

**Internal Report to Provost Rick Miranda
Analysis of IT Consolidation Opportunities**

**Patrick J. Burns, Bryan J. Carney, David A. Carpenter, James E. Folkestad, Thomas F. Hadley,
Allison A. Horn, Edgar U. Peyronnin, Rusty A. Scott, Stephanie D. Wolvington
March 15, 2011**

Background

In January 2011, Provost Miranda charged the IT Consolidation Committee, consisting of the authors of this report, with developing a framework to discuss IT consolidation opportunities, in a report be delivered to him by March 15, 2011. This report utilizes the data collected by the campus for the visit from Adams-Gabbert, the report from Huron Consulting delivered to Purchasing in spring 2010, and data on server rooms collected by the Facilities Management department.

Simplification of the IT Environment

The different IT operational paradigms inherent in units that are responsible for their own IT environments introduces significant complexity in the IT environment, that must be supported by central IT and units which share users and/or IT services. Significant campus benefit and cost savings could be achieved through simplification, where certain IT services are made consistent through consolidation. Economies of scale could also be realized through such simplification. Preserving capacity, enhancing quality, and deliberately and thoughtfully evolving to a more efficient and effective IT environment, with fewer, more expert staff, may be achievable through effective consolidation. However, over-consolidation would be detrimental to innovation and meeting individual needs in units, many of which are unique.

IT Consolidation Opportunities

The remainder of this report is organized into seven individual IT Consolidation Opportunities, summarized below, each including analyses of campus benefits, approximate annual cost savings, approximate implementation costs, IT security risks, staffing changes, innovation, and risks/constraints. In these analyses where FTE are consolidated, it is assumed that the proposed staffing reallocations can be done at no net cost, either by direct and immediate reassignments, or over time via attrition. In case this is not practicable, the costs and FTE enhancements needed in a consolidated unit are identified in each section. Note that the seven IT consolidation opportunities are presented and discussed separately, even though there are numerous potential dependencies.

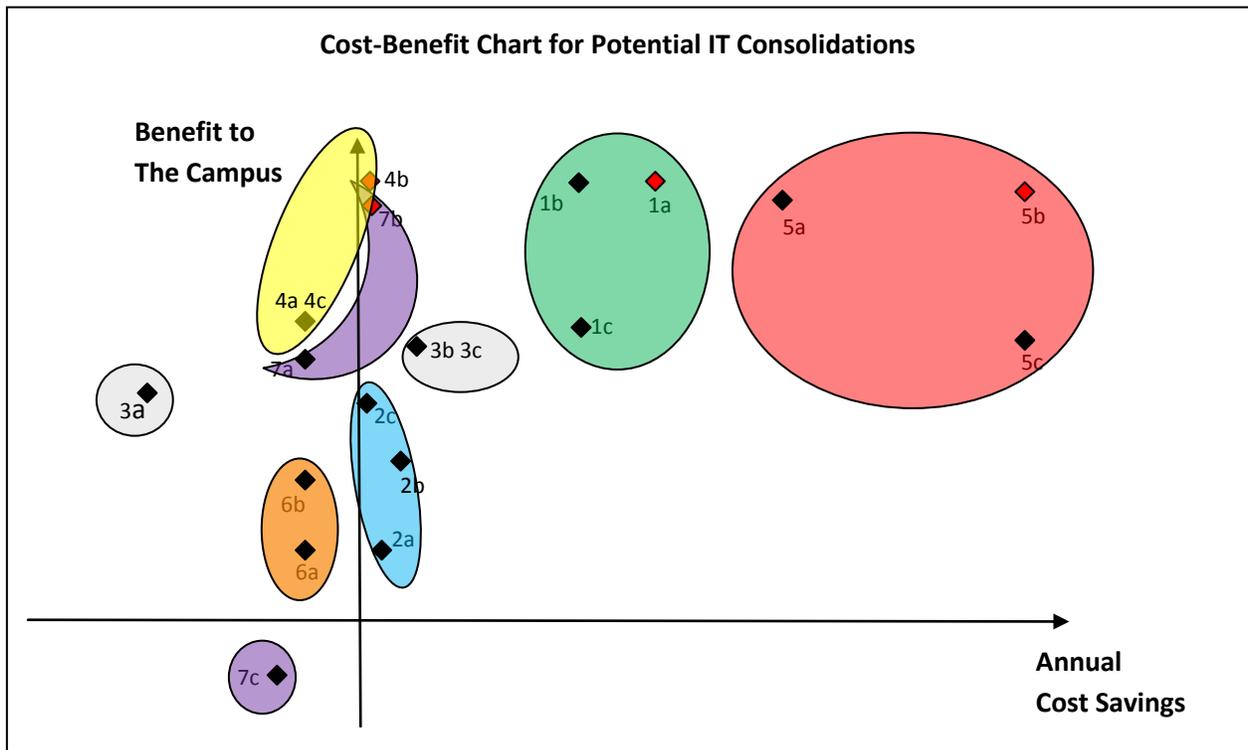
The IT Consolidation Opportunities are presented in abbreviated form in the table below, and on the attached 'campus benefit/cost savings' chart following the table.

IT Consolidation Opportunity	Campus Benefit	Annual Savings	Initial Cost	Staff Change	IT Security Risk	Innovation	Comments
1. Expand Central Data Center							
a. Relocate racks to main site	High	\$200k	\$10k	None	Lowered	No change	Insufficient space
b. Server virtualization @ 75%	High	\$700k	\$110k	Reassign	Lowered	No change	
c. Add storage option	Medium	\$780k	\$150k	Reassign	Lowered	No change	
d. Centralized operations				Reassign		Decreased	Consider outsourcing.
2. Licensing							
a. Tight collaboration	Low	\$0	\$0	No change	No change	No change	
b. Consolidate common packages	Medium	\$25,000	\$0	No change	No change	Chilled	Consider outsourcing.
c. Centralize in Purchasing	Medium	Unknown	\$0	No change	No change	Decreased	
3. Web Design & Programming							
a. Tight collaboration	Medium	\$0	\$150k	None	No change	No change	Innovation shared
b. Tighter collaboration	Medium	\$10k	\$0	None	No change	No change	Innovation shared
c. Hybrid, some consolidation	Medium	\$160k	\$10k	2 FTE reduction	Lower	Increase - slight	Innovation shared
d. Complete consolidation	Low	Unknown	\$10k	Unknown	Lowest	Decreased	Innovation negatively impacted
4. Identity & Access management*							
a. Tight collaboration, communication	Medium	Low	\$0	None	No Change	Preserved	
b. Hybrid model, some consolidation	High	Higher	Variable	+1 FTE	No Change	Preserved	High implementation costs (personnel)
c. Complete consolidation	Medium	Same as 4b	Variable	+2FTE	Lower	Lower	Same as 4b
5. Purchasing							
a. Tight collaboration	High	\$400k	\$0k	None	No change	No change	
b. Hybrid, Strategic Business Alliance	High	\$700k	\$0k	None	No change	No change	
c. Centralized in Purchasing	Medium	\$700k	\$0k	None	No change	Decreased	
6. Help desk, desktop support							
a. Tight collaboration	Low	\$0	\$30k-\$130k	None	Lower	No change	
b. Hybrid, consolidate @ tier 1	Medium	Up to \$40k	\$30k-\$130k	Reassign (students?)	Lowest	Increased	Complete culture shift
7. Networking							
a. Tight collaboration	Medium	Low	\$30k annual	2 FTE reassignment	Lower	No Change	Structural difficulties
b. Hybrid, ACNS operate switches	High	Higher	\$60k annual	1 FTE reassignment	Lower	No Change	1 ACNS FTE
c. Complete consolidation	Low		>7b	Additional reassignment	Lower	Decreased	

* The specific costs and savings are difficult to quantify in the area of Identity and Access management as savings and benefits are measured in terms of efficiencies and enabling of service. Authentication, authorization, and management of electronic identities is an area which must be addressed within the context of the maturation of the IT environment.

Campus Benefit/Cost Savings Chart

The benefit/cost chart is presented below, where each IT Consolidation Opportunity is presented by its couplet as identified in the report and the table above. For example, point 3.b refers to IT Consolidation Opportunity number '3. Web Design and Programming,' letter b 'Tighter Collaboration.' Note that the Committee provided at best approximate estimates of the annual, steady-state cost savings and thoughtful consideration of the level of benefits. Indeed, the table above and the chart below are intended to establish a framework for discussion. Those directions as determined from the discussion should be followed by deeper investigations, including in some cases more detailed estimates of cost savings and consideration of benefits.



Final Thoughts

In addition to the above analysis, the Committee members believe that the following avenues for efficiencies should also be pursued:

1. Consider outsourcing some commodity services, such as software licensing or email for faculty, graduate students, and staff (as has been accomplished very successfully for undergraduates with outsourcing to Google). As the campus moves to Voice Over Internet Protocol in the telecommunications arena, there will likely be an opportunity to re-direct some savings to this effort.
2. Consider outsourcing to external providers for basic services, including virtual platforms.
3. Consider offering additional Dynamic Web Page options centrally, e.g. LAMP.

4. Explore operational, organization, and strategic models for the next generation of campus telephony.

There are, however, some significant privacy and security concerns associated with such activities that should be explored.

Finally, any change implies new skill development. To the extent possible, we recommend assistance with training opportunities for already highly skilled staff members so that the University can re-direct staff time to critical, high-priority work.