Solutions:</u>

- Hosting of most / all current applications
- Network Hosting (e.g., VoIP)
- Website Hosting
- Datacenter Management and Storage Resources
- High Performance Computing – Via Consortium or Third-party Vendor
- Learning Technologies (e.g., LMS)
- CRM Solutions

<u>Change Management Considerations:</u>

- Organizational commitment to change / development of a long-term strategy for cloud computing
- Reduced ability to customize
- Customer support shits to vendor rather than local staff – may result in varied response times (can be managed via contact / SLA)
- Changes in SaaS application interfaces will occur more often – requires staff to be open to change

Business Case #2

CURRENT STATE IT ADMINISTRATION (CONT'D)

HuronEducation

The categories presented in the table below were used to segment University employees to determine where overlap occurs and where alternative administration models may be implemented.

IT Unit Categorization	Unit Description
Client Services	• Includes campus Help Desks, hardware and software support, IT training, computer repair, technology use consulting, asset management, and IT service management
Network & Infrastructure Services	• Includes network management and engineering, campus infrastructure management and maintenance, data center management, firewall administration, and information security
Enterprise Software & Application Services	• Includes application design, development, and support, database administration and management, and reporting development
Instructional Technology Services	• Includes the design, development, and evaluation of learning technologies, and the provision of faculty and staff trainings on instructional technology

Categorization methodologies for all UW Institutions are included in the appendix.

Client Services

IT CATEGORIZATION BASIS

The following institution-specific IT units were included as part of Client Services for the analysis conducted by Huron.

Institution	Total FTEs	Institution-specific Units Included
UW Eau Claire	13.75	• Client Support Services
UW Extension/Colleges	4	• Account & Identity Management and Desktop Support (Est. 4 from Account & Identity Management, Information Security, and Desktop Support)
UW Green Bay	7	• User Support Services
UW La Crosse	13	• Client Services
UW Milwaukee	25	• Client Services (Excluding Classroom Services and Learning TECHniques)
UW Madison	67.5	• User Services
UW Oshkosh	12	• Academic Computing
UW Parkside	4	• Support Services
UW Platteville	12	• Support Services
UW River Falls	4	• Professional Services
UW Stout	9	• Client Technology Services
UW Stevens Point	24.8	• Administrative Information Systems • Workstation and Endpoint Technology • College Support Team • IT Support Services
UW Superior	5	• Technology Support Services
UW Whitewater	2	• User Environment Technology

Network and Infrastructure Services

IT CATEGORIZATION BASIS

Huron Education

The following institution-specific IT units were included as part of Infrastructure and Network Services for the analysis conducted by Huron.

Institution	Total FTEs	Institution-specific Units Included
UW Eau Claire	13	• Technical Support Services
UW Extension/Colleges	18.7	• Hosting, Messaging and Collaboration, and Network Management • Network Administrator • Information Security (Est. 2 from Account & Identity Management, Information Security, and Desktop Support)
UW Green Bay	4	• Infrastructure and Networking Systems / Info Security
UW La Crosse	10	• Network Services
UW Milwaukee	39	• Network and Operations Services • Information Security Office
UW Madison	204.2	• Network Services • Systems Engineering and Operations • Enterprise Internet Services • Information Security Office
UW Oshkosh	7	• Networking and Security
UW Parkside	3	• Infrastructure Team
UW Platteville	12	• Systems and Infrastructure
UW River Falls	13	• Enterprise Systems and Services • Infrastructure and Security Technologies
UW Stout	9	• Security and Network • Telecommunications and Networking
UW Stevens Point	10	• Network and Infrastructure
UW Superior	6	• Technology Infrastructure Services
UW Whitewater	Unknown	• Network Operations Center

Enterprise Software and Application Services

IT CATEGORIZATION BASIS

The following institution-specific IT units were included as part of Enterprise Software and Application Services for the analysis conducted by Huron.

Institution	Total FTEs	Institution-specific Units Included
UW Eau Claire	15.9	• Enterprise Software systems • Projects and Software Applications
UW Extension/Colleges	1	• Application Management (Est. 1 from Learning Technology, Application Management, and Media Services)
UW Green Bay	9.6	• Management Information Systems
UW La Crosse	4.96	• Enterprise Services
UW Milwaukee	16.8	• Application Development
UW Madison	90.7	• Application Development and Integration
UW Oshkosh	9	• Administrative Computing
UW Parkside	5	• Applications Development
UW Platteville	12	• Information Systems and Reporting
UW River Falls	10	• Enterprise Applications and Services
UW Stout	7.5	• Enterprise Information Services
UW Stevens Point		
UW Superior	6	• Application Services
UW Whitewater	Unknown	• Administrative Information Services

Instructional Technology Services

IT CATEGORIZATION BASIS

The following institution-specific IT units were included as part of Instructional Technology Services for the analysis conducted by Huron.

Institution	Total FTEs	Institution-specific Units Included
UW Eau Claire	10.93	• Media and Learning Services
UW Extension/Colleges	6	• Learning Technology (Est. 2 from Learning Technology, Application Management, and Media Services) • Distance Education
UW Green Bay	12	• Academic Technology Services
UW La Crosse	8	• Academic Technology Services
UW Milwaukee	8	• Classroom Services and Learning TECHniques under Client Services
UW Madison	75.6	• Learning Technologies and Academic Technology
UW Oshkosh	13.5	• Learning Technologies
UW Parkside	5	• Learning Technology Center
UW Platteville	7	• Media Development Technology
UW River Falls	2	• Teaching and Learning Technologies
UW Stout	10	• Learning Technology Services
UW Stevens Point	2	• TEC (Teaching and Learning Resource Network)
UW Superior		
UW Whitewater	4	• Instructional Technology Service

Administration / Finance / Other

IT CATEGORIZATION BASIS

Huron Education

The following institution-specific IT units were included as part of Administration / Finance / Other for the analysis conducted by Huron.

Institution	Total FTEs	Institution-specific Units Included*
UW Eau Claire	1	
UW Extension/Colleges	11	• Service Success and Projects and Service Delivery • Media Services (Est. 1 from Learning Technology, Application Management, and Media Services)
UW Green Bay	4	• Web Services • Administrative and Finance Support Staff
UW La Crosse	2	• Administrative Support Staff
UW Milwaukee	7	• Research Computing • IT Strategic Communications • Chief Operating Officer
UW Madison	25.75	• Communications, Financial Services, Information Tech. Academy, and Policy & Planning • Division Office (Non-Security)
UW Oshkosh	3	• Business Operations
UW Parkside	8	• Creative Services and Administrative Support Staff
UW Platteville	2	• Administrative Support Staff
UW River Falls	2	• Administrative Support Staff
UW Stout	4	• Administrative Support Staff
UW Stevens Point	10	• Web and Media Services, and Information Technology Administration
UW Superior	.75	• Administrative Support Staff
UW Whitewater	33	• Unable to Categorize Based on Publically Available Information

Source: Chief Information Officers were Included in Administration / Finance / Other