



# INFORMATION TECHNOLOGY ASSESSMENT

March 18, 2011

*Current Environment Summary & Recommendations*

BERRY.DUNN.MCNEIL & PARKER

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**Please note that numbering does not represent prioritization of the recommendations.**



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## EXECUTIVE SUMMARY

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The University of New Hampshire (UNH) engaged BDMP to conduct an independent assessment of central and distributed technology services at the UNH campus. The objective of the assessment was to identify cost saving opportunities, strengthen processes, and provide structure that supports the University's IT vision and objectives.

In conducting this project, BDMP met with representatives from central and distributed IT operations on the campus. Our interviews also included campus leaders, department representatives, and students who are all technology stakeholders. This document describes several high level issues, and provides recommendations that serve to result in addressing the identified issues and fulfilling the objectives of the assessment.

### **Information Technology at UNH**

UNH is the largest member of the University System of NH (System) and has a significantly larger IT function with more needs and greater capacity than other institutions in the System. Like most institutions, UNH has both centralized (UNH IT) and decentralized (Distributed IT) IT services on campus. Centralized services on campus are led by the CIO who reports to the Vice President for Finance and Administration.

Notable strengths of information technology at UNH include: the enterprise data center and recent accomplishments implementing energy efficient and sustainable practices; support for online learning; research; and government grant initiatives; IT management practices around media management and destruction; and the institutional knowledge of University IT staff.

### **High Level Issues**

By the intent and nature of this project, our assessment focused substantially on issues to be identified and addressed. The following points summarize, at a high level, issues that challenge the University at this time:

- IT Governance at UNH needs to be considered, clarified, and communicated. The University has strong IT leadership. However, there is some confusion brought on by uncertainty around IT governance and priority setting at UNH, and the roles and priorities of UNH information technology in relation to the System.
- The current IT service delivery structure makes resource coordination difficult, and impacts the ability of UNH to manage critical aspects of IT, such as establishing consistent service expectations across the campus. However, UNH is a decentralized organization by design, which lends itself to a distributed service model. The challenge then, is to find ways to better align the people, processes and systems that make up the entire IT community at UNH.



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- The Banner Student Information System (SIS) is highly customized. UNH has over 1100 customizations in this enterprise system, which requires significant in-house resources for ongoing support and makes upgrades to the baseline Banner product time-consuming and complex. This is an example of how resources are required to maintain existing administrative systems. An alternative approach, such as the use of more off-the-shelf software, could free up resources for more strategic information technology initiatives.
  - Portfolio Management is an important initiative for UNH IT, yet this initiative is hampered by factors such as a disparate patchwork of IT services provided by both UNH IT and distributed IT, and the extensive number of standing committees that are responsible for overseeing IT initiatives.
  - UNH IT seeks to have a greater level of discretionary spending that will provide flexibility in being responsive to the needs of the UNH community.
  - UNH IT has dedicated and capable staff with significant levels of experience. The current staff mix and makeup presents some challenges. More than 50 percent of UNH IT staff are classified at an IT level III or higher. Level IV is the highest level. In addition, given the average age of the IT staff (like the workforce in general at UNH) the University should expect a number of staff departures over the coming decade.

## **Recommendations**

All of the recommendations are identified in the body of the full report. Before developing this section, BDMP met with a number of UNH stakeholders to clarify issues and findings presented in the current environment summary (issued on October 29, 2010). We then developed our recommendations from an objective perspective.

Included as Appendix B are the findings from the CIO interviews and research conducted with three benchmark Universities that we contacted:

- University of Arizona
- Case Western University
- Georgia Tech University

This research provided additional insights and informed our recommendations.

The following table represents the full set of recommendations that have been described in the report. We have prioritized the recommendations in order of criticality from highest to lowest. In addition, we have organized the recommendations into two areas. The first group represents recommendations that will require action from members of the broader UNH community and may need input from end-users of technology as well as technology providers that are not part of UNH IT. The second group represents recommendations that will need to be addressed within UNH IT and should not require significant “external” buy-in.



Topic Area	UNH IT Recommendations -- UNH-Wide
IT Governance	Create a senior level IT Steering Committee to advise and guide the information technology function.
Banner Customization	Work to reduce the extent of customization in Banner Student Information System (SIS).
Committees	Reduce the number of IT committees.
Role of ATLS	Improve coordination with Academic Technology Liaisons (ATL). UNH IT functions (ECG, TCS, AT, etc.) should have an improved understanding of ATL activities.
IT Staffing	Work to create consistent training, performance expectations, and evaluation practices across the entire UNH technology community.
Blackboard	Encourage faculty to better utilize Blackboard (Bb) as a tool for delivering blended learning.
Email	Work towards a common email environment and eliminate ancillary email systems.
Data Center	Continue moving forward with UNH IT Infrastructure Inventory Initiative.

Topic Area	UNH IT Recommendations -- UNH IT Internal
IT Service Delivery	Create an IT Service Catalog.
Help Desk	Create a Single Point of Contact (SPOC) for Help Desk Intake.
IT Spending	Create new opportunities for discretionary spending by reducing current operational spend.
Vendor Management	Create central processes and accountability that manage software license purchases to maximize purchasing power across the UNH technology community inclusive of both UNH IT and distributed IT leadership.
Project Intake	Assess the viability of having 350 projects in the project queue.
Business Analysis	Develop and consistently use standard practices for documentation of business requirements and functional design.

These recommendations are geared towards increasing collaboration across the technology community and reducing administrative computing costs in favor of increasing discretionary spending. For example, UNH should consider alternatives to the current Banner SIS. In addition, the current lack of coordination across central (UNH-IT) and distributed IT (Academic Technology Liaisons and others) has led to redundancies of time and effort. In general, the assessment aims to identify opportunities that optimize systems to streamline processes and empower people.

We want to take this opportunity to acknowledge and thank the leadership, faculty, and staff at UNH for their active participation and cooperation in this project to date.

# PRESENTATION FORMAT

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BDMP organized this document using a format intended to convey four areas of focus:

**1. Observation(s):**

Based on campus interviews, documentation review, and follow-up inquiry.

**2. Background and Relevant Facts:**

Based on available data provided by UNH as well as other data sources.

**3. Issue(s):**

BDMP's finding that requires further review and analysis in support of a recommendation(s) to be developed in Phase II of this engagement.

**4. Recommendation(s):**

Recommended approach to resolve issue(s).

# UNH 2020

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## The University of New Hampshire in 2020: Breaking Silos, Transforming Lives, Reimagining the University



### The Ten Initiatives

1. Commercializing UNH's Intellectual Capital
2. Inclusive Excellence
3. Independent Research and Scholarship
4. Interdisciplinary Schools and Academies
5. Internationalizing UNH
6. Learning-Centered Environment
7. Learning Portal
8. New Ventures Fund
9. Partner for Life
10. Research Leveraging Initiative

# STRATEGIC TECHNOLOGY PLAN – CIO’S PRÉCIS

*Key points from CIO’s Precis to the UNH Strategic Technology Plan (April, 2010)*




UNH Technology Landscape	
Types of services:	Casual enquiry, complex workflow, visualization.
Delivery of services:	Accessible, engaging, responsive, flexible, and secure applications.
Customers:	The student, the professor, the researcher, the administrator, the donor, the ticket purchaser and the visitor, whether physically on campus or in remote corners of the globe.

- Changes are lowering the barriers to technology adoption and raising the complexity of integrating, securing and supporting technology.
- Requisites for change include new investments, collaboration, funding, sustainability, excellence of execution, and balance.
- Technology Initiatives will directly support the program initiatives outlined by the UNH 2020 Strategic Plan.
- Current technology initiatives include scholarship and research directory and information services, learning portal (LeaP), communication and collaboration suite, institutional repository, identity management, and cyberinfrastructure (CI).



# STRENGTHS AT UNH

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- **Going Green** 
  - Data Center – enterprise class Data Center endorsed by the UNH Energy Task Force for its recent 40% reduction in energy consumption.
  - UNH was listed as 1 of 11 institutions on Princeton Review’s Green Honor Roll in 2008.
  - UNH is the first university in the nation to earn the Environmental Protection Agency’s (EPA) ENERGY STAR rating for residence halls -- Congreve, Lord, and McLaughlin halls. It ranks in the top 5 percent for energy efficiency among similar colleges and universities around the country, according to the U.S. Department of Energy.
- **Online Learning Resources** 
  - 240 UNH iTunesU webcasts featuring topics covering both life and learning at UNH.
  - January Term Online – Provides students with the opportunity to take online courses over winter break. Students receive 1 to 4 college credits in 3 weeks.
  - 9 Far View Distance Learning offered by College of Engineering and Sciences in fall 2010.
- **Research Initiatives** 
  - UNH’s largest research enterprise, the Institute for the Study of Earth, Oceans, and Space, garners more than \$32 million each year in research support from NASA, NOAA, NSF and other federal agencies.
  - International Research Opportunities Program (IROP).

# STRENGTHS AT UNH

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- **Information Security**



- Media Destruction Policy – UNH has implemented a best practice approach for the destruction and disposal of expired technology equipment.
- Internal Penetration Test Success – no serious vulnerabilities reported.

- **Dedicated workforce with institutional knowledge and job satisfaction** 😊

- The average age of UNH faculty and staff is 49 overall, and 44 for UNH IT. Many of UNH's IT leaders demonstrate an institutional knowledge that can only be attained with years of first hand experience.
- According to the Baird Borling Associates Employer of Choice survey, UNH faculty and staff report overall job satisfaction rates that are above average, with the highest ratings in areas such as senior leadership, working conditions, University communications, and work itself.



# I. UNH-WIDE RECOMMENDATIONS



# IT GOVERNANCE

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## Observation:

UNH IT has unique needs compared to other entities that comprise the USNH IT decision-making body.

# IT GOVERNANCE AT USNH

## Background and Relevant Facts

### IT Policy Advisory Committee (ITPAC) – Long-Range Technology Planning (LRTP).

- Includes representatives from UNH, GSC, PSU & KSC:
  - CIOs
  - CFOs
  - Academic Leaders

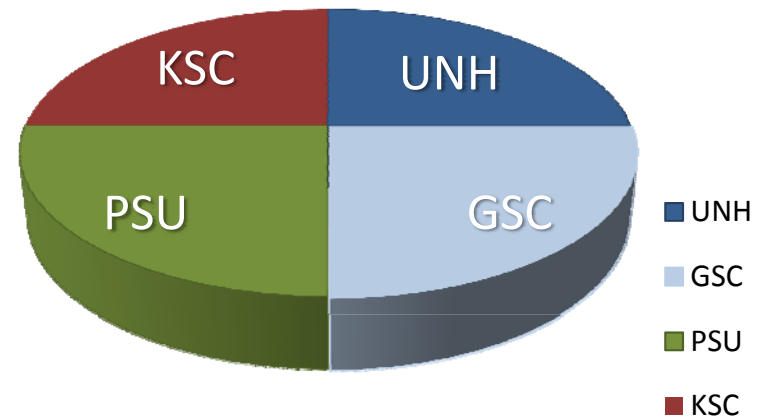
### Information Technology Coordinating Council

### Enterprise Computing Group (ECG)

- Provides services to UNH and USNH IT.
- Supports the following for USNH
  - Banner HR
  - Banner Payroll
  - Banner Finance
  - Management Reporting
  - Document Management

**Planning Forum** – Meets annually with Administrative Computing teams and USNH business leaders to vote on projects for next 18 months.

**USNH Planning Forum**  
Vote Distribution



# IT GOVERNANCE AT UNH

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## Background and Relevant Facts

- It was reported in some of our interviews that the current governance structure at UNH is not effective.
- Some interviewees were frustrated that a 2008 proposal for adopting a new IT governance model made it to the highest levels of the University (President's Cabinet) but was never implemented. The following is the proposed model from a July 31, 2008 document.

*The new governance system proposed was based on four assumptions:*

- 1. UNH will adopt an information technology portfolio management approach.*
- 2. The governance model will be designed around communities of interest that support the portfolio concept.*
- 3. Senior leadership engagement with the governance model will be effective.*
- 4. The Chief Information Officer will provide overall leadership to the IT governance system.*

## Issue

The current governance structure for USNH IT decision-making may not equitably represent the distribution of responsibilities, capacities, or expectations across the four USNH institutions. UNH is challenged by the System governance model, but the primary focus should be on establishing an acceptable and transparent governance model for the University that identifies a distinct body responsible for IT decision-making and priority setting within UNH.



# IT GOVERNANCE - RECOMMENDATION

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**Create a senior level IT Steering Committee to advise and guide the information technology function at UNH.**

- Establish the committee.
  - Request the membership of academic and business leaders at UNH.
  - Ensure that technology decisions align with UNH and USNH strategic initiatives.
  - Provide guidance and direction in setting priorities for UNH IT.
  - Meet bi-monthly or quarterly.
  - Follow up meetings with communications about key decisions.
- The CIO should continue to foster collaborative relationships among UNH IT and distributed IT support constituents, including ATLS.

## **Projected Outcomes**

- ✓ Improve the visibility of IT decision-making across the campus.
- ✓ Position the CIO to lead technology decisions as the established IT leader at UNH.
- ✓ Gain the support and advocacy of the most senior-level leaders.
- ✓ Provide the foundation for more cross-functional collaboration between UNH IT and its customers.



# CUSTOMIZATIONS IN BANNER SIS

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## Observation:

The Banner Student Information System (SIS) includes a high number of customizations that are not supported by SunGard.



# CUSTOMIZATIONS IN BANNER SIS

## Background and Relevant Facts

- Banner HR/Finance - system level
- Banner SIS - campus level
- **8** Information Technologists support **1,240** customizations.

**Over 90%** of the customizations are completely UNH developed/supported.

- Cannot leverage SunGard support resources for UNH customizations.
- Upgrades are significantly more burdensome (efforts required to analyze, update, test, & document).

Banner Products with Over 100 Customizations						
Product	UNH Custom	% of Total UNH Custom	Modified Baseline	% of Total Modified Baseline	Cloned Baseline	% of Total Cloned Baseline
<b>Student</b>	315	28%	23	24%	1	5%
Recruiting/Admissions	224	20%	17	18%	0	-
Accounts Receivable	188	17%	6	6%	0	-
Financial Aid	118	11%	5	5%	0	-
<b>Total USNH/UNH Banner Customizations</b>	<b>1123</b>		<b>97</b>		<b>20</b>	

NOTE: The Total USNH/UNH Banner Customizations includes all Banner product customizations. This number is not the sum of the values displayed in this table.



# CUSTOMIZATIONS IN BANNER SIS

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## Background and Relevant Facts

- Governance
  - Customizations for Banner HR/Finance must be approved by Vice Chancellor and VP of HR.
  - Customizations for Banner SIS do not have a firmly established governance structure.
- The current level of customization in Banner requires significant staff support from UNH IT.
- Historically, ECG has been unable to gain the support of UNH stakeholders for conducting a formal review of the Banner portfolio to identify customizations that may be eliminated in favor of baseline functionality that can replace UNH IT dependant non-baseline functionality.
- SunGard offers a Community Source Initiative that USNH is using to reduce the level of customization in Banner HR/Finance.
- The Community Source Program involves customers sharing customizations and SunGard determining which of those customizations should be integrated and made available in Baseline Code.

# CUSTOMIZATIONS IN BANNER SIS

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## Issue

Significant customizations exist in Banner HR/Finance as well, but that system is operated at the System level. Banner SIS is owned within UNH. We believe that it is more appropriate to start with evaluating SIS to determine the cost of removing customizations from the existing system. Furthermore, it is likely that UNH is paying for SunGard support services that it cannot use because the product is so heavily customized that most of the applications cannot be supported by the vendor.

In FY 10, UNH paid SunGard over \$450,000 for its products and services. In addition, it is estimated that the IT department spent approximately 4300 hours on upgrading to Banner v8.x. At a loaded hourly rate (averaged) of \$75 per hour this equates to \$322, 500. This does not include the significant amount of time that would have been invested by business users of the software during the upgrade.

Our estimates indicate that if the SIS was mostly “off the shelf” software then in a year with minor upgrades, IT staff time would be approximately 500 - 1000 hours. In a year with a major upgrade that estimate may rise to 1000 – 1500 hours of IT staff effort.



# BANNER SIS - RECOMMENDATION

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## Work to reduce the extent of customization in Banner Student Information System (SIS).

- Work with the Banner SIS Committee to evaluate current decision-making processes and advocate for change from the current model.
- Evaluate new releases from Banner to determine:
  - If they can meet the functionality needs of the UNH SIS user community.
  - Opportunities for business process improvement at UNH.
- Conduct a feasibility study to better understand the costs involved with removing modifications versus “starting over”.
- Determine the best course of action for UNH:
  1. Start over. Create an implementation plan to end usage of the old Banner SIS and install a new “vanilla” model.
  2. Use existing Banner SIS and work back to baseline, removing as many customizations as possible, but not “starting from scratch.”

*“Incorporating new code into already-complex ERP software adds time and costs to the equation. Going vanilla, however, has probably already saved Purdue hundreds of thousands of dollars.”*

Jeff Whitten, associate vice president of ITaP’s Enterprise Applications unit, reporting on Purdue’s decision to keep Banner vanilla.



# BANNER SIS - RECOMMENDATION

## Projected Outcomes

- ✓ Improve productivity by significantly reducing the hours spent on maintenance and updates by UNH IT.
- ✓ Better position UNH to implement best practices that have been built into today's baseline Banner functionality.
- ✓ Better position UNH to utilize features of Banner SIS that are not compatible with existing customizations.
- ✓ Reduce overall Sungard costs and personnel costs.
- ✓ Reduce time spent in committee meetings – Numerous committees currently meet to discuss Banner system modifications. See IT Committees Recommendation.
- ✓ Help reduce administrative costs and increase funding for initiatives that support strategic initiatives.
- ✓ Increase feasibility of long term goal to implement SIS system wide by creating a baseline system that is replicable and scalable.



# IT COMMITTEES

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## Observation:

There are 71 committees that are intended to support IT decision-making and governance at UNH.

# IT COMMITTEES

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## Background and Relevant Facts

- Based on data provided by UNH IT, there are approximately 71 committees that are scheduled to meet for over 1,500 hours per year.
  - BDMP reviewed data and eliminated obvious duplicates from the count.
  - Committee hours are not provided by group due to inability to ascertain which groups attend which committees. This information was provided for some committees, but was inconsistent and therefore not reported on.
  - Approximately 50% of the “Committees” provided in the listing were working groups. These are included in BDMP’s calculation.
- There are many planning and advisory committees and Banner committees that meet separately across different UNH IT groups.

## Issue

The proliferation of UNH IT committees presents the risk of spending too many hours discussing issues and not enough time addressing issues. Committee efforts may be lost due to redundancy of issues and lack of clear responsibility for common initiatives.

Committees are common in Higher Education environments, but the total number of committees at UNH is exceptional. The concern is that people participate in these committees, but there is no discernible outcomes related to their investment of time and energy.

# IT COMMITTEES - RECOMMENDATION

## Reduce the number of IT committees.

- Other benchmark institutions reported no more than 10 standing committees for IT.
- A list of all standing IT committees and their respective charters should be maintained.
  - Prevent ineffective committees by establishing formal guidelines for what warrants the creation of a committee charter.
- A workgroup has a defined mission that is made up of a series of goals and deadlines. Upon completion of the mission, the workgroup is disassembled. Conversely, committees have long shelf lives, with no foreseeable expiration date.
- Committees and workgroups should adhere to standards.
  - Committees should have standard objectives that are repeatable.
  - Working groups should have deadline, and a single objective attached to measurable results and expected outcomes.

Examples of Potentially Unnecessary Committees					
Group	Name	Frequency	Duration	Purpose	Recommendation
AT	Digital Sign Committee	Monthly	1 hour	Coordination of digital sign updates.	Assign responsibility for digital sign updates to an individual who would gather input/requests and report back to stakeholders on actions.
ADMIN	Standard Reporting Group	Monthly	1.5 hours	Reviews the status of critical projects.	Consider elimination, as this is probably unnecessary with the establishment of the PMO.
AT	ATL Committee	Monthly	2 hours	To promote communication and collaboration between academic areas and IT.	Eliminate and create a single committee that shares information across all IT managers (including ATL representation) at UNH.
F&P, ECG	IT Managers Forum	Quarterly	3 hours	Forum for professional development and sharing of information among UNH IT Managers and Supervisors.	





# COLLEGES AND IT SUPPORT

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## **Observation:**

Academic Technology Liaisons (ATLs) and other distributed IT are providing support services for Colleges that are duplicative of services offered by UNH IT.

# COLLEGES AND IT SUPPORT

## Background and Relevant Facts

- The ATL position was originally intended to provide specialized academic technology support.
- Faculty and staff rely heavily on these individuals for technical support. As a result, there are now at least 20 distributed IT positions in addition to the identified ATLs across the UNH Campus.
- ATLs are readily available to the Colleges they serve; thus they are able to respond in a timely manner.
- It was reported by interviewees that to avoid additional costs, Colleges place expectation for desktop consulting and support on ATLs.

College	ATL	Total IT
College of Liberal Arts (COLA)	3	3
College of Life Sciences and Agriculture (COLSA)	2	4
College of Business (WSBE)	2	3
Dimond Library	1	3
College of Health and Human Services (CHHS)	1	3
UNH - Manchester Campus	1	5
College of Engineering and Physical Sciences (CEPS)	0	11
<b>Total</b>	<b>10</b>	<b>32</b>

## Issue

The Service Level Agreement model for UNH IT Help Desk support appears to be a disincentive for many of the UNH Colleges. The role of the ATL has not always stayed true to the intended mission. ATL positions were created to serve as instructional technology specialists that provide support to the pedagogical objectives of faculty rather than to provide Help Desk triage and tier-one desktop support.



# COLLEGES AND IT SUPPORT – RECOMMENDATION

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**Improve coordination with Academic Technology Liaisons (ATL). UNH IT functions (ECG, TCS, AT, etc.) should have an understanding of ATL activities.**

- Establish a reporting line between ATLs and UNH IT leaders to help support their efforts and improve consistency of services delivered.
- Enforce use of Remedy v7.6 across all IT support functions at UNH, including UNH IT, ATLs, and other non-UNH IT staff. This will require a training effort on behalf of UNH IT and communication on why it is important. ATL's should have priority access to UNH IT.
- Revise expectations for the ATL position to match current practices when reasonable and define new expectations where appropriate. ATLs are part of the UNH IT community based on their funding sources and structure. This should be clarified and communicated so that they understand the role that UNH IT has in supporting their activities.

## **Projected Outcomes**

- ✓ Improved coordination between UNH IT and ATLs.
- ✓ More efficient utilization of resources to serve UNH customers.
- ✓ Better ability track and close requests for service.

# IT STAFFING

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## Observations:

UNH has been challenged in filling certain new technical staff positions within the existing structural boundaries.



Distributed IT staff and UNH IT staff with the same job classifications may not be receiving the same level of performance reviews from their supervisors at UNH.



UNH IT faces an increased rate of staff and management departures in the next 10 years due to individuals reaching retirement age.

# IT STAFFING

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## Background and Relevant Facts

- UNH: Based on data provided by the CIO's office of Finance and Planning, the average compensation (including salary and benefits) for UNH IT staff is **\$87,669**. This average does not include the salaries of Senior Management.
- EDUCAUSE: Based on data provided in Figure 2-9 in the 2009 Educause Core Data Survey, the staff compensation (including salary and benefits, and adjusted using the regional multiplier) per FTE for IT staff at a DR EXT institution was in the **\$74,900 to \$98,700** range.
- UNH employs a professionally mature staff. Accordingly, many of the UNH IT staff are compensated at the higher end of their pay scale. This consumes funding and limits the ability for IT management to recruit highly qualified individuals to fill new positions.
- UNH-IT is beginning to adopt new performance evaluation criteria for IT staff that has not been adopted across the University. UNH-IT is an early adopter of this updated review process.

# IT STAFFING

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## Background and Relevant Facts

Additional salary data provided on the next page. Please note the following about this information:

- DICE equivalents are based on the Dice Salary Survey, published in January 2010.
- Robert Half equivalents are based on the Robert Half Salary Guide 2011.
- DICE and Robert Half figures represent national average salaries.
- BDMP assigned a regional multiplier of 119 (100 = national average) to UNH due to it's distance from Manchester and Boston, which have relative multipliers of 110 and 132.
- Equivalent job title is derived from Job Descriptions provided by UNH IT.
- Average Salary data is based on salary spreadsheet provided by the CIO's office of finance and planning. The following figures do NOT include benefits.

# IT STAFFING

## Background and Relevant Facts

Top 5 Positions in UNH IT (by headcount)			DICE Equivalent		Robert Half Equivalent	
Title	Count	Average Salary	Title	Average Salary	Title	Average Salary Range
Information Technologist III	39	\$ 64,137	Technical Staff *	\$ 85,281	Technical Staff **	\$66,119 - \$97,580
Information Technologist IV	35					
Information Technologist II	27					
Information Support Technician	8	\$ 38,321	Desktop Support	\$ 55,961	Desktop Support Analyst	\$55,335 - \$80,920
Sr. Information Technology Manager	8	\$ 92,672	MIS Manager	\$ 106,792	Manager	\$79,135 - \$110,373
Other Positions of Interest						
To be Filled - Project Manager	1	\$75 - 95,000	Project Manager	\$ 123,090	Project Manager	\$94,605 - \$135,065

- \* DICE Technical Staff Salary is based on a blended rate that includes the following average salaries: Database Administrator: \$91,283, System Administrator: \$71,576, Network Engineer: \$72,609, and Technical Support: \$51,193. This rate was then adjusted using a regional multiplier of 1.19 (119.0).
- \*\* RH Technical Staff Salary is based on a blended rate that includes the following average salaries: Database Administrator: \$72,750 - \$107,000, System Administrator: \$51,250 - \$80,250, Network Engineer: \$69,250 - \$98,500, and PC Technician: \$29,000 - \$42,250. This rate was then adjusted using a regional multiplier of 1.19 (119.0).
- Average Salary for UNH Information Technologists is weighted in accordance with headcount.

# IT STAFFING

## Background and Relevant Facts

- UNH's Strategic Plan identifies the UNH vision for 2020.
- A significant portion of experienced IT staff will be at or near retirement age in 2020.
- A recent HR study reports that the average employee age at UNH is 49.
  - With an average age of 44, UNH IT is lower than the average.
- Budget cuts and hiring freezes that resulted from the fiscal crisis continue to affect UNH's ability to train existing IT staff and to attract new talent.

Average Age of Staff by Department/Group	
Business Service Center	51
AVP Offices	51
Enterprise Computing Group	47
Telecom and Client Services	43
Academic Technology	40
Central IT (Overall)	44





# IT STAFFING

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## Issues

- Providing competitive IT compensation for highly-skilled staff will continue to be a struggle at UNH. The University is restricted because it is a State University operating in the public sector, and due to limited funding.
- Based on Educause data, it appears that many UNH IT staff are better compensated than their peers at other DR EXT institutions.
- UNH also could be at risk if IT staff with identical job classifications are not evaluated in a consistent and standard manner.
- The current staffing mix provides challenge and opportunity for UNH. The challenge will be to ensure that processes are documented and institutional knowledge is not lost as senior staff begin to retire. The opportunity will be for the organization to evaluate every staff transition in context of alignment with the vision of a project-driven, service-based IT department.

# IT STAFFING - RECOMMENDATION

Work to create consistent training, performance expectations, and evaluation practices across the entire UNH technology community.

- The technology community includes UNH IT, RCC, and other distributed IT.
- The evaluation of personnel should include both core technical competency and general skills that are needed for good service delivery such as:
  - Customer Service
  - Leadership
  - Communications
  - Problem Solving
- Seek to establish an enterprise-wide training program for the UNH technology community.
  - Take advantage of areas of expertise and economies of scale for improving purchasing power in acquiring third-party vendors such as New Horizons.
  - See the Vendor Management Recommendation.
- Work with the new Human Resources director to evaluate the current compensation structure for competitiveness and overall ability to attract quality staff.



## Projected Outcomes

- ✓ Establish consistency of performance evaluations for IT personnel across the UNH campus.
- ✓ Increase awareness of staffing compensation challenges based on proximity to Boston metropolitan area.



# UTILIZING BLACKBOARD

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## Observation:

UNH students indicated a strong desire for increased faculty utilization of Blackboard (Bb) to support delivery of education.

# UTILIZING BLACKBOARD

## Background and Relevant Facts

Increased use of blended learning tools is a strategic initiative at UNH.

Bb Availability Statistics at UNH	Fall 2009	Fall 2010	Growth
Courses	50%	54%	4%
Instructors Assigned to Courses	74%	80%	6%
Instructors* using basic Bb features	52%	85%	33%
Instructors* using advanced Bb features	6%	15%	9%

\*Percentage of Total Instructors that are active in Blackboard.

Basic Features statistic reflects average usage of the following features: Items, Files, Announcements, and Grades.

Advanced Features statistic reflects average usage of the following features: Links, Staff Info, Discuss Forum-Course, Discuss Msg-Course, Assess-Quiz, Assess-Quiz Question, Banner, Assess-Survey, Groups, Discuss Forum-Group, Assignments, Dropbox-Group, Assess-Pool, Discuss Msg-Group, Calendar, Safe Assign, Lessons, and Tasks.

## Issue

Only a portion of the UNH instructor population are utilizing Bb as an online learning tool. UNH has an opportunity to expand faculty usage of its primary Learning Management System and support the strategic goal of expanding online access to learning at UNH.

# UTILIZING BLACKBOARD - RECOMMENDATION

Encourage faculty to better utilize Blackboard (Bb) as a tool for delivering blended learning.

- Conduct a focus group with faculty to determine next steps and impediments to expanded utilization.
  - Identify faculty concerns about Bb and impediments to increased utilization.
  - Determine how to improve training provided during orientation for new faculty.
- Survey students to determine which Bb features are most desired.
  - Identify which Bb features to include as part of faculty training (i.e. FITSI).
- Leverage the Faculty Instructional Technology Summer Institute (FITSI) by establishing expectations for FITSI participants to share knowledge and support instructional technology efforts among peers.
  - Assign accountability for FITSI participants to increase usage of blended learning tools among peers. Track and communicate progress with Bb statistics.





# EMAIL SYSTEMS AT UNH

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## Observation:

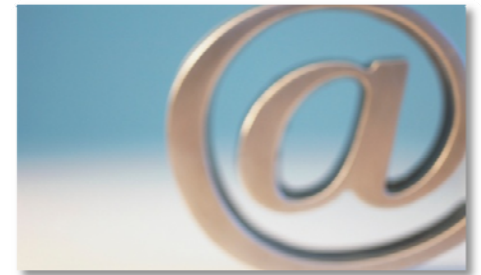
UNH has at least seven different email services today serving UNH faculty, staff, and students.

# EMAIL SYSTEMS AT UNH

## Background and Relevant Facts

The following UNH organizations run their own email systems today:

- |                                 |                |
|---------------------------------|----------------|
| • Cooperative Extension Service | • UNH IT       |
| • Research Computing Center     | – CIS Unix     |
| • Computer Science              | – Web Exchange |
| • Physics                       |                |
| • Inter-Operability Lab (IOL)   |                |



- UNH IT is moving forward with an agreement with Microsoft (MS) to migrate student email off of the UNIX based platform to MS Live.
- Email support can be one of the most time-consuming and complex services provided by an IT organization.
- Identity Management is a strategic initiative that will require an improved coordination of systems and user accounts at UNH. Email is a key element when establishing Identity Management standards.

## Issue

Email management and support is a time and resource intensive effort for UNH. This is also an important issue for Identity Management, service delivery, and resource allocation.



# EMAIL SYSTEMS AT UNH - RECOMMENDATION

**Work towards a common email environment and eliminate ancillary email systems.**

- Evaluate costs and options for outsourcing email for all UNH customers.
  - E-mail is a mission-critical application.
  - Support and maintenance is time-consuming and can be costly.
  - Expanding the current MS Live project beyond student email is an option.
  - Document security requirements to determine if vendors can sufficiently meet UNH needs.
- Consider customer needs.
  - Identify reasons and concerns among distributed email system owners to determine whether IT can meet their needs with existing resources.

*“ Increasingly, email and collaboration capabilities act as an organizations nerve center... An IT team must integrate and support all of these tools evenly. Any downtime could disrupt business operations, provoke customer complaints, and lead to lost revenue opportunity. ”*

- IDC. Achieving New Productivity Gains Through Unified Communications and Collaboration Solutions. January 2010.

## **Projected Outcomes**

- ✓ Provide UNH IT Security with better oversight and control.
- ✓ Provide an improved platform for emergency communications.
- ✓ Support Identity Management efforts through email consolidation.
- ✓ Reduce support costs.





# DATA CENTER SERVICES

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## Observation:

The Enterprise Computing Group (ECG) Data Center is not utilized to its intended capacity.

# DATA CENTER SERVICES

## Background and Relevant Facts

There are **79** Critical Applications (24 hour recovery window) running outside of the ECG Data Center. Examples include Health Services and Dining and Housing.

### The Good News

- ✓ 90% do have UPS devices
- ✓ 84 % do have Backups

### The Bad News

- ✗ 42% Do not have Air Conditioning
- ✗ 67% Do not have proper 'Application Access' logs
- ✗ 73% Do not have proper 'Recovery Scripts'
- ✗ 82% Do not have 'Physical Security Access' logs
- ✗ 82% Do not have 'Maintenance Contract' support
- ✗ 82% Do not track 'Problems'
- ✗ 86% Do not have Generator Backups

NOTE: This data is based on information gathered from the ECG Infrastructure Inventory Project Presentation (draft).

The Research Computer Center (RCC) maintains its own Data Center.

- Intended for Research Computing but has grown to host a broader range of applications.
- Based on inquiry, BDMP found no discernible difference in cost of hosting services provided by RCC as compared to the ECG Data Center.
- The RCC does not have comparable disaster recovery features or infrastructure as the ECG Data Center.

Distributed server owners report the following reasons for not using Data Center hosting services.

- "ECG does not provide 24x7 support."
- "Access to the Data Center is limited to only include a handful of authorized individuals, but these individuals do not have the expertise to support my specialized application."
- "I believe that I have more affordable options."

# DATA CENTER SERVICES

## Background and Relevant Facts

The ECG Data Center demonstrates alignment with the 2020 strategic plan.

- ✓ Energy Consumption
- ✓ Reliability
- ✓ Security



## Cost Comparison

- The Infrastructure Inventory Project provides cost comparison data (1<sup>st</sup> three columns below) .
- Telecom and Client Services (TCS) hosting services (4<sup>th</sup> column) are provided on the TCS website.

Cost Comparison				
	Non-Data Center Servers	UNH-IT Data Center "As Is" Servers	UNH-IT Data Center Virtual Machines (VM)	Telecom and Client Services VM
<b>One Time Cost</b>	-	\$2,045	\$1,753	\$1,325
<b>Annual Cost Est.</b>	\$2,600	\$1,549	\$1,000	\$1,000
<b>Savings over 5 years</b>	<b>Baseline</b>	<b>25%</b>	<b>48%</b>	<b>51%</b>
5 year savings = (\$2,600*5) – (one time cost + (5 x Annual Cost Est.)) / (\$2,600 * 5)				



# DATA CENTER SERVICES

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## Issue

UNH IT has built a sustainable, enterprise class Data Center; however, many departments continue to host critical applications in relatively unsecure and less reliable environments. This is an issue for the University with respect to data security, energy efficiency, and allocation of IT resources.



# DATA CENTER SERVICES - RECOMMENDATION

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## **Continue moving forward with UNH IT Infrastructure Inventory Initiative.**

- Success is contingent on gaining trust and credibility among distributed server owners.
- Create a clear message for communicating Data Hosting services to customers that indicates the total cost of ownership to the end users (including disaster recovery, staff resources, etc.)
- The RCC Data Center should not be considered as a competitor to those services offered by the UNH IT Data Center at Leavitt Hall.
  - RCC and UNH IT should coordinate activities and agree upon their target audiences.
- Server consolidation amongst distributed server owners that are resistant to change may require a business case analysis to determine whether or not the UNH IT Data Center services are beneficial.



## II. INTERNAL/UNH IT RECOMMENDATIONS



# IT SERVICE DELIVERY AT UNH

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## Observation:

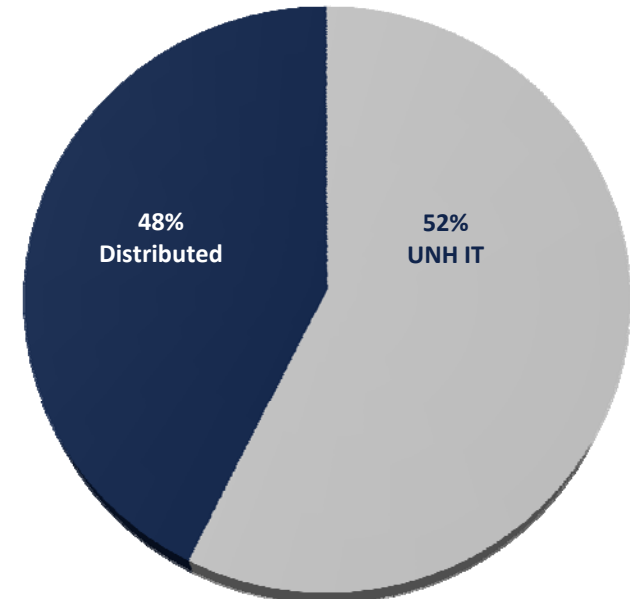
The current model of IT service delivery at UNH is split between central and distributed resources. The current model may result in an overlap of services and redundancy of staff responsibilities.

# IT SERVICE DELIVERY AT UNH

## Background and Relevant Facts

- IT Staff are split between distributed and centralized organizations.
- The current arrangement is designed to maximize the effectiveness of IT and is aligned with the RCM budgeting model.
- Challenges:
  - Enforcement of IT Policies and Procedures
  - Coordination of Purchasing Decisions
  - Coordination of Services
  - Communication
  - Project Management

IT Staffing Resources at UNH



## Issue

The current IT service delivery model challenges the ability for UNH IT leadership to coordinate resources. This impacts the ability of UNH to manage critical aspects of IT such as establishing consistent service expectations across the campus. However, UNH is a decentralized organization by design, which also lends itself to distributed IT services. The challenge then, is to find ways to best align the people, processes, and systems that make up the entire IT community at UNH.





# IT SERVICE DELIVERY AT UNH

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## Background and Relevant Facts

Services that may be duplicative within UNH IT include:

- **Tier One Help Desk support**
  - Help Desk (managed by Client Services and Telecom)
  - Computer Store (managed by Client Services and Telecom)
  - Library (managed by Academic Technology)
- **Operational Identity Management**
  - Blackboard (managed by Academic Technology)
  - Banner (managed by Enterprise Computing Group)
  - Microsoft Exchange (managed by Client Services and Telecom)
- **Consulting services for planning and project management**
  - TCS advertises the Premium Services Group for services “beyond those normally provided by UNH IT”; including IT Needs Assessment and Planning Services. Fee based Project Management services are provided to many SLA customers and include technical support.
  - The PMO also offers similar services at UNH.

## Issue

Our assessment identified areas where current UNH IT roles may be duplicative. This includes support of UNH IT customers, Identity Management at an operational level, and Project Management services. This may lead to confusion amongst UNH customers and makes coordination difficult.



# IT SERVICE DELIVERY AT UNH - RECOMMENDATION

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## Create an IT Service Catalog.

- Establish a Work Group that includes UNH IT and distributed IT management to develop and publish a comprehensive service catalog that identifies the following attributes for all IT services at UNH.
  - Customer/Audience
  - Fee (if applicable)
  - Service Provider/Owner
  - Point of Contact
- Assign a service catalog owner and expand job description and evaluation criteria to reflect this additional responsibility.
- UNH IT directors and distributed service provider management should be accountable for notifying service catalog owner of changes necessary to keep the catalog current.
- Consider existing technologies (Blackboard, Banner, Remedy, etc.) that will enable UNH to make the service catalog simple, navigable, and interactive (i.e. hyperlinked contact information).
- Two examples of IT Services Catalogs based on our peer research
  - <http://www.case.edu/its/ourservices/> - Case Western
  - [http://www3.uits.arizona.edu/services\\_catalog](http://www3.uits.arizona.edu/services_catalog) - University Of Arizona

# IT SERVICE DELIVERY AT UNH - RECOMMENDATION

## IT Services Map - Introduction

BDMP's intends for the UNH IT service map to provoke discussion about opportunities to improve the efficiency and effectiveness of IT service delivery at UNH. Upon creation of the initial service map, BDMP reached out to IT leaders in represented departments to gather feedback, which was then integrated into this most recent version of the IT service map.

Once all relevant feedback had been incorporated into the service map, BDMP began to identify those services that are provided by more than one IT service provider. In doing so, the following factors were considered:

- Customers: UNH, USNH, UNH Research, Non-UNH (External Business)
- Purpose: Is this service actually duplicative? Is the decision to provide this service in two places strategic?

Based on this review process, BDMP categorized duplicative service areas based on the following color scheme.

<b>Indicates an area where duplicative services are provided. In <u>most</u> cases, the yellow cells would become green if the corresponding duplicate service (the red cell) were eliminated or aligned.</b>
<b>Indicates an area that provides duplicative services, and it is likely that there is an opportunity to streamline services.</b>
<b>No services offered for this category.</b>
<b>Based on interviews &amp; documentation collected from UNH, service seems appropriate for this provider.</b>
<i>Unless noted, services are provided to UNH customers only.</i>

BDMP anticipates that there will be additional feedback, and urges audiences to consider this a working document. While details are important, it will be most productive to maintain focus on the primary objective, which is to identify ways to streamline services in a way that optimizes the efficiency and effectiveness of IT service delivery at the University. Please refer to Appendix A for the Service Map.



# HELP DESK MANAGEMENT

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## Observation:

UNH does not have a fully centralized help desk ticketing system and IT services are provided by multiple organizations that are not always coordinated in their efforts.



# HELP DESK MANAGEMENT

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## Background and Relevant Facts

- Educause Core Data (FY 2009) indicates that peer institutions (DR EXT) have help desk hours that range from 60 hours to 90 hours per week. Currently, the UNH Help Desk is available from 7:30 AM to 5:00 PM, Monday to Friday by phone for a total of 47.5 hours. However, Tier One support is available in the library 7 days a week and is open 73 hours per week.
- The UNH IT Help Desk is upgrading to Remedy v7.6 for ticketing calls and managing intake.
- UNH IT is documenting as-is processes in support of developing an IT Service Management (ITSM) model. This fits with the focus on ITIL standards and it is expected that an IT Service Catalog will be created as a result of the process documentation and the Help Desk upgrade.
- Other IT support entities on campus (RCC for example) use their own help desk system, while others do not have a standard system for tracking requests (COLA – ATL for example).

## Issue

UNH IT seeks to move from a “siloesd” organization to a service-focused entity that can provide project-based services to its customers. This aligns with the ITIL/ITSM delivery model. An IT Service Catalog should not be seen as an end point, but the beginning step in evaluating current IT service offerings vs. desired and/or expected IT service offerings.

As part of its vision to improve services, UNH IT has adopted ITIL standards for IT Service Management (ITSM). The upgraded ticketing software (Remedy) aligns with this objective. However, UNH currently lacks central coordination of all IT help requests to support better metrics of Help Desk requests and service calls.



# HELP DESK MANAGEMENT - RECOMMENDATION

## Create a Single Point of Contact (SPOC) for Help Desk Intake.

- Consolidate processes and services through the continuation of the ITSM program.
- Work with Distributed IT resources to gain buy-in for using Remedy.
  - Identify a senior UNH IT liaison to reach out to all IT units on the benefits of ITSM and the long-term goals of establishing ITIL standards.
- Train all IT support personnel to use Remedy v7.6.
  - Provide comprehensive training that includes applicable advanced features.
  - Integrate Remedy usage assessment in personnel evaluations to enforce adoption.

### **Best Practice**

*The [ITIL framework](#) asserts that, “the Service Desk is a single point of contact (SPOC) for end-users who need help. Without this single point of contact an organization would face major losses in time spent on looking for ways to fix issues and get help.”*

### **Projected Outcomes**

- ✓ Unified Help Desk Operations:
  - ✓ Increase efficiency and effectiveness of support services by pooling resources and increasing visibility.
  - ✓ Provide improved communications with PMO that serves to support the Project Intake Process.
- ✓ Unified Help Desk Ticketing System:
  - ✓ Provide meaningful information about Help Desk usage and effectiveness.
  - ✓ Increase awareness of problematic trends and enable management to investigate and respond to underlying issues in an effective and informed manner.



# INFORMATION TECHNOLOGY SPENDING

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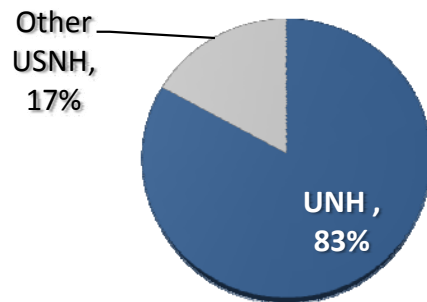
## **Observation:**

UNH IT has limited flexibility in its ability to prioritize spending due to a number of internal and external factors.

# INFORMATION TECHNOLOGY SPENDING

## Background and Relevant Facts – UNH IT vs. USNH IT:

### USNH IT Expenditures



- UNH IT expenditures account for the vast majority of total USNH IT spending.
- UNH has 25% of the USNH IT decision voting power.
- Educause reports that in FY2008, central IT expenditures accounted for **4%** of total campus expenditures in DR EXT institutions. (This data was not included in the most recent FY2009 Educause results).
- UNH reports that in FY 2009 and FY 2010, IT expenditures accounted for approximately **6%** of total campus expenditures.
- Maintaining Existing Services accounts for **83%** of UNH IT Expenditures.
- Upgrades/Maintenance account for **10%** of UNH IT Expenditures.
- New Investments account for **7%** of UNH IT Expenditures.





# INFORMATION TECHNOLOGY SPENDING

## Background and Relevant Facts

- According to information provided from the FY10 IT Budget, the current ratio of operational to new spending (non-discretionary vs. discretionary) for UNH IT is **93% - 7%**, respectively.
- According to Forrester Research, most IT organizations have an operational spend in the **70-80%** range. (Please note that this is not Higher Education specific.)
- UNH IT would have to reallocate \$5.6M to New Investments in order to achieve a **75% - 25%** spend ratio.
- UNH IT is focused on improving the visibility of the organization at UNH and in increasing the perceived value of its services to the UNH community. Expanding discretionary spending for IT investments is a critical component of this effort.
- UNH IT seeks to shift emphasis away from administrative and commodity support services (maintenance) and towards academic and value-added services such as blended learning.

*“part of the IT budget [has] to be viewed like the utility budget, where costs in the short term are out of the institutions direct control and therefore difficult to cut to the same degree as other parts of the operating budget.”*

(Educause 2009,  
Managing the Funding Gap)



# INFORMATION TECHNOLOGY SPENDING

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## Issue

Spending on technology is constrained due to a number of factors, including existing project commitments, limited visibility into distributed technology purchasing, and living up to expectations that come with being the largest IT presence in the USNH community.



# IT SPENDING - RECOMMENDATIONS

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## **Create new opportunities for discretionary spending by reducing current operational spend.**

- Implement other recommendations included in this report, which are intended to support the move from commodity IT spending to value-added IT spending.
- Administrative computing should be evaluated for ways to gain efficiencies and reduce costs. This includes, but is not limited to, savings gained by changing the approach to customization of Banner, management of email operations, and other IT areas that are non-differentiators for UNH IT.
- Work with the proposed UNH IT Steering Committee to develop a spending ratio that seeks to change the level of discretionary spending by gaining efficiencies in operations that allow for the organization to become more agile in meeting the needs of the UNH community.



# VENDOR MANAGEMENT

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## **Observation:**

UNH IT purchases services, software, and hardware from a variety of vendors in a way that may not take full advantage of its buying power.

# VENDOR MANAGEMENT

## Background and Relevant Facts

- In FY 2010, UNH IT had **176** vendors that were paid more than \$2,500.
- Table (right) is based on vendor expenditure data provided by the CIO's office of Finance and Planning.
- USNH recently implemented an e-Procurement system.
- It was reported that currently UNH IT is not involved in many IT purchases made by Colleges and other IT stakeholders at UNH.
- Eight of the top 21 vendors are telecom providers, many of which provide the same types of services.

Vendors Accounting for Over \$100K in Central IT Expenditures		
<i>Telecom vendors are highlighted.</i>		
1	Dell Marketing L.P.	\$ 2,741,872
2	Apple, Inc.	\$ 2,155,434
3	Adaptive Communications	\$ 625,184
4	Oracle America, Inc.	\$ 597,194
5	SunGard Higher Education, Inc.	\$ 452,159
6	Verizon Network Integration Corp	\$ 346,454
7	University of Maine - Orono	\$ 321,528
8	FairPoint Communications, Inc.	\$ 305,140
9	D & H Distributing Co.	\$ 285,793
10	Blackboard, Inc.	\$ 227,673
11	AT&T Mobility	\$ 222,197
12	New England Communications, Inc.	\$ 216,217
13	Verizon	\$ 172,591
14	G4 Communications Corp	\$ 172,191
15	SAP America, Inc.	\$ 155,671
16	Cisco Systems, Inc.	\$ 154,258
17	Advizex Technologies, LLC	\$ 129,021
18	Software House International - SHI	\$ 124,790
19	TelJet Longhaul, LLC	\$ 107,393
20	Paetec Communications, Inc.	\$ 105,684
21	Global Crossing	\$ 105,033

# VENDOR MANAGEMENT

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## A Recent Example

UNH had two primary providers for MS products.

1. Academic Technology
  - Annual discount agreement for MS Office based on volume. Since 2005, the number of licenses has grown from 150 FTE to 758 FTE. This includes student workers.
2. The Computer Store
  - Used by other faculty, staff, and students – users included UNH IT groups.

- In late 2010, UNH entered into a Microsoft Enterprise Client Access Agreement (ECAL). This includes Anti-Virus (AV) and has enabled the IT department to eliminate a previously separate AV vendor and reduce costs. IT has also begun to consolidate departmental MS Office licensing under a single agreement.

## Issue

The Microsoft decision may be indicative of more opportunities for campus-wide purchasing. UNH IT should seek more opportunities to consolidate other software agreements. The ECAL Agreement is an example of cost savings that can be achieved by aligning/consolidating purchasing arrangements.



# VENDOR MANAGEMENT - RECOMMENDATION

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**Create a central group that manages software license purchases to maximize purchasing power across the UNH technology community inclusive of both UNH IT and distributed IT leadership.**

- Improve coordination of purchasing between UNH IT and RCC as well as other IT resources.
- Evaluate agreements with vendors to determine if current costs can be reduced. For example, if Banner is unable to provide product support due to the heavy customization of the current version used, then SunGard support costs should be reduced to reflect this reduced support.
- Work with Business Service Center (BSC) to coordinate efforts.

## **Projected Outcomes**

- ✓ Maximize UNH purchasing power
- ✓ Improve coordination of technology projects and activities
- ✓ Seek to create fewer, but stronger relations with IT and Telco vendors



# PROJECT INTAKE PROCESS

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## Observation:

UNH is working to establish a consistent and understandable intake process for prioritizing and managing IT project requests.





# PROJECT INTAKE PROCESS

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## Background and Relevant Facts

Stakeholders (within and external to UNH IT) voiced the following frustrations:

- The length of time that it takes to establish and initiate projects.
- The lack of a streamlined process for intake of projects.
- The lack of a streamlined process for management of projects.

The Project Management Office (PMO)

- Relatively new organization that is working to understand and prioritize existing projects.
- Reports at least 350 projects “on the books.”
- Posts the highest priority projects on the UNH IT website and provides regular status [updates](#).
- Has identified Team Dynamix as the preferred product for Portfolio Management.

## Issue

Portfolio Management tools will be critical to streamlining the project intake process at UNH; however, the project intake process will need to be improved in order to effectively leverage this software investment.



# PROJECT INTAKE PROCESS - RECOMMENDATION

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## Assess the viability of having 350 projects in the queue.

- UNH has created a Project Management Office (PMO) and is on the right track with this effort.
- Improve the intake process and strengthen the PMO effort.
  - PM standards need to be developed and communicated that allow for a consistent, transparent process to evaluate, assess and determine technology project priorities. This will impact other recommendations in this report, including streamlining IT committee functions, improving Help Desk Ticketing, and coordination with other IT groups at UNH.
  - Develop clear definitions on what is a “Project” and what is a “Work Order”. The Team Dynamix software should be utilized for all projects under PMO management. Similar to our recommendation to use Remedy across the UNH IT community for Help Desk Ticketing, Team Dynamix should become the de facto tool for all IT projects at UNH, not just UNH IT to allow for an enterprise wide view of activities.
  - Finalize a scorecard for measuring project value as part of the intake and review process. The PMO should require a project “brief” be developed and approved that outlines the business case for why this project is critical to the business area that has requested funding, technical support, technology, etc.

# PROJECT INTAKE PROCESS - RECOMMENDATION

The project brief should include the following key elements:

- Scope, Schedule, Cost (based on Project Management Body of Knowledge - PMBOK Triple Constraints)
  - Cost should include staff resources, the back-fill for those staff while they're on the project, software, hardware, and service costs.
  - Does this project request articulate the “Total Cost of Ownership” and what is unfunded?
  - The brief should include a five year projection for costs.
- Identify how the project will result in improved efficiencies for the business area.
- Does this project fit within the strategic vision of the UNH 2020 framework and how?

We have always grappled with scope and are deliberately evolving this issue gradually; we are 4 years into the process. We use a project initiation form and a gateway process for helping to determine the decisions about project versus work order.

Of the 415 projects we have going on right now, 140 are actual projects – the rest are work order items.

We have 2 main filters for consideration:  
Cost -- hard and fast numbers  
Effort – number of FTEs required

*Interview with Lev Gonick, CIO, Case Western – talking about Project Intake Process*

## Projected Outcomes

- ✓ Clear understanding and definitions for projects vs. work orders.
- ✓ Streamlined intake process that is transparent and equitable.
- ✓ Establish UNH IT as the PMO best practice site for the University.



# BUSINESS PROCESS ANALYSIS

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## Observation:

UNH does not consistently employ business process analysis methods and techniques for IT projects.

# BUSINESS PROCESS ANALYSIS

## Background and Relevant Facts

- UNH IT is seeking to improve cross functionality and focus more on services.
- It was reported in some stakeholder interviews that UNH used to employ business analysts.
- UNH IT has not established business analysis positions as part of its project management team.
- UNH IT has been challenged with end users not fully understanding the “Total Cost of Ownership” (TCO) concept when developing a project charter and plan.

### Two Examples of Recent Past Projects

#### Paperless Admission Process

- ✓ Director of Admissions and the Director of the Enterprise Computing Group nominated it for the 2008 SunGard Higher Education Award for Institutional Performance.
- ✓ The success of this project was attributed to various factors, including the use of consulting services to align business processes with available technology.

#### Banner Advancement Implementation

- ✗ Did not focus on business processes.
- ✗ Banner Advancement users still experience issues today, which causes substantial rework efforts.

## Issue

The end user at UNH should be expected to know “their business,” but it is not realistic to expect that end users have the background to translate business needs into technical requirements. This is the role of a skilled business analyst. Given the increased focus on customer service and the desire to expand project management best practices at UNH, business analyst skills at UNH need to be strengthened.



# BUSINESS PROCESS ANALYSIS - RECOMMENDATION

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**Develop and consistently use standard practices for documentation of business requirements and functional design.**

- Create templates that will guide end users in establishing requirements and other critical project elements. This could include the following project components:
  - Business Objectives
  - Value Proposition
  - Benefits
  - Risks
- Business analysts have the ability people to speak “business and IT.” UNH IT should seek “partners” in developing designated Business Analysts throughout the University. For example, with business analyst training, the ATLS would appear to be a natural fit to provide some of these services because of the depth of their institutional knowledge for the schools they work with.

## **Projected Outcomes**

- ✓ Standard templates to assist end users with documenting business requirements.
- ✓ Leverage skills and expertise from other areas of the University such as WSBE.
- ✓ Establish a culture of continuous quality improvement.



# BEST VALUE FOR STAKEHOLDERS

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The following bullets recap feedback we received from stakeholders regarding what they perceive gives them the greatest value from IT:

- Continue to build the UNH IT brand and remove “CIS” from website and other mediums where applicable.
- People want technology to work and to be “invisible.”
- Students want their professors to use Blackboard.
- Research faculty and business services want access to their data 24x7.
- The Library is a centerpiece of student activity and, therefore, IT services provided there are a critical “selling point” for IT at UNH.
- Distributed technology resources should be focused on providing services that are either outside the skill sets of UNH IT or are not cost effective for UNH IT to provide directly.
- The process for IT decision-making should be transparent and accessible.
- UNH IT wants to be more agile and innovative to meet the needs of all the campus stakeholders in the 21<sup>st</sup> century.

# REFERENCES

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BDMP interviewed UNH IT stakeholders and UNH IT staff. In addition, a number of data points were used to support the observations made and issues identified in this summary.

Data was collected from UNH IT Directors and staff, as well as other contributors on the campus. Other references included:

- Five Essential Metrics for Managing IT (Forrester Research, 2008)
- The Tower and the Cloud – Higher Education in the Age of Cloud Computing (Educause, 2008)
- Managing the Funding Gap: How Today’s Economic Downturn Is Impacting IT Leaders and Their Organizations (Educause, January 2009)
- Responding to Recession: IT Funding and Cost Management in Higher Education (ECAR, July 2010)
- Educause Core Data Service Fiscal Year 2009 Summary Report (Educause, October 2010)
- 2009-10 Tech Salary Survey (Dice, October 2010)
- 2011 Salary Guide (Robert Half, 2010)



		UNH IT Service Providers					
		Project Management Office	Academic Technology	Enterprise Computing Group	Telecom & Client Services	Research	Distributed Technology
Services	Instructional Services		Parker Media Lab				
	Audio-Visual Services		Video Conferencing, Special Event Support, Classroom Technology Support.		Granite State Distance Learning Network		Specialized Classroom Technology Support
	Consulting	<u>UNH &amp; USNH</u> Project intake, resourcing, & execution	A/V Consulting	<u>UNH &amp; USNH</u> VM Ware Data Backup/Restore Desktop/Server/Database Enterprise Computing Services Security Vulnerability Assessment Custom Security Consulting & Design	<u>UNH &amp; USNH</u> VM Ware Data Backup/Restore Desktop/Server/Database	Proposal Development, Contracts, Grants, Commercialization Opportunities	Faculty Support VM Ware
	Project Management	<u>UNH &amp; USNH</u> Project intake, resourcing, & execution		<u>UNH &amp; USNH</u> Upgrades, Enterprise Systems			
	Data Center/Hosting			FAMIS VM Ware Blackboard Mgmt. Reporting Banner Systems	Virtual & Physical Servers	DNS, E-mail, Research Computing systems	Specialized Systems hosted in non-Data Center environment Ex. Library, Housing (Bb)
	Server Administration/Support		UNHINFO Student & Academic Dept. Computer Labs	Banner, Mgmt. Reporting Blackboard	<u>UNH &amp; USNH</u> Remedy, CIS UNIX, Microsoft Exchange, Office Communicator SharePoint (Enterprise) McAfee Antivirus/Spyware Bomgar Remote Desktop Support KACE Asset Management (SLA Clients Only) Workshop Scheduling & Registration (Abby)	Research Customers & UNH System Administration, Security Administration	FAMIS Blackboard (Housing) "Home Grown" Servers
	Email				<u>UNH &amp; USNH</u> Aliases Microsoft Exchange, Blackberry Mobile Devices, WebMail (CIS UNIX) / MS Live Migration,	MS Open Source	MS Open Source
	Help Desk		ITSC at Dimond Commons	Level 2+ Services	<u>UNH &amp; USNH</u> Usability Testing, Telephone Operator, Remedy Ticket System, ITSC Supervisor Rotation, Computer Repair Services, Remote Desktop Support (Bomgar),	<u>Research Customers</u> Desktop Support Level 2+ Support Specialized Technology Support	Level 2+ Support, Desktop Support, Specialized Technology Support
	Networking/Voice				LAN, <u>USNH</u> WAN, Access Control, Voice Network, Mobile Devices, Intrusion Detection, Call Management System, Avaya Modular Messaging, Physical Plant Infrastructure, Digital Millennium Copyright Act Pinnacle – Work Order Processing/Billing Infrastructure Monitoring & Management Security Vulnerability Assessment Custom Security Consulting & Design	12 subnets of the UNH.edu domain	
	Software		Academic Applications (i.e. SAS & SPSS) Web Solutions		MS Campus Agreement Apple Campus Agreement Computer Store (MS, Apple, Adobe, etc) McAfee AntiVirus/ePO (UNH & USNH)	<u>Research Customers &amp; UNH</u> Development Requests	Specialized Academic Software
	Training		FITS!, Blackboard, Distance Learning	Management Reporting	<u>UNH &amp; USNH</u> Vendor Outsourced Training Enterprise Sys & Common Software, Institutional Usage/Policies/Procedures,	Ad-hoc training	Specialized training/support for Classroom Tech.
	Website		Web Solutions			<u>Research Customers &amp; UNH</u> Website development services	
Fee for Services	No	AV, Web Solutions, Computing Clusters	Data Center Hosting, DB Administration	Yes	Data Center Hosting, Software Development	No	



# IT Assessment – Benchmarking Report

## Appendix B

January 7, 2011

### Prepared for:

The University of New Hampshire – Office of the CIO  
Durham, New Hampshire

BERRY.DUNN.MCNEIL & PARKER





## Technology Assessment - Benchmark Report

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## Approach

BDMP worked with UNH’s CIO to develop a set of questions for the technology leaders at some of UNH’s peer institutions. UNH selected three peer institutions; including Case Western Reserve, the University of Arizona, and Georgia Tech.

The questions are organized into six categories, including technology landscape, academic technology, project management and business process design, organization, funding and finance, and closing questions.

BDMP began this process by conducting preliminary research to gain familiarity with the prospective institutions and to gather basic information about the organizational structure and size of the institution. Once BDMP identified the appropriate interviewee (the highest ranking IT leader), BDMP contacted the designated individuals and scheduled time for interviews.

All interviews were conducted by phone. The average interview lasted approximately one hour and 15 minutes. BDMP followed up with interviewees to clarify answers and statements as needed. BDMP addressed each question with each interviewee. In some cases, certain questions were deemed non applicable by the interviewee. Feedback is provided as heard from the interviewee. BDMP did not manipulate data or modify language for comparability. Answers are representative of the respective IT leader’s perspective and are not the opinion of BDMP.

## Interviewee – Contact Information

<b>Case Western Reserve University</b>	
Lev Gonick, Vice President, Information Technology Services and Chief Information Officer Email: lsg8@case.edu Phone: 216.368.1025 / Cell: 216.835.9809	
<b>University Of Arizona</b>	
Michele Norin, Chief Information Officer Email: norin@email.arizona.edu Phone: 520.621.5972	
<b>Georgia Tech</b>	<b>Georgia Tech</b>
Mr. Jim O’Connor (Interim) Associate Vice President for Information Technology / Associate Vice Provost Information Technology Email: jim.oconnor@oit.gatech.edu Phone: 404.894.0498	Dr. Tom Maier, Sr. Director Special Projects – IT Division of Administration and Finance Email: tom.maier@carnegie.gatech.edu Phone: 404.385.7712

The Quick Facts Table on the following page provides key data points for each of the peer institutions and is followed by an overview of interview feedback. Questions are listed sequentially with responses categorized by each institution.

**UNH and Selected Peers: Quick Facts**

	Case Western Reserve	University of Arizona	Georgia Tech	University of New Hampshire - Durham
<b>Student Body</b>	9,837 students	38,767 students	20,291 students	14,469 students
<b>Total Campus Expenditures</b>	\$900 M	\$1,500 M	\$1,200 M	\$509 M
<b>Total IT Expenditures (\$)</b>	\$38 M	\$94 M	Not disclosed	N/A
<b>Central IT Expenditures (\$)</b>	\$26 M	\$50 M	1/3 of Total IT	\$31 M
<b>Central IT Spending per Student</b>	\$2,643	\$1,290	N/A	\$2,143
<b>Central IT - FTE Employees</b>	116	<a href="#">201<sup>1</sup></a>	220	176
<b>Students per Central IT FTE</b>	85	193	92	82
<b>IT Leader</b>	CIO	CIO	CIO	CIO
<b>IT Leader Reports to</b>	Provost and Executive Vice President	Provost	Executive Vice President of Administration & Finance <sup>2</sup>	VP of Finance and Administration
<b>System School</b>	No	Arizona Board of Regents <i>Includes 3 institutions.</i>	University System of Georgia <i>Includes 35 institutions.</i>	UNH System <i>Includes 5 institutions</i>

<sup>1</sup> In addition, there are 75 student consultants working for the IT department.

<sup>2</sup> Dotted line, this position reports to the Provost and to the Executive VP for Research

## University of New Hampshire IT Peer Research

### Interview Questions and Responses

#### ***Technology Landscape:***

#### **1. What financial, student, e-mail and help desk systems are in use today?**

##### Case Western Reserve

- Financial – PeopleSoft
- Student - Google apps
- E-mail – Google apps
- Help Desk – Help Desk is outsourced

##### University Of Arizona

- Financial – CAFRS Quality Financial
- Student – Currently going to PeopleSoft Student – about 50% converted. The University of Arizona originally had hybrid, older systems patched together and were not satisfied with the results.
- E-mail – For faculty: Microsoft exchange in the Cloud; for students: g-mail (did this about a year ago)
- Help Desk - Remedy

##### Georgia Tech

- Financial – Oracle PeopleSoft 8 and using PeopleSoft 9 in HR
- Student - Banner
- E-mail – Campus is using Zimbrow; Research is using Microsoft Exchange and there are pockets of Exchange elsewhere
- Help Desk – Transitioning from Remedy to Numara Footprints. Remedy just did not do what GA Tech wanted it to do. ITIL concepts are embedded in the new system.

#### **2. Do you outsource any enterprise systems?**

##### Case Western Reserve

- Currently Case Western Reserve is outsourcing e-mail and Help desk, but we are heading to alternative sourcing.
- The University has an RFP out for Network as a Service and plans to put and RFP out for learning platform – currently using BlackBoard.
- Case is currently also testing a potential platform for video content.

##### University Of Arizona

- The University of Arizona does not. E-Mail will be the only one.

##### Georgia Tech

- None at the current time. GA Tech is evaluating the idea of outsourcing HR systems. GA Tech is at the very beginning stages of planning potential outsourcing. The University plans to do an infrastructure study within the next year to help determine the needs campus wide.
- There are some modules in the Cloud that were add-ons to current systems.

**3. Do you outsource any mission critical technology services?**

Case Western Reserve

- Security monitoring is outsourced to IBM.

University Of Arizona

- No, but The University regularly explores the idea and evaluates based on cost. All is currently in house. The University runs its own network. The University is converting slowly to VoIP.

Georgia Tech

- In HR, performance management is outsourced.
- GA Tech also outsources applicant tracking, transcript ordering as well as some case management tools.
- E-procurement is outsourced with SyQuest. Although the entire University System is doing an implementation of SyQuest, GA Tech is doing its own, customized implementation.

**4. Is virtualization in production? If so, what percentage is virtualized?**

Case Western Reserve

- Case is engaged in virtualization and is about 30% complete.
- The University is evaluating virtualization for ERP, but it does not seem as “happy” in virtualization

University Of Arizona

- The University has a virtualization plan, and about 60% is virtualized.
- Some servers housed in some departments are not virtualized at all.

Georgia Tech

- The University actually has no idea about percentages.
- There are a couple hundred servers on campus. Anyone who wants a server has one.
- GA Tech is also doing a lot of desktop virtualization; the College of Engineering uses a desktop application for virtualization.
- Server virtualization is growing.
- IT at GA Tech does not consider these servers as “rogue.” Each College is its own kingdom; and Central IT’s role is to collaborate to serve the needs of the Institution and the Colleges. Each department or college determines whether or not Central IT will host the server.

**5. Is server hosting consolidated into a single data center? Or are departments and/or colleges hosting their own servers?**

Case Western Reserve

- There are 2 data centers on campus where most servers are housed.
- Some schools host their own – two schools do not host any
- In the Medical School there are 2 data centers.

University Of Arizona

- The data center is housed in IT, although some departments house their own servers.

Georgia Tech

- There are two main data centers in Central IT: a data center that houses Enterprise Systems, and a business continuity data center the replicates the other.
- There are a number of other data centers around campus.

**6. What types of community source or open source software are used today?**

Case Western Reserve

- Case does not have much that is community source.
- All portal technology is I-Google, with a lot of common related “widgets” added on.
- Case largely looks for alternative strategies and solutions that are standards-based.

University Of Arizona

- The University uses typical ones such as Lenux and other middle-layer type products.
- The University also uses Quality Systems’ end-user financial and grants management systems. The University of AZ and Quality Systems are early partners in this initiative and systems are somewhat in beta form.

Georgia Tech

- In keeping with a University goal to improve the use of academic technology, many options are offered to faculty from which they can choose. Symbian, Moodle and Sakai are currently in use.
- On campus, there is also use of an open source Office Suite.

**7. Do you have an IT Services Catalogue? Is it based on ITIL Standards?**

Case Western Reserve

- Yes, Case Western Reserve has an IT Services Catalogue at <http://www.case.edu/its/ourservices/>
- It embraces the standards, it is largely there, but may need more work to completely adhere to ITIL standards.

University Of Arizona

- Not 100% -- it is more of a hybrid catalogue/list. It is at [http://www3.uits.arizona.edu/services\\_catalog](http://www3.uits.arizona.edu/services_catalog)
- Some of ITIL concepts have been incorporated. Staff went to workshops with HP about this topic.

Georgia Tech

- There is actually more of a list than a catalogue. See <http://www.oit.gatech.edu/services>.
- GA Tech is looking at developing a true IT Services catalogue. The current one used by OIT is not based on ITIL, but are looking into ITIL standards for the future catalogue.



## Academic Technology

### 8. What percentage of faculty utilizes the learning management system?

#### Case Western Reserve

- Blackboard is currently used in 80% of courses, with 80% of instructors using it. The levels of sophistication in use by faculty varies widely.
- The School of Medicine has its own customized Learning Management systems which is utilized 100%

#### University Of Arizona

- Most courses are represented in D2L and there is about a 91% penetration, but some are not too sophisticated.
- Each faculty member can decide whether or not to use D2L, and it is not required.
- Once the learning management system was implemented, IT was caught off guard by the spike of demand and usage.

#### Georgia Tech

- Over half of the faculty uses a learning management system. GA Tech does not have exact numbers.

### 9. Does the University incentivize and/or mandate faculty to adopt new instructional technologies?

#### Case Western Reserve

- The University kicked off instructional technology about 10 years ago, and is taking a cultural approach. It is not incentivized or mandated. There is a lot of information sharing among faculty and there is an instructional design team helping teachers put their courses online. No particular technologies are mandated. Various options are offered, from which faculty can choose.
- There is a level of expectation for teachers to adopt the technologies.
- Faculty has access to Media Vision Courseware (for use with or without Blackboard) for large freshman classes, and The University offers a lot of support for use of that.
- There are two additional learning committees; one works on methodology, and one works on platform technology) One is working on evaluating and testing Moodle as an option to offer faculty.
- Most training for instructional technology is one-on-one.

#### University Of Arizona

- Incentives revolve around providing forums/days for information sharing among faculty. Early adopters' results persuade others.
- Early incentives were offered about 5 years ago, in the form of free support, but not money.
- The University continues to provide support personnel to help faculty use or convert their courses to D2L.
- The University would like to do more validation before we mandate anything like this for faculty.

#### Georgia Tech

- Georgia Tech does not really incentivize the use of instructional technologies. There is a challenge in dealing with a balance between teaching and research throughout the university.
- There is a Center for Excellence in Teaching and Learning that provides comprehensive support to faculty who are interested in instructional technologies.

**10. What types of instructional learning training opportunities are made available to faculty?**

Case Western Reserve

- When Case Western first started learning technologies, there were a lot of individualized coaching sessions as well as workshops for BlackBoard.
- For Moodle, each faculty member has real-time one-on-one support.

University of Arizona

- Training is provided mostly in the form of one-on-one support from the Office of Instruction and Assessment, the support organization for faculty for adopting online learning technologies.
- There are also faculty sharing days.
- The University has technology days and workshops around tools.

Georgia Tech

- The Center for Excellence in Teaching and Learning sponsors technology and methodology training as well as one-on-one coaching and support.
- The Center also offers seminars and workshops in a new prototype classroom with state of the art learning technologies.

## Project Management and Business Process Design

### 11. Do you have a Project management office?

#### Case Western Reserve

- Yes; it is “owned” by the CIO, and related to it, the CIO reports to the COO
- Right now PM office is in IT only.
- It is a very important piece for how IT operates. PM is responsible for over 400 projects and work orders as well as professional development of staff related to technology.
- PMO drives ITIL methodology.
- PMO is very focused on internal consulting.

#### University of Arizona

- No, The University does not have a PM office. In general, Executive Management makes sure that each project has mission, goals, and measures; then let the people involved in the project determine how they want to go about doing it.
- The University tried a PM office, but it failed miserably. Whether The University tried to initiate it internally or through the use of supporting consultants, the initiative could not get the personnel in IT to accept it. There was some feedback that it was too cumbersome for agile decision making.
- Some people or departments are using Microsoft Project and other tools.
- When asked, The University will often match a functional expert with a project management consultant.

#### Georgia Tech

- No; GA Tech is trying to pull one together. 15 years ago, there was a central PM office, but it lasted for 8-9 years and was broken up.
- In the spring of 2011, IT will evaluate the creation of a Central PM office.

### 12. Are you using a Portfolio Management tool?

#### Case Western Reserve

- Case is sort of using one for decision support, looking at financials and time allocation among projects at a high level only.
- The University has not found good Software as a Service platform for higher education yet, and it is looking for one.
- Work order tools are used for incident management.

#### University of Arizona

- In general, IT and The University make sure each project has mission, goals, and measures; then let the people involved in the project determine how they want to go about doing it.
- There is some use of a set of tools we created for ourselves called MOSAIC. It helps us provide a lighter approach to tracking multiple projects by evaluating:
  - Is the project on time?
  - How are multiple projects using resources?
  - Are the projects on budget?

Georgia Tech

- No; GA Tech mostly uses Excel in an effort to track time and resources.

**13. Are you using a standard Project Management methodology?**

Case Western Reserve

- Case uses a consulting group called Building Block.
- Case also has embraced some of the Scrum methodology and use ITIL as the rational process method.
- Case needs PPM tools that are more granular.

University of Arizona

- In general, IT makes sure that each project has mission, goals, and measures; then let the people involved in the project determine how they want to go about doing it; assistance is provided with project management consultants, as requested.

Georgia Tech

- GA Tech has what it considers a “hybrid” for of PM methodology. “We took PM methodologies and lightened them up.” GA Tech uses charters, project initiation, and some structures and tools, but do not want to be weighed down by a cumbersome process.

**14. What are your standards for identifying what is a project and what is a work order/task?**

Case Western Reserve

- The University has always grappled with scope and is deliberately evolving this issue gradually and is 4 years into the process. IT uses a project initiation form and a gateway process for helping to determine the decisions about project versus work order.
- Of the 415 “projects” going on right now, 140 are actual projects – the rest are work order items. There are 2 main filters for consideration”
  - Cost - hard and fast numbers
  - Effort – number of FTEs required

University of Arizona

There is not defined criteria or checklist; IT tried that, but each project was so different, it was not practical.

IT evaluates related to magnitude of the initiative based upon:

- Resources required.
- Impact on campus or visibility.

Georgia Tech

The answer to this question varies by system. Within IT, we use the Remedy System, and it varies from project by project. Generally IT looks at:

- Cost.
- Impact.
- Duration.

Parameters are used, but it has to be done in a way that is light.

**15. Do your internal partners also use the tools and related project management methodology?**

**Case Western Reserve**

- Facilities uses similar tools. IT wants to create and PMO with Facilities and are making initial efforts to open the conversation.
- IT would like to make a PMO a central feature of the next iteration of the entire university organization, but nothing is in place yet.

**University of Arizona**

- Planning & Construction and Facilities seem to be far ahead of IT. They institute a project Manager and a disciplined approach to tools and approach. Facilities created their own PM software and portfolio management tool to track time and resources on a granular level.

**Georgia Tech**

- Facilities uses a tracking tool.
- Auxiliary Services uses Microsoft project.
- The College of Business Management does some.
- The Georgia Tech research Institute is very involved in PM – uses Primavera but did some hybridization.

**16. Does the institution have a standard process design/redesign methodology toolset?**

**Case Western Reserve**

- None

**University of Arizona**

- No, there is nothing at an institutional level. There have been times in which we had recognized the need for systematic process improvement and brought in consultants who initiated the improvements while training team members and facilitators.
- There is currently some interest in and general buy-in into Six Sigma, and there are “pockets” that use it for process improvement.

**Georgia Tech**

- There is no process to speak of. Standards are developed for individual systems. Standardization is being considered.

## Organization

### 17. What is the IT Leader's title at your University?

Case Western Reserve
<ul style="list-style-type: none"> <li>Vice President for Information Technology Services and CIO</li> <li>Have requested org chart for ITS and is included as a separate document.</li> <li>Organization Chart for the University: <a href="http://www.case.edu/president/about/cwruorganizationalchart.pdf">http://www.case.edu/president/about/cwruorganizationalchart.pdf</a></li> <li>Office of the Provost Org chart: <a href="http://www.case.edu/provost/about/organizationalchart.pdf">http://www.case.edu/provost/about/organizationalchart.pdf</a></li> </ul>
University of Arizona
<ul style="list-style-type: none"> <li>Chief Information Officer and Executive Director for UITS</li> <li>UITS Organization: <a href="http://www3.uits.arizona.edu/services/staff">http://www3.uits.arizona.edu/services/staff</a></li> <li>Have requested an overall org chart for UITS. It is included as a separate document.</li> </ul>
Georgia Tech
<ul style="list-style-type: none"> <li>Associate Vice president for Information Technology &amp; Associate Vice Provost for Information Technology &amp; CIO. (This is currently an interim position.)</li> <li>ITS organizational chart: <a href="http://www.oit.gatech.edu/sites/default/files/OIT_ORG_chart_09-23-10-2.pdf">http://www.oit.gatech.edu/sites/default/files/OIT_ORG_chart_09-23-10-2.pdf</a></li> </ul>

### 18. To whom does the IT leader report at your University?

Case Western Reserve
<ul style="list-style-type: none"> <li>Provost and Executive Vice President</li> </ul>
University of Arizona
<ul style="list-style-type: none"> <li>Provost</li> </ul>
Georgia Tech
<ul style="list-style-type: none"> <li>The IT Leader reports direct line to Executive Vice President of Administration &amp; Finance.</li> <li>Dotted line, this position reports to the Provost and to the Executive VP for Research</li> </ul>

### 19. Is the IT Leader part of the President's/Chancellor's Cabinet?

Case Western Reserve
<ul style="list-style-type: none"> <li>The IT Leader is not part of the Cabinet - the Cabinet is comprised only of direct reports to the President.</li> <li>The CIO is part of the President's Council.</li> </ul>
University of Arizona
<ul style="list-style-type: none"> <li>Yes.</li> </ul>
Georgia Tech
<ul style="list-style-type: none"> <li>No, but it ought to be.</li> </ul>

**20. Please describe the IT governance at your university.****Case Western Reserve**

The process is quite well evolved.

- There is a Steering Committee for IT that meets monthly. It is comprised of the Provost, the CFO and the CIO.
- There is a priority review board that meets every other month. It is a cross functional team of people from throughout the campus – mostly VP and Deans. This group makes recommendations to the Steering Committee and has a formal work flow that corresponds to the financial year.
- Recommendations are also received from a number of other committees such as the Faculty Senate, Distributive Technology, The CIO Management Team, ITS planning and advisory Committee as well as other sub committees that revolve around security, policy, student engagement, etc. These teams make recommendations to the Priority Review Board.

**University of Arizona**

- IT uses the University's general governance structure as the IT governance structure; there are many committees and advisory councils on campus, so the CIO interfaces with those groups and "works" that circuit.
- IT used to have more committees for IT governance, but since the CIO had to "sell" initiatives through the University structure, IT felt that the IT governance structure was redundant, especially since technology has become an integral part of every department and function throughout the University.
- IT does use some temporary committees and advisory committees as needed for some specific IT initiatives.

**Georgia Tech**

GA Tech governance is currently transitioning and may change when the IT Leader Role is filled.

There are currently three committees that support governance:

- An ad hoc governance committee that oversees high performance computing.
- A Student Systems Governance Committee.
- An Administrative Governance Committee.

**21. Approximately how many standing IT committees are there?****Case Western Reserve**

- There are a total of 8. There are also 5 ad hoc committees.

**University of Arizona**

- The committees are temporary and focus around particular initiatives as needed, and then go away.

**Georgia Tech**

- There are 3 – see above.

## 22. What is the policy for IT review of technology purchases across the institution?

### Case Western Reserve

- These purchases are choreographed by purchasing and lines of empowerment are clearly defined.
- The Executive Steering Committee only gets involved if the purchase goes over \$100,000.
- Anything above \$20,000.00 needs to be approved by the Deputy CIO.

### University of Arizona

There is a formal process.

Arizona Board of regents has clarified that anything over \$100,000 has to reviewed and approved.

Purchasing is the gatekeeper.

- Anything over \$100,000 gets bumped to the desk of the CIO and then she goes through a formal process:
- An IT committee does review and approval (structure of the committee varies depending upon the proposed purchase).
- The CIO then presents the purchase to the President.
- If the purchase is over 1\$1 Million, the review goes to the IT executive group and at least a partial representation of the Board.
- If the purchase is \$10 Million or more, it goes to the entire Board.

### Georgia Tech

- The State of Georgia delegated this responsibility to the University System, and the University System has delegated this to IT.
- IT has a standard form that needs to be filled out for purchases. The form is reviewed by the IT Leader and is coordinated with other groups in IT as appropriate.
- If the purchase goes over a certain dollar amount the approval also goes to the Board of Regents. The dollar threshold varies depending upon the type of system being considered and who uses it.
- When approved, The IT Leader signs any required documents.
- If the purchase is not approved at any particular level, IT collaborates with the requesting party to try to get it right.

## 23. How centralized is IT? What percentage of IT staff does not report to the IT Leader?

### Case Western Reserve

- In dollar amounts: 60 % of IT dollars go to central ITS; 40% goes to distributed IT.
- In FTEs: 55% of IT related staff report to central ITS; 45% report outside of ITS.

### University of Arizona

- The percentage is pretty much split at 50/50. 50% report at the Colleges.

### Georgia Tech

- IT is not centralized. There are 215-225 people in Central IT. 15-17 of these people are distributed among departments and colleges with a departmental service agreement.
- Regarding IT-related personnel in the colleges and departments, The University does not have a number. An analysis of this is currently underway.



## Funding & Finance

### 24. In FY 2010, what were the total campus expenditures?

#### Case Western Reserve

- \$900 million.

#### University of Arizona

- \$1.5 Billion.

#### Georgia Tech

- 1.2 Billion.

### 25. In FY 2010, how much was spent on IT at the institution?

#### Case Western Reserve

- \$38 Million.

#### University of Arizona

- \$94 Million – about 7-8% of total.

#### Georgia Tech

- Currently, exact numbers are not known; a study is under way.

### 26. In FY 2010, how much was spent on central ITS?

#### Case Western Reserve

- \$21 Million on operating expenses.
- \$5 Million in Capital (networks, etc.).

#### University of Arizona

- 50 Million in Central IT.
- \$44 Million on other campus departments.

#### Georgia Tech

- The interviewees preferred to not disclose the dollar amounts. Recent estimates indicate that central IT uses less than a third of total IT spent for the campus. The interviewees disclosed numbers that are less than that of the other two colleges in the study.

### 27. In FY 2010, what % of central IT spent was on new initiatives/investments?

#### Case Western Reserve

- Operations: 93%.
- New initiatives: 7%.
- The goal is to increase the percentage of spent on the new initiatives.

University of Arizona

- There is no ratio in mind.
- In the last couple of years, 80% has gone to day-to-day; 20% has gone to new initiatives.

Georgia Tech

- The University had major computing purchases in FY 2010 that skew the percentages.
- The cost analysis that is currently underway will uncover more information related to this question.

**28. Does your institution charge students a technology fee?**

Case Western Reserve

- No. Case Western Reserve is a research institution.

University of Arizona

- The technology fee is \$155.00 per year per student.

Georgia Tech

- Yes GA Tech charges \$100 - \$125 per semester.

**29. Does IT use charge backs?**

Case Western Reserve

- Only for telephony (in and out – not incremental)

University of Arizona

There are chargebacks for part of the business, such as:

- Networking and Community environment are charged based on an FTE model once per year.
- Server utilization, housing and management.
- Desktop support.
- Web development.
- Etc.

Georgia Tech

- All services provided to the Research Institute are charged back (and anywhere where there is a research agreement where the terms require special technology).

**30. Are there other fee-for-service operations not considered charge backs?**

Case Western Reserve

- No.

University of Arizona

- IT generally tracks an FTE model for every service/line of business, although most are not chargebacks.

Georgia Tech

Other fee for service operations not considered chargebacks are:

- Telecom services.
- Customer Service reps (15-17 in the field/departments).
- Printing at the print plant.

## Closing Questions

### 31. What are your primary IT challenges in meeting the needs of the student body at your University?

#### Case Western Reserve

The University is interested in staying at the forefront of using technology for

- Teaching applications for the classroom – The University would like teachers to use more technology and more vision to video resources.
- Leisure activities. It is challenging from a network perspective.

#### University of Arizona

- Key challenge is in keeping up with the technology demands, expectations and needs.
- With a decreasing budget everywhere in the University, people look to technology to fill the gaps to go use technology for learning, for leisure activities of students, to go paperless and to optimize; yet IT has shrinking resources.

#### Georgia Tech

- Students are very intelligent with high expectations for technology.
- Need more flexibility on student portals – and additional administrative support for these.
- Social networking capabilities.
- Capabilities for mobile apps.
- Expanding wireless networks.
- Virtualization – there is a need for more virtual labs and desktop capability.

### 32. What are the biggest challenges facing IT at the institution?

#### Case Western Reserve

- Coordinating the overall strategy with other technology and administrative units.
- The University does not have a lot of carrots to entice engagement.
- Colleges want to cut their individual IT budgets and want ITS to pick up more responsibilities with no increase in budget. This is not realistic.

#### University of Arizona

- Key challenge is in keeping up with the technology demands, expectations and needs.
- With a decreasing budget everywhere in the University, people look to technology to fill the gaps to go use technology for learning, for leisure activities of students, to go paperless and to optimize; yet IT has shrinking resources).
- Departments want to cut their own budgets and want Central ITS to fill the gap. This is not realistic.
- There is a distinct need to weigh and evaluate the options of outsourcing versus not outsourcing/outsourcing means a loss of control.

Georgia Tech

- Key challenge is dealing with the budget cuts. GA Tech needs to explore alternative means for raising money.
- Mobility support is a challenge, campus wide.
- IT at GA Tech also provides technology support for our international universities.
- There are challenges with flexibility and scalability; the silos are not flexible when it comes to architecture.
- Lack of governance.
- There is still a question of what the institution specifically wants IT to be.

**33. What are IT’s biggest strengths?**

Case Western Reserve

- Dedication to the mission.
- Agility in dealing with shifting priorities and programs.
- Significant mind share when it comes to vision.
- Things COULD move more quickly, but IT is glad that they don’t; staff in IT are accustomed to adapting to the rhythms of The University.

University of Arizona

- IT gets things done and shows success in every current initiative and most past initiatives.
- Central IT has changed from being considered a “money sink” to being viewed as a partner in getting things done.
- ITS works smoothly to accept the challenges.

Georgia Tech

- GA Tech seeks out the creative people on campus in a positive way. Some of ITs apps. have actually been developed by students and implemented by IT. IT has great access to student as staff as well.
- IT gets great grant support.
- IT has a robust campus network.
- IT actively seeks to collaborate with others on campus and have great relationships with most key areas on campus.

## Appendix – Questions for UNH IT Peer Research

QUESTIONS FOR UNH IT PEER RESEARCH	
Category	Question
<b>Technology Landscape</b>	What financial, student, email, and help desk systems are in use today?
	Do you outsource any enterprise systems?
	Do you outsource any mission critical technology services?
	Is virtualization in production? If so, what % of servers are virtualized?
	Is server hosting consolidated to a single data center? Or, are departments and/or colleges hosting their own servers?
	What types of community source or open source software are used today?
	Do you have an IT services catalog?
<b>Academic Technology</b>	What percentage of faculty utilizes the Learning Management System?
	Does the University incentivize and/or mandate faculty to adopt new instructional technologies?
	What types of instructional learning training opportunities are made available to faculty?
<b>Project Management and Business Process Design</b>	Do you have a Project Management Office?
	Are you using a Portfolio Management tool?
	Are you using a standard Project Management methodology?
	Do you have standards for identifying what is a project and what is a work order/task?
	Do your internal partners also use the tool and related project management methodology?
	Does the institution have a standard process design/redesign methodology and toolset?

QUESTIONS FOR UNH IT PEER RESEARCH	
Category	Question
<b>Organization</b>	What is the IT Leader’s title at your University?
	Who does the IT Leader report to at your University?
	Is the IT Leader part of the president/chancellor’s cabinet?
	Please describe the IT governance structure at your University.
	Approximately, how many standing IT committees are there?
	What is the policy for IT review of technology purchases across the institution?
	How centralized is IT? What percentage of IT staff does not report to the IT Leader?
<b>Funding &amp; Finance</b>	In FY 2010, what were total campus expenditures?
	In FY 2010, how much was spent on IT at the institution (total unrestricted IT spending)?
	In FY 2010, how much was spent on central IT at the institution (total unrestricted central IT spending)?
	In FY 2010, what % of central IT spent was on new initiatives/investments, and what % was on maintenance/operations?
	Does your institution charge students a technology fee?
	Does IT use chargebacks?
	Are there other fee-for-service operations not considered a chargeback?
<b>Closing Questions</b>	What are the primary IT challenges in meeting the needs of the Student Body at your University?
	What are the biggest challenges facing IT at the institution?
	What are some of IT’s biggest strengths?

Name	Role
Bill Hall	Director of Enterprise Computing
Brenda Brewster	ATL- Information Technologist for College of Health and Human Services
Brenda Cote	Business Manager
Bridget Finnegan	Campus Webmaster
Bruce Hasfjord	ECG - Associate Director
Christina Caiazza	Student Body Vice President
Dan Corbeil	TCS - Computing & Information Services
Dan Innis	Dean, Whittemore School of Business (WSBE)
David Bird	TCS- IT IV, Central Services
David Blezard	AT-ACS/PML Manager IT
David May	Assistant Vice President for Business Affairs
Deb Bronson	Director, IT Finance & Planning
Deb Timmons	ECG - Enterprise Applications Team Manager
Diane Byron	TCS - IT Manager of Help Desk Professional Services
Dick Cannon	Vice President, Finance and Administration
Ed Hinson	Professor of Mathematics, CEPS Chair and President of Faculty Senate
Eileen Cooley	ECG -Systems Manager
Jen Scully	ECG -Senior Information Technology Manager
Joanna Young	Associate Vice President and Chief Information Officer
Kathie Forbes	University Registrar
Kerry Scala	Budget Director
Kirit Basu	AT-Associate Director IT
LeighAnne Melanson	Associate Provost for Academic Affairs
Linda Sullivan	Senior Business Service Assistant
Lisa MacFarlane	Senior Vice Provost for Academic Affairs
Mike Woods	Information Technology Systems Coordinator (WSBE)
Misty McCarty	Director of Advancement Services
Nancye Jenkins	Director of Telecom and Client Services
Patrick Messer	Director, Research Computing Center
Paul Chamberlain	Assistant Vice President for Energy & Campus Development
Paul DeMello	Senior IT Manager, Project Management Office
Paul Hodgon	TCS – IT III, Help Desk
Peter Brym	Director of IT Security
Phil Hammond	ATL- Information Technologist, College of Life Science & Agriculture (COLSA)
Renee Cicerchi	AT- IT Manager
Richard Peyser	Student Body President
Sherry Vellucci	Dean of University Library
Stormy Gleason	ATL - Information Technologist III (COLA)
Terri Winters	Director of Academic Technology
Tom Brady	Dean, College of Life Science & Agriculture (COLSA)
Tom Franke	USNH Chief Information Officer
Tony DiTulio	AT – IT III, Student Clusters

Appendix C – List of Participants