Report of the IT Restructuring Work Group

March 5, 2010

UMBC

AN HONORS UNIVERSITY IN MARYLAND

Report of the IT Restructuring Work Group

Executive Summary

The IT Restructuring Work Group focused most of its attention on the first two major tasks from our charge:

1. Gather information about existing IT support staffing and resources across the campus, including staffing levels and types, organizational structure and placement. Gather information about non-personnel IT service and support functions, including software applications/licensing, infrastructure, and other areas deemed appropriate for review.
2. Identify alternative models of IT support service delivery at other institutions and other organizations, including
    - Centralized vs. decentralized models
    - Outsourcing possibilities
    - Charge-backs for services
    - Effective software licensing practices
    - Upfront investments that could result in long term base cost reductions

In addition, the group was to seek input from the campus community on these issues. While the work group gathered information from the campus for item 1 through an online survey, time constraints did not allow us to gather input from the campus community on the findings and recommendations contained in this report. Embedded within the findings and recommendations are possible changes to existing resources and configuration and starting points for developing an implementation plan.

The group had representatives from each college and division, and most of the senates. Scott Farrow and Janet Rutledge served as co-chairs. For the first major task, information was gathered from the Division of Information Technology (DoIT) and the Division of Administration and Finance on personnel and non-personnel resources devoted to IT across the campus. The group also developed a survey to gather further information on personnel and non-personnel resources in the colleges and divisions. While the information from the central and survey sources are useful, there are data limitations such that the reported financial and personnel data are likely under-estimates although data issues have been brought to our attention that both increase and decrease various figures. Consequently, while we think the data are informative, we do not have measures of precision so readers should avoid a sense of false precision from the numbers reported. We also examined case studies from a few universities, data from the University System of Maryland (USM) and peer institutions, and trends reported in recent news stories.

The Work Group broke into two subcommittees to examine alternative models of IT support services. One subcommittee, chaired by Andrew Sears, examined centralized versus decentralized models and chargebacks for services. The other subcommittee, chaired by Matthias Gobbert, explored outsourcing possibilities and effective software licensing strategies. Both subcommittees considered areas where upfront investments could result in long term savings to the base budget.

Due to time constraints we were limited to high level summary examinations of the data and alternative models of IT support delivery. We recommend that an existing group or committee continue this review to ensure forward progress. One possibility is to use the already established IT Steering Committee that has representatives from all constituent groups on campus.

Some highlights of data discussed in more detail in Section II are that:

- UMBC is low on the level of total spending in its peer group but in the middle on a per-capita basis.
- While about 60% of the full-time staff is in DoIT, many of the FTE in other locations are small fractions of effort.
- Vacant or frozen lines are about 10% of the identified FTEs.
- Students are a significant increment to the IT workforce.
- Most non-personnel expenditures are associated with administration with relatively little directly related to instruction or research.
- Departments and units report a wide variation in the service expectations from DoIT, for instance with almost all depending on DoIT for network services while very few depend on them for web page services.

The Work Group identified a relatively small number of "low hanging" cost saving opportunities. Many of the savings that other universities have achieved, such as centralizing software purchases and licenses, and providing comprehensive centralized IT support services, have already been implemented at UMBC to some extent. In certain categories it was the sense of the group that there are probably opportunities to improve the quality of service provided without increasing the cost and perhaps even while decreasing expenses. Preliminary review suggests:

- It may be possible to make more efficient use of staff and resources through the use of support models that are a hybrid approach between those that are fully centralized or decentralized.
    - Some units can be supported in a centralized manner through DoIT services, while other units have specialized needs, are IT intensive, and are making effective use of their dedicated IT staff.
    - Examples of hybrid models discussed in Section III of the report include clusters of units supported by a group of dedicated IT staff with adequate training and supervision.
    - A number of questions on reallocation of staff and resources would need to be addressed with a hybrid approach as discussed in more detail in Section III.
- Explore the possibility of replacing existing academic computer labs by a virtual lab model similar to those that have been piloted successfully at other universities.
    - This is an example that would involve up front expenses but has the potential to dramatically reduce yearly maintenance and upgrade costs while allowing any classroom on campus to become a computer lab as needed.
    - This has the further possibility of providing increased quality of service for faculty and students. Ongoing staff support would still be required under this model.
- Some options for improving productivity and decreasing cost on software and licenses include pooling purchases and purchasing multiyear contracts where practical. Pooling software and license purchases within UMBC is already very centralized, but there may be some opportunities for improving efficiencies by having a dedicated point person in DoIT for software management. This person could also help units to use the same version of software packages to improve productivity.
- Use of open source software may reduce costs in some instances.
- Cloud computing as a way of managing software (both licensed and open source) may provide efficiencies for distributing and maintaining software for users across the campus.

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Report of the IT Restructuring Work Group

I. Charge, Organization and Approach

The IT Restructuring Work Group was established and formally given its charge by the Provost on December 13, 2009. The reporting deadline of March 5, 2010 was set to facilitate the incorporation of the findings and recommendations into the university's planning for the 2011 budget cycle. The mission, detailed through the charge below, was to "help the university find effective and efficient ways to support the information technology that is central to our educational and research missions."

I. a. Charge to IT Restructuring Work Group

Purpose:

As part of the UMBC 2016 strategic plan, review major goal number 4 in the context of the delivery of IT support services to the campus community. In light of economic pressures facing UMBC, determine whether there are more effective and efficient ways to organize and provide IT support services to the campus community.

"4. Review with appropriate constituencies UMBC's staffing and management and organization structures and processes, examining efficiency, effectiveness, accountability, and alignment with the goal of supporting a maturing research university that is also committed to providing a distinctive undergraduate experience."

Charge:

- Gather information about existing IT support staffing and resources across the campus, including staffing levels and types, organizational structure and placement. Gather information about non-personnel IT service and support functions, including software applications/licensing, infrastructure, and other areas deemed appropriate for review.
- Identify alternative models of IT support service delivery at other institutions and other organizations, including
    - Centralized vs. decentralized models
    - Outsourcing possibilities
    - Chargebacks for services
    - Effective software licensing practices
    - Upfront investments that could result in long term base cost reductions
- Seek input from the campus community on this issue.
- Recommend changes to existing resources and configuration and provide an implementation plan.

Timing:

- Deliver a plan to the Vice Presidents and Deans Council by no later than March 5, 2010.

1. b. Work Group Members

The group had representatives from each college and division, and most of the senates.[1] Scott Farrow and Janet Rutledge served as co-chairs.

Name	Department	Representing
Scott Farrow Co-Chair	Economics	
Janet Rutledge Co-Chair	Graduate School	
Stephen Auvil	Research Administration	Research Administration
Michael Carlin	Information Technology	Information Technology
Michael Dick	Library	Non Exempt Staff Senate (NESS)
Jennifer Gill	Graduate Student Association	GSA
Matthias Gobbert	Mathematics and Statistics	CNMS
Jason Higgins[2]	Graduate Student Association	GSA
Ben Lowenthal	Financial Services	Administration and Finance
Cheryl Miller	Public Policy/CAHSS	CAHSS
Antonio Moreira	Provost Office	Academic Affairs
Anna Rogers	Graduate Student Association	GSA
Megan Rolenc	Institutional Advancement	Institutional Advancement
Anne Scholl-Fiedler	Career Services Center	Student Affairs
Andrew Sears	Information Systems	COEIT
Rehana Shafi	Undergraduate Education	Professional Staff Senate (PSS)
Tim Topoleski	Mechanical Engineering	Faculty Senate

I. c. Work Group Subcommittees

The Work Group broke into two subcommittees to examine alternative models of IT support services, the second major task from our charge. One subcommittee, chaired by Andrew Sears, examined centralized versus decentralized models and chargebacks for services. The other subcommittee, chaired by Matthias Gobbert, explored outsourcing possibilities and effective software licensing strategies. Both subcommittees considered areas where upfront investments could result in long term savings to the base budget.

<u>Centralized Versus Decentralized Models and Chargebacks for Services</u>

Andrew Sears (Chair)
Mike Carlin
Cheryl Miller
Tony Moreira
Anna Rogers
Megan Rolenc
Janet Rutledge
Anne Scholl-Fiedler

<u>Outsourcing and Effective Software and Licensing Practices</u>

Matthias Gobbert (Chair)
Stephen Auvil
Michael Dick
Scott Farrow
Jennifer Gill
Ben Lowenthal
Rehana Shafi
Tim Topoleski

[1] The initial group did not include student representation. After the first meeting the SGA and GSA were invited to send a representative. The SGA did not respond to the request, however, the GSA requested the opportunity to send two representatives.

[2] While Jason Higgins was not an official member of the Work Group, he attended many meetings in place of one of the other two GSA representatives.

I. d. Sources of Information

As directed in its charge, the Work Group (WG) sought to understand the current status of IT on campus in order to investigate questions about staffing, services, non-personnel expenditures, and technological options[3]. In order to gather information in a rapid manner, the WG met with individuals and committees[4], surveyed internal and external publications such as UMBC IT strategy[5], received information from several units[6], and surveyed the campus at the Department level. Section II sets out our factual understanding of IT on campus, which is necessarily incomplete given both data structures on campus and the time available. Caution should be exercised in the precision of any particular number but the relative order and general magnitudes are believed informative.

We note that it was often difficult to distinguish IT infrastructure from IT enabled services. Almost all administrative offices depend heavily on IT to carry out their duties; academic teaching and research is IT enabled, and organizations such as the Office of Institutional Research, Office of Institutional Advancement, and the Library found it challenging to distinguish where the IT infrastructure ended and their own services began. As just one example of a definitional challenge, are e-subscriptions software that is purchased or is IT merely the enabler? In any event, some of the eventual strategies for efficiencies may apply no matter how such services are defined.

The WG reviewed case studies from Cornell University[7] and the University of North Carolina at Chapel Hill[8] produced by the EDUCAUSE Center for Applied Research. The Cornell study detailed a process that took more than a year to study the personnel and non-personnel expenditures distributed throughout the campus. The North Carolina study described their approach to developing a highly centralized IT support structure. The Division of IT (DoIT) provided data reported to EDUCAUSE by peer and USM institutions. That data is part of the analysis in section II of this report. Several articles were reviewed including one from the Chronicle of Higher Education[9] on transformation of traditional computer labs to places where students can bring their laptops and work in a more welcoming environment. A presentation by the University Business Executive Roundtable[10] provided insights on managing IT spending and investment at universities.

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[3] "Gather information about existing IT support staffing and resources across the campus, including staffing levels and types, organizational structure and placement. Gather information about non-personnel IT service and support functions, including software applications/licensing, infrastructure, and other areas deemed appropriate for review."

[4] Jack Seuss, Vice President, DoIT; Ben Lowenthal; IT Steering Committee.

[5] Although the UMBC IT strategy is being revised, the existing strategy sets out the vision, objectives, and numerous tasks identified at the time. However, we found no apparent data or organizational material in the Strategy to significantly inform the actions of the WG.

[6] DoIT, Library, Office of Institutional Research.

[7] "Developing an Institutional Perspective on the Information Technology Function: The Case of Cornell University," by Harvey Blustain and Philip J. Goldstein, EDUCAUSE Center for Applied Research, Case Study 8, 2004.

[8] "University of North Carolina at Chapel Hill: Integrating IT Support Institution-Wide," by Donald Z. Spicer and Judith A. Pirani, EDUCAUSE Center for Applied Research, Case Study 9, 2007.

[9] "Rebooted Computer Labs Offer Savings for Campuses and Ambiance for Students: New gathering places for laptop users help colleges save on upkeep," by Ben Terris, The Chronicle of Higher Education, December 6, 2009.

[10] "Managing University IT Spend and Investment," University Business Executive Roundtable, Education Advisory Board, Washington, DC, 2009.

II. Information About Existing IT Support, Staffing and Resources

This section is organized to convey aspects of the organization of IT at UMBC; to present comparative data with some peers; summarize central data from DoIT, Finance, and HR; and to report on results from the WG survey of Departments and Administrative offices regarding staffing, services, and expenditures.

II. a. IT Organization on Campus

Some members of the WG were very familiar with key IT organizational players on campus, others were not. In general, what is variously called the Office of Information Technology or the Department of IT (DoIT) is the central and largest player in terms of personnel and budget as will be described below. Various administrative offices and departments within the colleges are together significant, while the Library has a number of special connections to IT that make it somewhat unique. A campus wide IT steering committee exists that officially reports to the President's Council[11]. There is a Computer Policy Committee that is part of the Faculty Senate.

II. b. Inter-campus Comparisons

DoIT provided the WG with central IT budget and other data to compare to our peer institutions as reported to EDUCAUSE, a national non-profit focused on the development of IT. On a dollar basis as reported in Table 1, UMBC appears to be underfunding its IT and is more dependent on student labor than our peer institutions. However, on a per FTE basis, because of our smaller size relative to our peer institutions, our IT budget and staffing per student are generally in the middle of our peers[12] as reported in Table 2.

Table 1: Comparison with Peers: Level of Total Reported IT Spending

Institution	FY06	FY07	FY08
Clemson	$34,489,012	$34,399,761	$50,258,189
UC Santa Cruz	$27,429,659	$27,586,684	$31,532,535
Delaware	$26,888,837	$27,762,592	$23,548,900
SUNY Albany	$16,738,095	$16,572,501	$17,967,485
Oklahoma St	$39,340,964	$16,464,573	$17,055,352
UC Riverside	$13,900,000	$14,400,000	$15,889,480
Mississippi St	$13,676,643	$13,764,209	$14,032,605
Wyoming	$10,243,000	$11,829,176	$12,169,978
Arkansas			$11,886,052
UMBC	$9,890,000	$10,490,000	$11,140,541
Rhode Island	$11,320,000		

Source: DoIT

[11] Its charge includes: Provide coordination of IT related activities on campus; provide feedback to and from the President's Council on university IT initiatives, especially in terms of budget allocation develop a university plan for IT.

[12] As in many instances in this report, there are some questions about data, for instance, whether our peer institutions reported expenditures on enterprise software such as PeopleSoft, but these tables reflect the data as reported to an IT consortium.

Table 2: Per Capita IT Effort (staffing are regular staff excluding students which UMBC utilizes more heavily than many).

Peer	FY08 Budget/FTE	Staffing/1000FTE
Clemson	$3,116	19.7
UC Santa Cruz	$2,044	17.6
Delaware	$1,268	8.8
Wyoming	$1,174	9.8
SUNY Albany	$1,162	7.6
UMBC	$1,114	7.8
Mississippi St	$950	8.7
UC Riverside	$943	6.6
Rhode Island	$899	7.5
Oklahoma St	$869	6.8
Arkansas	$757	7.6
mean	$1,300	9.9
stdev	$694	4.5

Source: DoIT

Comparisons across USM schools are in Tables 3 and 4. There is less distinction between total budgetary expenditures and per FTE student expenditures within the USM. UMBC ranks third in total expenditures but fourth in per FTE student expenditures although there is substantial variation in the per capita expenditures. It's interesting to note that there is no clear "economy of scale" with IT expenditures in the System. Finally, UMBC appears to use significantly more students than other USM schools although data are lacking for Towson on staff and students.

Table 3: USM IT Budget

USM IT Budgets FY 2007-2008

					Budget Per FTE Student		
USM Institution	Total Budget	Operating	Other[1]	FY08 FTE	Total Budget/FTES	Operating/FTES	Other/FTES[1/]
University of Maryland College Park	36,392,636	20,005,673	16,386,963	30,179	1205.9	662.9	543.0
Towson University	14,932,391	13,075,424	1,856,967	16,104	927.2	811.9	115.3
UMBC	11,140,541	7,991,000	3,149,541	9,411	1183.8	849.1	334.7
University of Baltimore	5,618,797	5,206,819	411,978	3,724	1508.8	1398.2	110.6
Salisbury University	4,935,902	4,918,902	17,000	6,829	722.8	720.3	2.5
Coppin State University	5,400,000	4,200,000	1,200,000	3,000	1800.0	1400.0	400.0
Bowie State University	4,364,078	3,293,443	1,070,635	4,317	1010.9	762.9	248.0
Frostburg State University	3,960,710	3,194,119	766,591	4,265	928.7	748.9	179.7
University of Maryland Eastern Shore	4,573,024	3,008,803	1,564,221	3,449	1325.9	872.4	453.5

Source: Educause Core Data Survey 2008; FTES from USM/Michael Dillon

[1]*Includes Capital Appropriations; Tech Fee Appropriations; Resale of Services to Departments & External; Resale of Products to Departments & External; Other*

Table 4: USM IT Staffing

Institution	FY 09 IT Staff	FY09 IT Students
UMCP	252	95
Towson	N.A.	N.A.
UMBC	78	72
UB	38	9.8
Salisbury	47	9
Coppin	38	5.4
Frostburg	30	2.5
UMES	29	5

Source: EDUCAUSE Core Data Survey 2008

II. c. Personnel, Non-Personnel Expenditures and Software Purchases

The WG sought to understand the staffing and budget context of IT activities on campus after consideration of the inter-campus comparisons above. On staffing, we first sought information from DoIT as well as from Human Resources for individuals whose official titles were associated with IT but were not within DoIT. We also requested a non-personnel budget breakout by categories most affected by IT activity, and sought a breakdown on individual software purchases. These data are presented below with short explanations.

Staffing

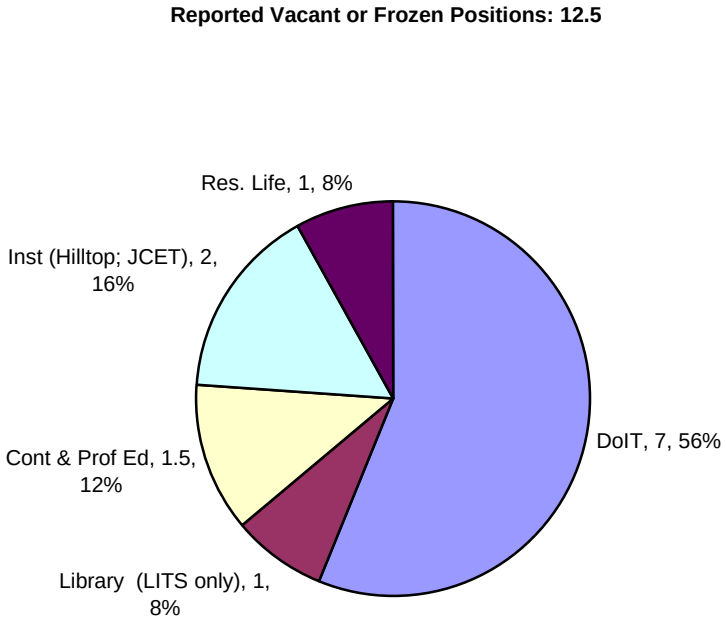
Data are available in some detail for DoIT, and in much less detail for departmentally based non-DoIT personnel with IT functions. Table 5 is based on the DoIT breakdown where about 75 FTE staff are identified of which 7 lines are vacant. Of those 75 staff about 16, or about 21% of the total, are identified with PeopleSoft. Instructional and student computing has 12 staff or about 13% of the total, an amount similar to those working on web mail, student labs, and identity, and with those working on telephones. Help desk support has 4 staff lines although there is significant student help; while support and training has a similar number of lines for about 5% of the total. The approximately 75 regular staff in DoIT are supported by an additional 7 consulting FTE and 27 student FTEs.

A survey, described in more detail later, of 32 UMBC administrative units and 34 academic departments indicated total of 123 identified faculty and staff doing IT work with the equivalent of 43 FTE. This estimated number of FTE equivalent staff is shown at the bottom of Table 5 for an estimated IT staffing of about 118 FTE with 12.5 vacant or frozen lines identified to the WG. The distribution of IT related lines reported as vacant or frozen to the WG that is shown in Figure 1 with the largest number in DoIT. In addition to staff, the survey identified approximately 11 additional student FTE within the divisions and colleges as noted in at the bottom of Table 5.

Table 5: DoIT Staff and Function, and Externally Identified Staff

	Staff FTE	Contractual FTE	Student FTE
Administration of IT Organization	**5.7**	**0.5**	**0**
Administrative/ERP Systems	**19**	**1.75**	**0**
Assistant VP	1		
PeopleSoft Finance & HR	**5**		
PeopleSoft SA	6		
Auxililary Systems	2		
Database/PS Administration	5		
Enterprise Infrastructure Services, Identity Management	**12**	**0**	**0**
Assistant VP	1		
Windows Servers, Storage Lab Images	4		
Web, Mail, Servers, Calendar, myUMBC	5		
Identity Management	2		
Desktop Support, User Support, Training	**4**	**1**	**4**
Help Desk	**4**	**0**	**10**
Information Technology Policy	**0**	**0.25**	**0**
Information Technology Security	**1**	**0**	**1**
Instructional Tech, Multimedia, Student Computing	**12**	**1.5**	**5.5**
Assistant VP	1		
Instructional Tech: Blackboard, Hybrid Learning, Training	3		
Instructional Tech: AV, Clickers, Language Lab	5		
New Media Studio (fee-for-service chargebacks)	3		
Network Infrastructure	**4**	**0**	**5**
Director	1		
Wireless, Cable, Network Jacks, Resnet	3		
Operations, Data Center, Copier Services	**0**	**0**	**0**
Research Computing, Academic Computing	**1**	**1**	**0**
Telephony	**11**	**0**	**0**
Phones, Network Jack Installs, Phone Mail, Billing			
Web Support Services	**1**	**1**	**1.25**
Campus Portal Architect	1		
TOTAL DOIT	**74.7**	**7**	**26.75**
Human Resources and survey data indicate approx. additional FTE staff count	**43**	N.A.	10.8
Total Identified	**117.7**		**37.55**
Vacant (based only on DOIT and survey, likely incomplete)	**12.5**		**N.A.**
Active positions	**105.2**		**37.55**

Figure 1: Reported Vacant or Frozen Staff Positions[13]



Some detail on the staff outside of DoIT may be informative. Human Resources provided a list of staff whose titles reflected IT responsibilities and DoIT provided additional names known to them. Twenty-five FTEs were identified by HR (which are included in the number in Table 5), while a number of other individuals were identified by their participation in a university wide IT email listserv, although whether these latter are full FTE or only partial FTEs is not known. These locations and duties are presented in Table 6 to give a sense of the breadth of people identified as IT by central information sources. Each row is one position. It is important to note that some positions may have a title that suggests greater IT responsibilities than are part of the actual job duties. Time did not permit us to look up the job titles of individuals who were identified through the IT listserv so they are listed as "unknown" in Table 6.

[13] Information on vacant or frozen staff lines for the library is reported only for the Library Information Technology Services (LITS).

Table 6: IT Personnel outside DoIT as Identified by HR and DoIT

Dept Name	Job Title
Campus Card	IT PC SPEC I
Campus Card	IT SUPPORT ASST
Campus Card	IT TELECOM SPEC
Chemical & Biochemical Eng	IT SUPPORT ASSOC
College of Engineering	UNKNOWN
Computer Sci Elec Engineering	TECH COORD
Construction Services	IT SUPPORT SPEC
DPET	UNKNOWN
DPET	UNKNOWN
DPET	UNKNOWN
Financial Services	UNKNOWN
Financial Services	UNKNOWN
Graduate School Admin	IT PROG ASST
Graduate School Admin	UNKNOWN
Graduate School Admin	TECH COORD
Imaging Research Center	UNKNOWN
Institutional Advancement	IT CTL CLK LEAD
Institutional Research	Programmer
Institutional Research	SYSTEMS ANALYST
IS Department	SYSTEMS ANALYST
JCET (Englecox old position)	UNKNOWN
Library	UNKNOWN
Library	UNKNOWN
Library	UNKNOWN
Mathematics and Statistics	LAN SYS ADMIN
Mechanical Engineering	UNKNOWN
Meyerhoff	IT SUPPORT ASST
Physics	TECH COORD
Registrar	IT SUPPORT ASSOC
Shriver Center	TECH COORD
The Hilltop Institute	LAN SYS ADMIN
The Hilltop Institute	UNKNOWN
The Hilltop Institute	SYSTEMS ANALYST
The Hilltop Institute	LAN SYS ADMIN
The Hilltop Institute (Feder Old Position)	UNKNOWN
UG Admissions	UNKNOWN
UG Admissions	UNKNOWN
UMBC Police	IT SUPPORT ASST
University Commons	Multimedia Tech
University Commons	Multimedia Tech
University Commons	Multimedia Tech
Visual Arts	UNKNOWN
Visual Arts	Computer Spec

Non-Personnel Expenditures

The WG was provided aggregate budget information by Financial Services. The nature of the accounting system makes it difficult to identify the nature of many expenditures as it depends in what category various expenditures are placed. None the less, the following is believed to be an indicative breakdown of non- (UMBC) personnel expenditures. These figures thus include hardware, software, consulting, and so on.

Of the total non-personnel expenditures in FY 2009, about 40% is on PeopleSoft and Oracle licensing with a large, apparently one time, increase from FY 2008 for consulting for PeopleSoft SA implementation. DoIT, after deducting PeopleSoft and Oracle, is about 16% of the total.

These totals for non-personnel expenditures were also used to assess the coverage of expenditures reported from the survey of the Division and College units. Where the survey reported different (smaller) totals, these data were used to identify "non-reported" expenditures.

Table 7: IT expenditures FY2008, FY2009

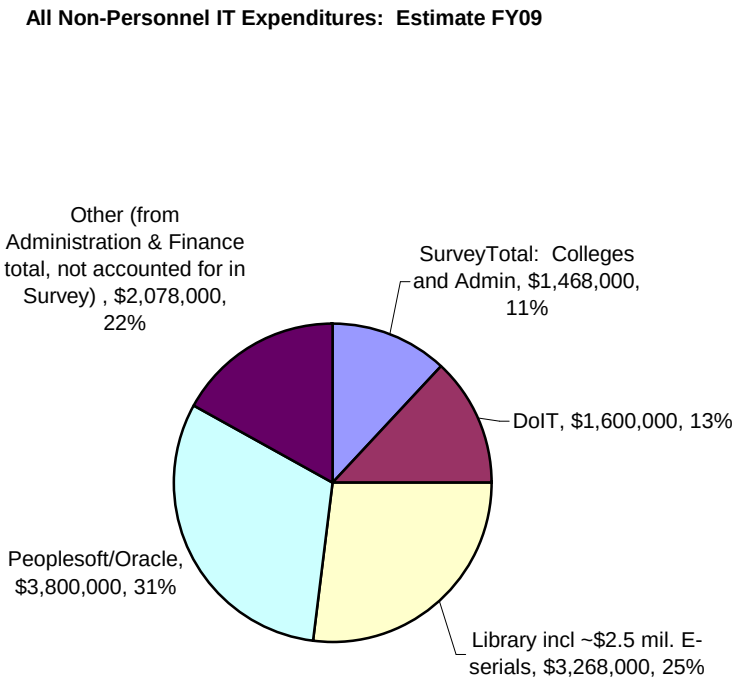
UMBC IT Cost Summary					
FY 2008 and FY 2009					
	TOTAL			OIT	
	FY 2008	FY 2009		FY 2008	FY 2009
Expense Description	Amount	Amount		Amount	Amount
Contractual Services					
Data Processing Academic/Research	998,573	972,237		60,343	60,531
Data Processing Admin	816,946	1,093,359		506,787	461,192
Subtotal Contractual Services	**1,815,519**	**2,065,596**		**567,130**	**521,723**
Supplies					
Data Processing Academic Supplies	724,273	470,631		304,360	148,241
Data Processing Admin Supplies	232,006	146,062		35,976	2,149
Subtotal Supplies	**956,279**	**616,693**		**340,336**	**150,390**
Computer/Hardware Purchases (1)	**1,787,662**	**3,139,957**		**1,079,365**	**902,335**
PS Software Development/Consulting (2)	**1,972,303**	**3,288,765**		**1,972,303**	**3,288,765**
Licensing (Oracle) Per USM Agreement (3)	**482,609**	**430,918**		**482,609**	**430,918**
TOTAL ANNUAL IT COSTS	**7,014,372**	**9,541,929**		**4,441,743**	**5,294,131**
(1) - Includes items paid thru Revolving Equipment Loan Program					
(2) - Total expense paid thru Revolving Equipment Loan Program (Delta Initiative)					
(3) - FY 09 Expense accrued for financial reporting purposes. Not actually paid until FY 10.					
Commentary					
All numbers on the spreadsheet are to be used as providing a general sense of expenditures.					
Costs associated with Computer/Hardware Purchases and PS Software/Development Consulting were derived from the University's Capital/Inventory Asset records in total. They were not reconciled back to specific departmental account expenditure data.					

Data: UMBC Administration and Finance as provided to the WG

Finally, the coverage of the Library was at the boundary of our charge both as to what is IT itself and what is IT enabled, and because there is a separate committee reviewing the operations of the library. However, the WG felt that to exclude the IT and near IT operations of the library would be to ignore an area of substantive overlap. The library, based on separate feedback provided to the WG, has "standard" IT non-personnel purchases in the amount of about $90,000, but the library also pays about $700,000 per

year for University of Maryland consortium services (LIMS) and e-subscriptions in the amount of $2.5 million. Figure 2 shows the expanded breakdown of non-personnel spending that includes the library[14].

Figure 2: Non-Personnel IT Expenditures



Software

The WG was interested in the amount and nature of software purchases as an element of non-personnel expenditures because of the potential for improving service and reducing costs through purchase pooling, open source software, or other approaches[15]. While many such purchases are done through DoIT, many are not. Table 8 lists software purchases known to DoIT with some additional information from Divisions, including the Library. Student and academic software is a relatively small fraction of the software budget although more detail is presented below.

[14] It is possible that there is some double-counting in the other (Administration and Finance) and library categories although $702,000 of library expenses was assumed to be in data processing/academic research, the only category large enough to contain that charge.

[15] Claffey, G. "Looking at IT Through a New Lens: Achieving Cost Savings in a Fiscally Challenging Time," *EDUCAUSE Quarterly*, 32(2), 2009.

Table 8: Individually Identified Software Purchases (excluding capitalized PeopleSoft/Oracle purchase)

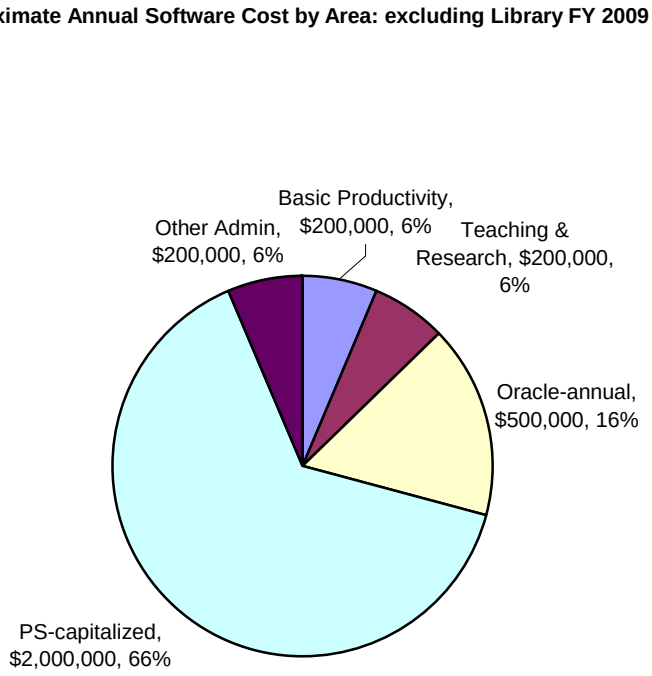
Annual Software Renewals

Last Updated Feb 2, 2010

Description	License Type	Eligibility	Annual Cost	Budgetary Responsibility
AutoCad	Unlimited Seats	Faculty and Staff- Students in Labs	3,000	DoIT
Comsol	4 seats	Faculty and Staff - Separate In Class Student Lic	1,752	DoIT
Maple	Unlimited Seats	Faculty and Staff - Students in Labs	8,000	DoIT
Mathematica	Unlimited Seats	Faculty, Staff and Students	12,000	DoIT
Matlab	Unlimited Seats	Faculty and Staff- Students in Labs	29,757	DoIT
McAfee	Unlimited Seats	Faculty, Staff and Students	11,609	DoIT
Apple OS Upgrades	500 Macs	Faculty and Staff	10,000	DoIT
Microsoft OS Upgrade and MS Office	Unlimited Seats	Faculty and Staff	61,500	DoIT
E-2 Campus Emergency Text	5000 Users	Faculty, Staff and Students	6,500	DoIT
Redhat Site License	Unlimited Seats	Faculty and Staff	18,500	DoIT
SPSS	Unlimited Seats	Faculty and Staff - Students in Labs	23,308	DoIT
SAS	Unlimited Seats	Faculty, Staff and Students	16,917	DoIT
JAWS	5 Concurrent Network Seats	Labs	700	DoIT
Fortress (Dorian Software)	1000 Seats	Labs	1,800	DoIT
Zoomtext	5 Concurrent Network Seats	Labs	2,200	DoIT
Pharos	Lab Printing Software	Labs	2,700	DoIT
Splus	25 Concurrent Seats	Labs	900	DoIT
Stata	25 Concurrent Seats	Labs	5,000	DoIT
Final Cut Express	50 Seats	Labs	1,000	DoIT
Blackboard (Bb)	Unlimited Seats		104,000	DoIT
Oracle Database Campus Wide License			76,500	DoIT
PHIRE Code Management Software for PS			11,000	DoIT
Confluence (Campus Wiki Pages)			3,000	DoIT
Presidium (Third party Tier I Blackboard Support)			35,000	DoIT
Wimba (3rd party building block plugin for Bb, web conferencing)			12,000	DoIT
Learning Objects (3rd party building block for Bb, blogs & wikis)			10,000	DoIT
Turnit In Blackboard 3rd party building block for Bb, plagiarism detection			15,000	Provost
iStrategy Data Warehouse			40,000	20K DoIT; 20K FinServ
ImageNow Document Imaging			26,800	$9,200 DoIT; $17,600 Provost Office
R25 Resource Scheduler			15,000	S25/R25
FSA/ATLAS International Student and Staff Registry			7,000	Provost's Office
T2 Parking Systsm			12,000	VPAF
Grades First for Athletics			2,500	Athletics
Peoplesoft Annual Maintenance			482,000	
CBORD CampusCard and Food System			????	VPAF
CBORD Reslife System			????	ORL
Facilities Work Ticket System (New)			????	Facilities Management
Student Health PyraMed System			????	???
Library IT Licensing Fees			95,000	Library
esubscriptions current			2,475,000	Library
Library LIMS site, admin, e-resources)			702,258	Library
Symplicity Operating System			8,500	Shriver,Career, OIA
		Total identified here	**$4,349,701**	

To complement this information, the sub-committee on software and consulting broke software down into three categories: 1) basic productivity software and operating systems, 2) teaching, learning, and research, and 3) administrative and financial tools. Figure 3 shows the breakdown in estimated software purchases in these three categories while including some components of software cost from other sources. For instance, approximate dollar amounts were reported to the subcommittee for the annualized PeopleSoft payment, and a Microsoft contract (for detail, see Section III. d. of this report).

Figure 3: Approximate Software Expenditures by Category: Sub-committee Report



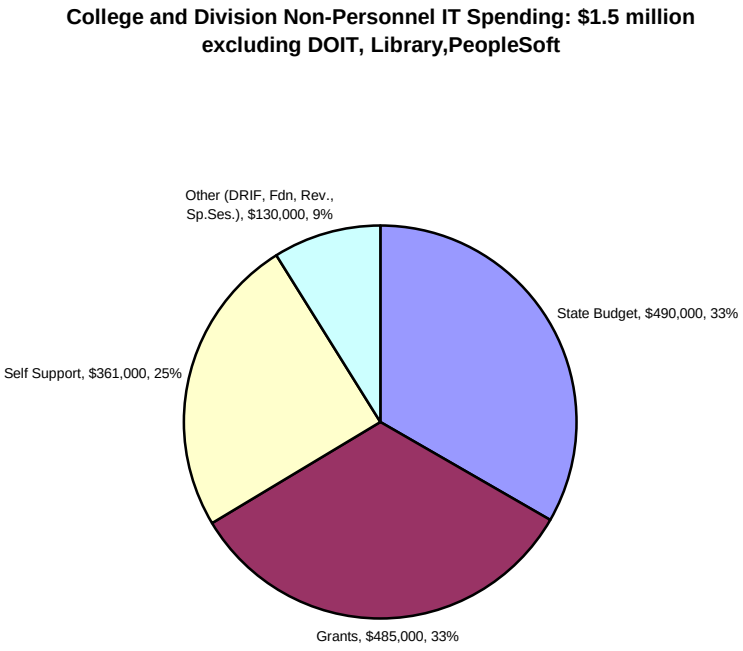
II. d. IT Survey of Colleges and Divisions

Given its charge and the partial information available from central information sources, the WG developed a survey which was circulated to units within colleges and divisions by the Deans and Vice Presidents. Although we are not positive of the total number of units and departments who might have replied, we received completed replies from 32 administrative units and 34 units within colleges. We believe this is a high response rate within colleges as the Office of Institutional Research lists 41 departments. It is possible that responses included some sub-units of larger departments. If the same response rate occurred within the administration, it is likely the response rate was about 75%. We note that not all research centers and institutes reported separately and the degree of coverage is less clear for those research institutes and centers which may have been partially incorporated into the responses of some departments. The entire survey is attached as Appendix A.

In the time available, the WG was not fully able to analyze all the survey results. Some data preparation was necessary to delete duplicate and partially completed repetitive surveys. Below we focus on the several questions related to personnel, non-personnel expenditures, and services in order to inform the WG's deliberations on the organizational location of activity and purchasing practices. The original survey is attached as Appendix A while the discussion below follows the sequence of questions from the survey.

Total survey reported non-personnel expenditures, excluding the library, for FY09 were approximately $1.5 million with only about 33% paid from state funds. An equal proportion of funding came from grants while self-support provided only somewhat less with 25%. Miscellaneous revenue sources such as Designated Research Initiative Funds (DRIF) and revolving funds provided 9%.

Figure 4: Survey Question 2: Non-Personnel Expenditures by Source of Funding

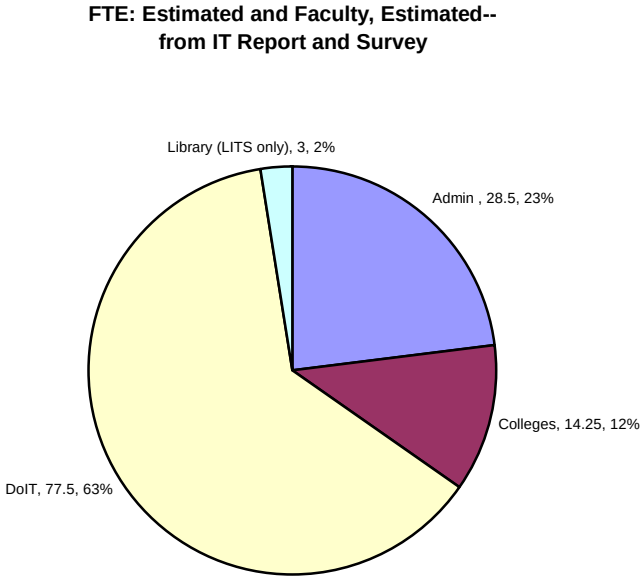


Faculty, Staff, and Student effort on IT

About 80% of the units responding indicated that someone among faculty, staff, or students spent all or part of their time on IT support. Additional detail was asked about individual faculty and staff and the proportion of time that was allocated to IT activities. Of the 123 faculty and staff identified in the survey and by other sources, several dedicate a fraction of an FTE to IT support. Within the administrative divisions, survey respondents reported 28.5 FTE faculty or staff and 14.25 were reported within the colleges. These data are the source of the 43 non-DoIT faculty and staff reported in Table 5 earlier.

Including separate information provided by DoIT and the Library, Figure 5 below provides the break-out of estimated FTEs by organizational unit[16].

Figure 5: Faculty and Staff FTEs: Various Data Sources (survey, DoIT, Library)



Students are also an important source of IT support. Survey respondents across both divisions and colleges excluding DoIT and the Library, reported 434 average hours per week directly on IT support, or almost 11 FTE, a little less than 20% of the faculty and staff level of effort. These data were included earlier in Table 5.

Open ended responses from Departments

The survey also allowed respondents to identify why they hire supplemental support. Their open ended replies are reproduced in their entirety in Appendix B. However, several responses that were thought typical are reproduced below:

- Maintain computers, manage web site, use of computers in productions.
- The IT-intensive nature of the department's instructional and research activities results in significant demand for IT support. The unique demands of individual research projects makes it advantageous to have dedicated personnel that understand the needs of individual faculty and research projects.
- The Department of Human Resources uses PeopleSoft for position management, leave processing, the bi-weekly transmission of payroll data, and to maintain employees' biographic and demographic information. We provide end-user training, problem resolution and are

[16] The difference between Table 4 and the data here are primarily due to different data provided by DoIT to EDUCAUSE and current data reported to the WG.

responsible for testing modifications and new bundles. We also develop and maintain the HR website.

- We answered at 0.02 FTE due only to the amount of time spent with web site content. It is sporadic and infrequent, but nevertheless important that we have some in-house ability to add, edit, or delete content quickly.
- The Department of Education offers teacher preparation programs for initial licensures and teacher education programs for practicing teachers. The programs are accredited and reviewed periodically by the Maryland State Department of Education (MSDE) and accredited by the National Council for Accreditation of Teacher Education (NCATE). Central to the accreditation and review processes is the development and implementation of the Education Accountability System via Tk20 (EAS via Tk20) which documents and assesses candidate performance, program quality and unit operations. The EAS via Tk20, powered by Tk20 Inc., is a dynamic system that integrates teaching, learning, assessment, management and reporting functions. The substance and enhancement of the system demands personnel and financial resources.

The survey also asked "How much does your department rely on the services provided centrally by the Division of Information Technology?" There was important variation on the type of services on which different units relied on DoIT. For instance, the majority of the respondents clearly indicated that they relied completely on DoIT for network services. In contrast, few depended on DoIT for web support (2 depending on DoIT completely but 32 depending "not at all".) Reliance on DoIT for help desk support is quite split.

Table 9: Dependence on Services Provided Centrally by DoIT

Answer Options	Completely	Somewhat	Not at All	Not Applicable/ Unsure
Administrative/ERP	32	26	1	4
Desktop Support,	16	38	7	2
Web Support Services	2	23	32	4
Enterprise	24	26	8	3
Help Desk (user	26	31	6	0
Information	22	17	5	17
Instructional	25	24	6	8
Network	34	19	4	3
Research Computing,	12	20	10	19
Information	30	21	5	5
Telephony Services	15	11	18	17

To refine the information, respondents were asked to list their top 5 IT services. The results presented below indicate a heavy but not complete reliance on DoIT for services such as administrative functions, desktop support, help desk, instructional, and network; at the same time, the fact that about 42% of the respondents indicated that help desk/user support is not in their top 5 is indicative of the importance of support from other sources. In order, the top 5 identified services, identified in context as being provided by DoIT, are: Administrative support (78.1%), Desktop support (64.1%), Help desk (57.8%), Network (56.3%), and Enterprise (e.g., storage, 53.1%).

Table 10: Top Five IT Services from DoIT

Answer Options	Response Percent	Response Count
Administrative/ERP	78.1%	50
Desktop Support,	64.1%	41
Web Support Services	48.4%	31
Enterprise	53.1%	34
Help Desk (user	57.8%	37
Information	7.8%	5
Instructional	50.0%	32
Network	56.3%	36
Research Computing,	25.0%	16
Information	40.6%	26
Telephony Services	9.4%	6

The survey also provided an open ended question on how to improve efficiency and economy. Illustrative answers are given below with all answers provided in Appendix B.

- Clarify funding and maintenance and hardware upgrades of departmental computer labs (essentially a small MOU with each Dept.).
- A program to renovate existing or older computers. We have many machines that are still usable if they could just be checked-out, old programs and software removed, and OS updated.
- We have found it very efficient to have a student doing desktop support for our department. Our student has regular hours and can respond to needs much faster than if we had to call IT for desktop support. Sometimes when our student can't fix the problem, we do call IT desktop support, but it takes a few days to get someone over and often they come when staff are in meetings and therefore can't fix the problem.
- Centralize desk-top support in IT. Standardize desktop applications and setup. Version control of popular desktop software.
- Lack of web support has made it difficult to develop and maintain pages without using costly or external solutions. We either rely on students with high turnover or do nothing.
- Have a clear/transparent system when we need to report problems with SA.
- The current "ticket" system for help does not work well for advanced systems requests or problems. Getting the "ticket" assigned to the right individual is difficult.

The survey provided a text box for respondents to raise issues not brought up in the survey. Illustrative answers are below with complete responses in Appendix B.

- The Library is an Information Organization; its IT operations and staffing are closely linked to the Library's unique role in providing for the campus' research, teaching and learning information needs.
- Onsite blackboard and help desk support is critical for departments that will never have sufficient resources to provide these services for themselves.
- The Hilltop Institute is entirely a grant-funded institution. Our budgets for IT and other services to our clients originate with the contracting agencies. We have made several changes recently to improve efficiency in IT services recently, but these efficiencies do not affect UMBC's budget.
- The responsiveness of IT helpdesk is a lifesaver.

- Departments would benefit from a centralized web development office that would provide services at no charge.
- We believe it would be helpful to have more IT staff that are skilled on Macintosh computers.
- The department appreciates any support for the Computer Replacement Initiative to replace faculty and staff computers.

Finally, the survey asked if there were any additional staffing or resource issues related to IT about which respondents wished to inform the IT Restructuring Work Group. Illustrative answers are below with the complete set of responses in Appendix B.

- OIT is understaffed [and it] needs more staff and I fully support getting more.
- We find that student workers are the first responders on issues and we can appreciate this cost effective approach. At the same time, however, we often find that the resolution of problems takes a number of attempts over an extended period of time which may be due to their level of experience.
- Not all departments or divisions use IT the same way. Some have more complex systems (e.g., SADI, ImageNow, CollegeNet, etc.).
- It would be most helpful if there were designated staff to troubleshoot and answer questions for faculty on SA issues. It is not clear who does what in the Registrar's Office for troubles with the registration process or SA system, and often, there is no one to respond to questions, or there is misinformation to students. Two of the staff members spend a good percentage of their IT time serving as a liaison for faculty and students in trying to resolve SA issues.
- Provide Financial Services/IT with additional resources in order to respond to request for trouble-shooting on either PS Finance or Student Administration issues.
- It is very important that our network system be operational at all times. The only way to insure [*sic*] our systems are up and running 24/7 is to have redundancy built-in to the network system, access to the off-campus internet provider and the campus telephone system. At the present time we don't have any of these. We also need additional IT staff instead of relying on one (1) person to do everything.

III. Findings and Recommendations

The subcommittees met separately and presented reports to the full Work Group. The recommendations presented below represent the consensus of the group based on discussion of the subcommittee recommendations.

III. a. Centralized, Decentralized and Hybrid Models

Currently UMBC has an "informal and unplanned" collection of centralized and decentralized structures. The campus should move toward a more structured model that employs centralized, decentralized, and hybrid approaches in a deliberate way to maximize efficiency and effectiveness from the standpoint of both service delivery and cost. The Work Group recommends that the issues addressed be presented without emphasizing the "centralized vs. decentralized" issue. While this is one of the options that would be considered, it is not the only option, and we suggest that the focus be on improving the quality of the services received while ensuring that these services are provided efficiently as these are the key issues to be addressed.

1) Centralized/Decentralized/Hybrid approaches: The sense of the Work Group is that neither a centralized nor a decentralized solution will prove most effective but that a hybrid approach is likely to be the best solution. Our further sense was that there are probably opportunities to improve the quality of service provided without increasing the cost and perhaps even while decreasing expenses. It is believed that these opportunities are likely to be associated with units where there is either a fraction of an individual dedicated to IT support or where supervisory staff have limited background and training in IT-related issues. In these situations, the individuals providing IT support may not have as much training as would be ideal, leading to less efficient or less secure solutions. The goal would be to identify **clusters of units that might be supported by a group of dedicated IT staff**. In this way, the services these units require could be provided more efficiently and security could be enhanced. This would be accomplished by ensuring that IT staff have adequate training and by providing supervision by a manager from DoIT that is fully-aware of relevant IT issues. At the same time, there are units that are IT-intensive where there is also management in place which is sufficiently engaged in and aware of IT-related issues to ensure that services are being delivered appropriately, such that these units should continue to maintain some level of IT staff internally.

Under all models it would be useful to maintain a central information source on IT positions. Therefore units should inform and perhaps consult with DoIT when filling a part-time or full-time student or staff IT position. For those positions that are to be included in a cluster under a hybrid model it is important to complete a needs assessment to evaluate the priorities of the units in that cluster and to coordinate closely with DoIT.

To make specific recommendations on centralized, decentralized, and/or hybrid models would require more detailed data regarding the individuals providing IT support across campus, the activities these individuals are engaged in, their backgrounds, and the management solutions that are in place. If hybrid approaches are explored, the focus should be on providing higher quality services to the units involved, but budgetary issues would likely be a concern.

Issues to consider include: Where would the funds come from to provide this new IT support? Would new funds be provided to DoIT? Would funds associated with existing IT support need to be transferred to cover the expenses associated with this new solution? What impact would such an approach have on support for students? Some departments hire students to provide their IT support. DoIT already relies heavily on students. Would moving to this approach result in more full-time employees at the expense of student employment opportunities? Even if departments retained their funds, would they support students from the same students or would funds move to support a different group of students? For example, a number of departments employ students from other departments, who happen to have the necessary technical expertise, to provide IT support. These departments may reallocate this support to their own students, if IT support is provided centrally. While this is not necessarily a negative outcome, this possibility should be considered as plans are developed.

Several survey comments indicated a need for a particular level of IT support within a predictable response time. In the case study from the University of North Carolina at Chapel Hill they emphasized the importance of providing a consistent high level of service to achieve their successful centralized IT support structure. Service level agreements (SLAs) are one approach to establishing formalized expectations of what services will be provided, under what circumstances and within what time frame. SLAs should be explored to ensure effectiveness of centralized and hybrid models for IT support.

The group does not believe that the data it will be able to gather through the current process will be sufficient to fully understand the opportunities and challenges associated with reconfiguring how IT is supported across campus. While the survey provided information on the IT personnel across the colleges and divisions, more analysis is needed, including some follow up data, to have sufficient understanding.

Therefore, the Work Group recommends that this issue be studied in more detail before any changes are initiated.

2) Computer Labs: The Work Group recommends that UMBC explore the possibility of moving toward a **virtual computer lab (VCL) model**. The VCL is based on an open source project piloted at NC State (http://vcl.ncsu.edu/). While this would involve some up-front expenses, it would dramatically reduce yearly maintenance/upgrade costs for existing computer labs while allowing any classroom on campus (where there is space for students to place a laptop) to become a computer-lab as needed assuming the room provides adequate access to both the wireless network and outlets where students can plug in their laptops (considering battery life and class duration). VCL allows anyone with a computer and an Internet connection to have access to the required applications by simply logging in from their own computer, transforming the UMBC teaching and learning environment. If implemented appropriately, this would allow for increased quality of service for faculty and students, increased flexibility with regard to scheduling classes that need computers (especially those that only need computer labs occasionally), and reduced expenses (eliminating many desktop computers that are currently maintained by DoIT). At the same time, it is important to recognize that maintaining a VCL environment would require some dedicated, ongoing support.

For this to be successful, all UMBC students who would use these virtual labs would need to own or have access to a laptop computer. Results for UMBC from the 2008 national EDUCAUSE Center for Applied Research (ECAR) Study of Undergraduate Students and Information Technology revealed that 95% freshmen and 85% of seniors have their own laptop[17]. DoIT should work with the college deans, the vice provost and dean for undergraduate education, and the assistant provost for enrollment management to identify solutions and recommendations for student technology so that UMBC can better leverage student owned computers to better utilize transformative technologies such as virtual computing labs.

III. b. Outsourcing Possibilities

Due to time constraints the work group was not able to explore options and possibilities related to outsourcing. Some discussion of current software outsourcing is provided in the software licensing section.

III. c. Chargebacks for Services and Other Funding Options

1) Chargebacks: The subcommittee did not support the idea of introducing charges to units for basic core services or a recurring charge for standard services such as data connectivity. Two practical concerns lead to this recommendation. First, given the current budget situation, the affected units are unlikely to have any funds within their existing budgets to pay for these services. As a result, their operating budgets would need to be increased to provide funds to pay DoIT for the services they require. In addition, implementing this approach would add significant overhead regarding financial transactions between DoIT and the units receiving services.

However, DoIT does current employ chargebacks for certain specific services and we anticipate that this practice would continue. These include:

- Virtual server hosting for departmental applications
- New network jack installations
- Web development
- Network storage

[17] Only one program, Imaging and Digital Arts, requires that a laptop be brought to class.

Web development provides a useful example of an area that is critically important for all units for which there are concerns that need to be addressed. Some units that do not have in-house expertise currently contract with DoIT, OIA, or external vendors. Other units acknowledge the need to develop or revise their web sites, but they do not have the necessary resources so their web sites remain outdated and in some cases inaccurate. This may be an area where a "hybrid" model will be more cost effective for the university. For example, there could be a standard template that individual units would be able to use to develop and maintain their web sites. This service could be available free of charge. However if a unit wanted/needed custom design or interaction capabilities for its website, there could be a charge based on the complexity of the services needed to produce and/or maintain the site.

2) IT fees: Currently IT fees indirectly support technology on campus through the general fund. As revenue from IT fees currently charged to students increases, the group recommends that newly generated funds through the fee have stronger linkages directly to DoIT to cover increasing costs of labs, software and infrastructure. This additional funding might be a sustainable mechanism to cover some of the ongoing maintenance, support, and upgrades associated with UMBC's instructional activities, including the recommended virtual labs.

3) IT fee for grants or greater support from DRIF: Between FY 2003 and FY 2010 the annual DRIF support to DoIT decreased from approximately $100,000 to $29,000. If support from DRIF for IT support continues at this low level, the subcommittee recommends that UMBC consider implementing an IT fee, similar to that which is used at many other institutions, which would be included in all proposals for external funding. The fee could be a simple fixed dollar amount (TBD) based on an easily defined measure such as the number of FTE faculty, staff, and students supported on the grant. The fee should be allocated directly to provide funds to cover some of the ongoing maintenance, support, and upgrades associated with UMBC's research activities. One possibility is to allocate these fees directly to DoIT, but the possibility of allocating some fees directly to departments that provide their own internal IT support for research should be considered.

III. d. Effective Software Licensing Practices

This subcommittee considered how to improve the efficiency of software licensing at UMBC with the long-term goal of improving effectiveness of business processes, teaching, learning, and research, while potentially saving money both in the short and the long term. The subcommittee conducted an informal survey of its members, with particular input from Ben Lowenthal of Administration and Finance, and additional information from Mike Carlin of DoIT and Larry Wilt of the Library, to gain a broad understanding of existing software on campus, its main user groups, its funding mechanisms, and its cost. Outsourcing constitutes an alternative to purchasing software and often takes the form of outsourcing a certain service or business process. Software at UMBC can be grouped roughly in three categories, listed in the following paragraphs. The quoted prices are rough approximations of the annual licensing or maintenance costs.

Basic productivity software and operating systems: This software is shared among all groups on campus, from students to administrators. UMBC already has a site license for this software in place that is effective in ensuring that any computer can have the software installed, without individual departments or staff paying for them. This makes staff more productive, avoids frustration, and is cost-effective. One decrease in effectiveness was identified when different versions of software are in use across campus, such as Microsoft Office 2003 and 2007, which causes frustration and delay in collaborations when several people have to edit the document. A potential loss of cost-effectiveness exists, if this software is purchased in a bundle with new computer hardware, thus not taking advantage of the campus license for it. DoIT is central to managing the contracts with vendors for this software and funds the purchases.

Between operating systems and the contract with Microsoft, the cost for software of this type is on the order of $200,000.

Software for teaching, learning, and research: While teaching, learning, and research are different activities, software that can be used for all of these activities should be viewed together to allow for the synergies between them and to allow students to progress from classes to research seamlessly. The software in this category includes many mathematical and statistical packages that are used to conduct research in large numbers of departments as well as in the underlying teaching and learning. Examples include SPSS, SAS, and Matlab. Compared to other institutions, we recognize that the licensing for software in this category is organized effectively at UMBC, avoiding both fragmentation among purposes (learning vs. research) and among units (one college vs. another). This category also includes software tools that support teaching and learning and various other community activities, such as the course management system Blackboard, with various add-on tools for producing and watching movies (Wimba, iTunes, movie players) or tools for academic integrity (turnitin). DoIT is central to managing the contracts with the vendors and funds the purchases. The total cost for the approximately 12 mathematical and statistical packages is on the order of $200,000. The cost for Blackboard stands out as the single largest item at over $100,000 with minor additional cost for the added tools.

Administrative and financial tools: The software in this category includes software that is vital to a large range of business processes on campus, such as Oracle database, R25 scheduling software, iStrategy (REX) data warehouse interface software, ImageNow imaging software, T2 parking system, and more. In terms of cost, PeopleSoft dwarfs everything else with its approximate annual cost of $2,000,000 representing financing of our investment in the software suite. This includes costs of upgrades, implementation consulting, hardware purchase and maintenance, and software purchase and support. The next highest single-item cost is the annual maintenance payments to Oracle for all PeopleSoft modules. Negotiated via the USM consortium, these payments total approximately $500,000 annually. Other software costs have a more typical range from $10,000 to $40,000. The grand total, excluding PeopleSoft, is over $200,000, with several items not priced in the list available at present. The parking software T2 is an example of an outsourced service, in that this software is not installed on a UMBC computer, but rather maintained and run by a service provider. The software used by the Library also falls into this category of administrative software in a broad sense, but the subcommittee did not have time to investigate the list or its cost. The source for funding for software in this category includes a number of units across campus. The UMBC unit that is responsible for the service typically provides the majority of the funding in the case of smaller software purchases and receives help from other central resources (often Provost) in the case of larger costs. Purchases funded by departments other than the central university are often grant based or from self supported budgets (non-State support). Preliminary survey results indicate that these expenditures are funded by non-State support budgets at twice the rate of state budget funding. Larger ERP oriented expenses such as the PeopleSoft module and implementation costs and annual Oracle/PeopleSoft maintenance are budgeted in a central university fund managed in consultation with DoIT.

Options for improving productivity and decreasing costs: The following list summarizes several options for potential cost-savings and improvements to effectiveness; the latter do constitute cost-savings, typically in time saved for users as well as for IT support staff.

1) Pooling Purchases and multi-year contracts: One approach to cost-savings is to **pool purchases**. This can take the form of pooling purchases centrally within UMBC, such as for the operating systems, the Microsoft contract, and for mathematical and statistical software. It can also take the form of UMBC being part of a larger pool, such as the USM or a similar consortium. Due to UMBC's small size, the **pooling of internal groups** at UMBC is actually very centralized already. The subcommittee could not assess fully if **pooling of UMBC in a larger consortium** could be improved, but indications are that

many efficiencies have already been used there. However, while the efficiencies are used contractually by having the campus-wide license in place, anecdotal evidence indicates that a sizable number of individuals and units still place their own purchases. This is often the result of frustration with an inability to assess in a timely fashion if software is already licensed on campus and to obtain needed media and license information.

One additional approach to pooling would be to purchase **multi-year software contracts**. While this idea is in use for the Microsoft contract, there appear to be real opportunities to save money for the mathematical and statistical packages. However, some legal obstacles might need to be addressed to allow for multi-year contracts.

In summary, given the pooling already in place, there are probably limited cost savings by more pooling. However, since the software in this category cuts across all groups on campus from students to administrators, there are great opportunities for improvements in effectiveness. **Examples are to provide better version control so that larger groups of users all use same version; to make it easier to find out what is licensed and start using it (i.e., more users for software that we already pay for); to provide up-to-date versions (of software that we already pay for).** A concrete example of cost-savings associated with this would be that IT support in a unit (outside of DoIT) would spend less time obtaining media for software and avoid the cost of a local purchase. To leverage this benefit more, the subcommittee could readily imagine additional software that could be purchased centrally. While examples were readily clear, a more complete picture would require polling of departments to get a fuller picture what software they purchase locally at present. A note of caution is that sometimes the personnel costs to integrate software across platforms can negate any savings from multiple offices adopting the same software package, so there are times when it will be cost effective for different offices to purchase different/separate software packages rather than trying to force the same software package to fit the disparate needs of units.

The administrative software clearly costs substantially more than the teaching, learning, and research software. The approach of pooling might provide cost-savings by pooling within a consortium and multi-year contracts. We could not assess if these approaches are already fully utilized or investigated. **While we do purchase some software via a combined USM consortium, possible expansion of that pool beyond USM should be investigated.**

2) Open Source Software: For many software applications, **open source software** exists with equivalent functionality and at potentially substantial cost-savings. UMBC already utilizes this in a number of examples, such as the software that drives myUMBC or a variety of utilities in the background used by DoIT. An area where this is less explored is application software. One of the clearest examples would be the basic task of word processing, particularly for simple documents, i.e., without major formatting. The program OpenOffice has the same functionality as Microsoft Word (and maybe Excel or other programs in the Microsoft Office suite) and is free of charge. Open source alternatives also exist for a number of mathematical and statistical packages, such as Octave for MATLAB or R for S-Plus. As the example of these mathematical and statistical packages indicates, knowledge of the capabilities of certain open source software already exists on campus. But to make strategic decisions on open source software even for particular uses, this knowledge needs to be brought together centrally and documented.

3) Cloud Computing: Somewhat similar is the idea of cloud computing, in which one uses software that is installed on some remote server (as indicated by the phrase “in the cloud”). This can be licensed software or open-source software. However, beyond a limited file size, it would likely cost money to store the data on these servers, and charging for that appears to be the business model of the providers. This may not be a suitable approach, in particular if we need to control access to data for privacy or other reasons. Cloud computing has some of the same benefits as virtual computing labs in that software would

not need to be installed on individual computers so issues such as version control and access to available software (both licensed and open source) could be improved. The group recommends that this option be explored in more detail to determine whether it would be an effective option for certain software applications or particular units on campus.

4) Organizational responsibility: A large amount of anecdotal evidence points to significant frustration in units outside of DoIT in getting information on software and/or obtaining media from DoIT. As result of frustration with delays and lack of information, units likely purchased additional software that was not needed. To be clear, the fault does not lie entirely with DoIT, as units sometimes do not bother to check with DoIT or do not wait a reasonable amount of time for a response. But putting both together, the key to improving the situation is to provide a **dedicated point person at DoIT for software management**. The duties associated with managing DoIT's portfolio of centrally supported software, version control on servers and labs, managing the license renewals, and communicating with units and individuals are currently handled by Mike Carlin of DoIT. But this is in addition to his core duties. There would be significant benefits by identifying another individual and making that resource widely known to the campus community as the software coordinator. In addition to providing a central contact for existing software licensing, this person would be expected to act as ambassador to units on campus to promote more efficient use of licenses.[18] Through this outreach, this staff member would learn what software units are currently purchasing and would help determine if any savings are possible from more pooling. The software coordinator would lead the effort to investigate open source alternatives for certain software by providing the central place to collect expertise, document the information collected (e.g., on a web page), and by providing vital technical input such as for instance by testing whether the software can be installed under all desired operating systems. To be clear, the software coordinator is not expected to provide user help on the use of the software, rather his/her duties lie in the procurement, coordination and scheduling of installation, and other core-DoIT duties. Naturally, the software coordinator would be very effective at guiding users to the appropriate place for help, which will certainly significantly improve the effectiveness of the use of software in teaching, learning, research, as well as administration.

In summary, a clearly identified point person for software at DoIT would ensure up-to-date licenses of existing supported software, installation of the latest version in labs and other spaces, and rapid response to requests for information, media, and similar, which will improve effectiveness and decrease frustration in units outside of DoIT. Over the span of several months, this person can also collect data on usage and needs for software on campus, including conduct a survey on needs in units, and the person can lead the investigation of several options for open source alternatives, in collaboration with other interested and knowledgeable parties on campus. **These efforts have clear potential for short term and long term savings, but require a central leadership person in DoIT for data collection and technical feasibility analysis.**

IV. Conclusions

When approaching the task of finding more effective and efficient ways to structure IT service and support, there are three paths that can be taken. The Work Group found that there are 118 FTE faculty and staff plus 38 FTE students engaged in IT support. Approximately 10% of the staff positions are currently vacant and could be deployed in ways to create more efficient and effective models of support. This can be viewed as a "follow the faculty/staff lines" focus. However, it is important to note that in many cases funds associated with "vacant" lines end up being applied to other critical activities, so it is

[18] In 2007 the Faculty Senate Computer Policy Committee requested that a list of and documentation for software packages that are already paid for centrally (by DoIT or others) be made public and updated regularly. Some efforts took place by DoIT in response, but without outreach the availability of the information did not become well-known and it has proven hard to keep the information up-to-date without an appointed coordinator.

probably not as simple as moving the funds since this will create new holes in budgets. A "follow the money" approach indicates that the money is primarily in administrative, enterprise, and library IT software. Looking there for efficiencies seems appropriate, although domain specific knowledge should be respected. Finally, as innovations in technology are introduced, new possibilities for efficiency and effectiveness present themselves. A few examples are mentioned in this report. This represents a "follow the technology" strategy.

The WG gathered a lot of data with highlights provided in section II. These data are necessarily incomplete given both the data structures on campus and the time available to complete our charge. We are pleased with the survey response rate of approximately 75% in spite of the fact that several units within the colleges and divisions plus a few large centers were not able to complete the survey within the short window they were given. Furthermore, caution should be exercised with respect to the precision of any particular number; however, the relative order and general magnitudes are believed to be informative.

The findings and recommendations require further input from the campus community and analysis by the campus leadership to determine which will yield the most productive results. Solutions will differ by unit based on the size and scope of their IT needs. Solutions will change as needs and technologies evolve. The Work Group recommends that an existing group or committee continue this review to ensure forward progress.

Appendix A: Survey

Campus IT Assessment 3.5

1. Background

Scope and terms:
1. We are asking that you obtain estimates. We do hope that your replies will be within about 10 percent of the value you might obtain with more work.
2. Our request is that you respond within one week to this web survey.
3. IT is broadly interpreted to include computer based activity and Peoplesoft implementation and functional support. We are using categories of activity that are commonly used by a professional organization with examples from the UMBC context. We are not including functions that are only partially IT such as asset management.

This survey is from a faculty and administration group charged with reviewing IT structure, services, and cost across campus in a short time frame. Per the charge from the Provost we are to "Gather information about existing IT support staffing and resources across the campus including staffing levels and types, organizational structure and placement. Gather information about non-personnel IT service and support functions, including software/licensing, infrastructure, and other areas."

This data survey is to help us identify services, personnel, and costs that are not available centrally and also to obtain your initial input into this process. A later short survey is likely on possible recommendations.

We much appreciate your time.

IT Restructuring Work Group
Co-chairs, Janet Rutledge, Scott Farrow

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2. Demographics

1. Please provide basic demographic information regarding your department.

Division/College:

Department:

Contact Name:

E-mail Address:

Phone Number:

2. Estimate your total non-personnel IT expenditures in dollars for FY 09 (7-1-08 to 6-30-09) *e.g. software & licensing, hardware, maintenance, IT consulting.*

State Budget

Grants

Self Support

Other *(DRIF, Foundation, Revolving, Special Session)*

3. Based on your responses to question #2 please estimate your percentage change in departmental non-personnel IT spending for FY10 relative to FY09.

	Increase/Decrease/Same in FY 10 Relative to FY09	Percentage Change
State Budget		
Grants		
Self Support		
Other *(DRIF, Foundation, Revolving, Special Session)*		

Campus IT Assessment 3.5

3. IT Staffing Support

IT staffing support is defined as someone who provides support in any or all of the following areas.
These areas are examples only and are not meant to exclude other IT support areas in your response to the question.

- setup and maintenance of desktops in offices & labs and associated software and peripherals
- configuration and technical management of computer labs
- system administration and maintenance of servers
- development of software
- programming and application development
- web page page development and content maintenance
- research computing support
- Peoplesoft functional development and end user support
- mobile device support (PDAs, iPhones, Blackberry etc.)
- general trouble shooting related to IT systems where the staff or faculty member provides support or service within the department

*** 1. Do you have any faculty, staff or students (GA, RA, Hourly, Workstudy) that currently spend all or part of their time providing IT support for your department?**

◯ Yes

◯ No

Campus IT Assessment 3.5

4. IT Support Description

1. How many faculty and/or staff within your department currently spend part or all of their time providing IT support? ***(Please respond in total FTE, not just time spent on IT support) Skip this question if not applicable***

Number of FTE

2. Of the faculty or staff noted in question #1 please estimate the percentage of FTE they devote to IT support ***(e.g. If the staff member is 1 FTE and they spend 30 hrs a week on IT support they would be reported at 0.75 FTE)***

Faculty/Staff Member 1

Faculty/Staff Member 2 (*if applicable*)

Faculty/Staff Member 3 (*if applicable*)

Faculty/Staff Member 4 (*if applicable*)

Please provide information on all additional faculty/staff (*if applicable*)

3. Please provide the First and Last name of the faculty and/or staff providing IT support.

Faculty/Staff Member 1

Faculty/Staff Member 2 (*if applicable*)

Faculty/Staff Member 3 (*if applicable*)

Faculty/Staff Member 4 (*if applicable*)

Please provide information on all additional faculty/staff (*if applicable*)

4. How many individual students (GA, RA, Hourly, Workstudy) within your department provide IT support? ***Example: 3 students working 10 hrs each per week would be reported as a total of 30 student hours per week. Skip this question if not applicable***

Number of Students

Total Average Hours Worked Weekly **(Includes ALL Non-IT and IT Work; Across All Students)**

Campus IT Assessment 3.5

5. Of the hours reported in question #4 please estimate the average hours devoted weekly to just departmental IT support.

Total Average IT Support Student Hours per Week **(Includes Only IT Work; Across All Students)**

6. Why does your department require these departmental IT support positions?

Campus IT Assessment 3.5

5. Internal Departmental Services

This section relates to IT services and support provided by your reported faculty, staff or student IT support staff for your department.

1. What percentage of each faculty or staff member's time, listed in question 4.3, is spent providing IT support within the department in the following service areas? *(Round to the nearest 10%)*

	IT Person #1 (if applicable)	IT Person #2 (if applicable)	IT Person #3 (if applicable)	IT Person #4 (if applicable)
Administrative/ERP Systems (PS FIN, HR, SA)				
Desktop Support, User Support, Training				
Web Support Services (dept web pages)				
Enterprise Infrastructure Support (servers, storage, system administration)				
Help Desk (user support via call center)				
Information Technology Policy				
Instructional Technology, Multimedia, Student Computing (Blackboard, Computer Labs)				
Network Infrastrucuture				
Research Computing, Academic Computing				
Information Technology Security				
Telephony Services (Mobile devices, PDA, iPhones etc.)				

Please provide information on IT services provided by any additional faculty/staff members.

Campus IT Assessment 3.5

2. On average what percentage of your student(s) time, listed in question 4.5, is spent providing IT support within the department in the following service areas? *(Round to the nearest 10%)*

	Students (if applicable)
Administrative/ERP Systems (PS FIN, HR, SA)	
Desktop Support, User Support, Training	
Web Support Services (dept web pages)	
Enterprise Infrastructure Support (servers, storage, system administration)	
Help Desk (user support via call center)	
Information Technology Policy	
Instructional Technology, Multimedia, Student Computing (Blackboard, Computer Labs)	
Network Infrastrucuture	
Research Computing, Academic Computing	
Information Technology Security	
Telephony Services (Mobile devices, PDA, iPhones etc.)	

Campus IT Assessment 3.5

6. Central IT Services

1. How much does your department rely on the services provided centrally by the Division of Information Technology?

	Completely	Somewhat	Not at All	Not Applicable/Unsure
Administrative/ERP Systems (PS FIN, HR, SA)	◯	◯	◯	◯
Desktop Support, User Support, Training	◯	◯	◯	◯
Web Support Services (dept web pages)	◯	◯	◯	◯
Enterprise Infrastructure Support (servers, storage, system administration)	◯	◯	◯	◯
Help Desk (user support via call center)	◯	◯	◯	◯
Information Technology Policy	◯	◯	◯	◯
Instructional Technology, Multimedia, Student Computing (Blackboard, Computer Labs)	◯	◯	◯	◯
Network Infrastrucuture	◯	◯	◯	◯
Research Computing, Academic Computing	◯	◯	◯	◯
Information Technology Security	◯	◯	◯	◯
Telephony Services (Mobile devices, PDA, iPhones etc.)	◯	◯	◯	◯

2. Please choose the top 5 services that are most important to your department.

Choose ONLY 5 Services

- ☐ Administrative/ERP Systems (PS FIN, HR, SA)
- ☐ Desktop Support, User Support, Training
- ☐ Web Support Services (dept web pages)
- ☐ Enterprise Infrastructure Support (servers, storage, system administration)
- ☐ Help Desk (user support via call center)
- ☐ Information Technology Policy
- ☐ Instructional Technology, Multimedia, Student Computing (Blackboard, Computer Labs)
- ☐ Network Infrastrucuture
- ☐ Research Computing, Academic Computing
- ☐ Information Technology Security
- ☐ Telephony Services (Mobile devices, PDA, iPhones etc.)

Campus IT Assessment 3.5

7. Open Comments

1. Is there any change to improve service efficiency or to reduce the budgetary cost of IT services about which you would like to inform the IT Restructuring Work Group? Recommendations can range from departmental to campus-wide initiatives.

2. Please provide us with any additional information or comments that you feel might be useful.

3. Are there any additional staffing or resource issues related to IT about which you wish to inform the IT Restructuring Work Group?

Appendix B: Responses to Open Ended Survey Questions

Section 4, Question 6: Why does your Department require these IT support positions?

Response Text
Maintain computers, manage web site, use of computers in productions.
Web support, internal desk-top support and computer questions
Department has its own server. Staff identified in #1 is analum who provides support for the server if and when needed.
Provides first line direct support for 350 public and staff workstations; networking & security, Pay 4 Print, web presence development, support of commercial software crucial to Library functions, Library AV tech support, Library digital initiatives and Library IT planning and development. Many of the technology applications, services, and content are specific and unique to the library environment and needs.
Web content maintenance
We have a lot of computers and they need maintenance.
IT Support for the Meyerhoff Program has many forms. Database creation and management is a primary responsibility. However, our IT Support personnel also works with various departments on campus for Meyerhoff data regarding academics, alumni, grants, and research
The Department of Human Resources uses PeopleSoft for position management, leave processing, the bi-weekly transmission of payroll data, and for to maintain employees' biographic and demographic information. We provide end-user training, problem resolution and are responsible for testing modifications and new bundles. We also develop and maintain the HR website.
Routine and minor help with departmental computing functions, mainly SA.
Our website must be current; we work with student orgs to have webpages; we need on-line forms and such (applications for positions, sign ups for events) created so as to contribute to sustainability efforts
Operate and maintain campus card system
Database administration, desktop support, web page content maintenance, mobile device support, general trouble shooting.
The department has a network consisting of two (2) servers and sixteen (16) workstations. On the network we have mission critical applications that require them to be up and running on a 24/7 schedule. When and if the system should go down we lose access to critical information needed to provide a safe working condition for the officers working the campus. When the system's not functioning, besides not having access to the local in-house information, we lack access to the state and nation-wide police information networks. It is very important that our network system be operational at all times. Also the campus police are mandated by federal law to keep the campus community alerted of certain crimes that occur on or near the campus. When the departments network system is down, this cannot be accomplished.
The IT-intensive nature of the department's instructional and research activities results in significant demand for IT support. The unique demands of individual research projects makes it advantageous to have dedicated personnel that understand the needs of individual faculty and research projects.
On-site support and services. Provide specialized support. 85+ machines. Department has its own servers. Hardware and software purchases.
The Hilltop Institute operates a data warehouse and associated analytical tools (SAS, SPSS, etc.) for analysis of healthcare data originating at Maryland DHMH and other external agencies. We host over 90,000,000 Medicaid and Medicare records and a variety of healthcare records from other states such as New Mexico and Rhode Island. To maintain a high level of service to our clients it is essential for us to maintain HIPAA compliance and to have excellent user support with application availability. Our three employees are cross-trained to do effective work in maintaining all of our websites, data storage environments and handling of all desktop support issues.

Continuing & Professional Studies (CPS) includes the activities of the Division of Professional Training & Education (DPET), including the English Language Center; Summer, Winter and Summer Sessions; and UMBC Training Centers (TC). All of these organizations are self-support and contribute vital financial resources to the campus. Each requires specialized IT support to faculty and staff in order to function productively and profitably. CPS has special IT needs that are critical and time sensitive. Our multiple program locations require that IT staff be available to work at South Campus, Main Campus, the University Center and other locations. CPS IT staff must effectively support the various instruction and training provided by both DPET and TC and needs often occur outside of the traditional 8-5 work day. Principal activities of the CPS IT team include database management, web development, data reporting, equipment maintenance, instructional lab support, and other functions. At UMBC Training Centers'
Career Services operates in a dynamic technology based environment. The website is updated daily to reflect current changes in recruitment activity by employers; to receive registrations for recruiting events and to reflect new workshops and programs delivered by Career Services and other campus partners (Shriver, Advising, etc.) for students. The website also hosts online workshops for students as well as several online tools such as the Vault Career Library and the FOCUS Career Assessment. Each of these are maintained in-house. UMBCworks is also administered through Career Services and we provide on-going support to the Shriver Center who shares this recruiting tool with CS. Daily, the Career Center receives telephone calls, emails and walk-ins for assistance with UMBCworks. All registered UMBC students have access to a UMBCworks account. Because our needs are ongoing on a daily basis, we require an in house technical support person otherwise we would not be able to deliver exceptional customer s
CSEE has always had needs for IT support that go beyond the norm
PeopleSoft modules implemented include General Ledger, Commitment Control, AP/PO, Asset Management, Accounts Receivable, Payroll Commit Accounting, Grants/Projects and many smaller modules. These systems require a large amount of functional support. Regular upgrades and patch/fixes require comprehensive testing of all components. In addition, end user support both external and internal through RT tickets is our responsibility. Finally, web support is a necessity for Financial Services to provide accurate, service oriented information to our students and departmental customers.
We answered at 0.02 FTE due only to the amount of time spent with web site content. It is sporadic and infrequent, but nevertheless important that we have some in-house ability to add, edit, or delete content quickly.
We have medical software and billing software. In addition, we'll be launching Electronic Health Records in the near future.
We manage departmental software and a website. All of our software is outside of PeopleSoft and unique to our Residential Life operation. IT support is focused on reporting and development of new web modules that connect to our databases. When possible our internal IT support does assist with hardware and basic computer issues, but this can take away valuable time that can be used on development and troubleshooting of online and database issues. We also provide support for a shared database with Student Judicial Programs and have developed systems to share information with PeopleSoft, Student Life and University Health Services.
Web page development and content maintenance mobile device support

We have no in-house support for web-design, networking or web-based programs. Our department relies heavily on web-based programming to reach the larger commuting student population; especially during peak housing times when off campus (out of state/international) students need housing. Our systems are somewhat dated and not as inter-active as I'd like them to be.
Digital Signage (LED Boards, LCD -inet screens in The Commons Digital store front - iway Shared drives for store front (retail) High volume and specialty graphics printers Websites - The Commons, Gameroom, Flat Tuesdays, commonvision
Data management, software management, report generation.
Content management for department web site Training, administration, and support for contact management system
website maintenance; computer problems
Support/purchase of departmental computers; web page maintenance
to assist with software implementation, maintenance of computer equipment and accessories, monitoring of online printing processes.
It is faster to have a competent staff person to address issues like webdesign than to have to wait for someone outside of the department to update time sensitive information.
The Graduate School is the only department on campus fully utilizing the capabilities of the Student Administration Document Imaging (SADI) system. The complexity of SADI requires a large of amount of IT support to trouble-shoot and operate. Additionally, the IT support positions of the Graduate School support not only its other staff, but graduate programs across the campus. The Graduate School serves as the functional expert in the operation and usage of SADI. Finally, the Graduate School has day-to-day, routine IT support requirements consistent with our mission.
The software required in our computer labs requires expertise in GIS (Geographic Information Systems), Cartography, and Remote Sensing. I should note that we have not included lab proctors and TAs in our estimate of IT support as their main function is to provide teaching assistance to students in lab courses and do not play a significant role in the IT function of the department.
Faculty need training on use of People Soft systems, faculty request assistance of support staff to handle tasks related to use of SA, the department needs to maintain its website and Blackboard community, one faculty member provides support to the other instructors and TAs in PSYC 100 online laboratory component of the course.
Most of our IT support is provided by someone outside of our department that we pay. That supports cost $5300 in FY 09 and is going up this year. I can't find where I provide that information -- since this is personnel support but not from our department/program. We need this support in dealing with computer problems, identifying new hardware or software necessary for the program and faculty and student research, problems with PeopleSoft and Blackboard, etc.

The Department of Education offers teacher preparation programs for initial licensures and teacher education programs for practicing teachers. The programs are accredited and reviewed periodically by the Maryland State Department of Education (MSDE) and accredited the National Council for Accreditation of Teacher Education (NCATE). Central to the accreditation and review processes is the development and implementation of the Education Accountability System via Tk20 (EAS via Tk20) which documents and assesses candidate performance, program quality and unit operations. The EAS via Tk20, powered by Tk20 Inc., is a dynamic system that integrates teaching, learning, assessment, management and reporting functions. The substance and enhancement of the system demands personnel and financial resources.
Enrollment Management (EM) is comprised of 5 departments which includes 75 full time employees and 50-75 student workers. Enrollment Management serves a large and broad constituency including prospective students and parents, current students, alumni, UMBC faculty and staff as well as high school and community college faculty and administrators. To best serve these important constituencies, we must provide timely and responsive services and support. Having a solid IT infrastructure with a broad knowledge base both in the technical aspects as well as the enrollment services business process is critical to this end. In addition to day to day operations, IT staff support the 40-50 EM events annually including recruitment activities and new student advising and registration.
ZZZ provides IT support for all the off-campus Choice Program offices. Therefore, he is required to travel to all these offices to provide the necessary IT support, including (recommending hardware/software; purchasing hardware/software; troubleshooting; tracking/monitoring/inventory of all software/hardware/equipment/sensitive equipment, etc. XX provides all of the same services to on-campus Shriver Center staff and provides backup support to XX. Mr. YYl also provides all IT support for the Shriver Center servers. These servers support Shriver Center Business Services Finance, Personnel, Payroll, and Inventory databases.
In support of instruction, research and administrative aspects of the department. The department has over 100 PCs, Macs desktop and laptop machines running older as well newer versions of Windows, Linux and Mac OSX distributed in faculty, staff and graduate student offices. It also has a dedicated 30 unit PC lab (ENG114) with 30 machines while also providing hardware and software support for the COE&IT lab located in ITE238 which also has 30 PCs. The department also has a dedicated windows server for storage and sharing of administrative, instructional and research data. A dedicated IT support staff member assumes most of the responsibility for hardware and software support for the department. This includes purchasing of new hardware and software, installation of new software, renewal of licenses, networking and other IT support activities while also managing and maintaining the ME server. The following position description was used during the summer 2008 hiring of Mr. Howard Bihy.
ZZZ provides faculty and staff with desktop support, server support, multimedia support, and telephony service support
for webpage updates and database support
We have 40 computers, 5 servers, 10 Tb of storage, 3 operating systems, and the list goes on.....
web page development and maintenance REX/SA applications configuration of computers for research and teaching
maintenance of music recording studios updating department website

Section 7 provided 3 open ended questions for respondents to suggest improvements.
Question 1: Is there any change to improve service efficiency or to reduce the budgetary cost of IT services about which you would like to inform the IT Restructuring Work Group? Recommendations can range from departmental to campus-wide initiatives.

Response Text
There needs to be an easier way to re-gain access to system if a virus is detected and a user is shut down. When this happened, there were only two people on campus who were authorized to restart me, and neither was available for some time, meaning I lost work hours. Also, the phone number given to call to get restarted was the help desk and they had to tell me the real number to call to get help, adding another step to the process.
Clarify funding and maintenance and hardware upgrades of Departmental computer labs (essentially a small MOU with each Dept.)
A program to renovate existing or older computers. We have many machines that are still usable if they could just be checked-out, old programs and software removed, and OS updated.
Move Blackboard support back on campus--the contractor was relatively useless when I called, only pointing out what options we didn't have rather than helping me with what we DID have.
Enhance maintenance of existing computing resources to extend lifespan. Improve energy efficiency in terms of computing IT resources. The Library needs to increase IT staffing.
Huh? The question eludes me.
Fewer part-time student help replaced with full-time, knowledgeable staff would improve efficiency. Dedicated PS person (knowledgeable) is essential.
No
There are several HR technical programming tasks that need to be completed to eliminate the need for bi-weekly temporary solutions. Some have been on the project list since the implementation of PS/HR.
We have found it very efficient to have a student doing desktop support for our department. Our student has regular hours and can respond to needs much faster than if we had to call IT for desktop support. Sometimes when our student can't fix the problem, we do call IT desktop support, but it takes a few days to get someone over and often they come when staff are in meetings and therefore can't fix the problem.
What IT services (such as web pages) could be centrally provided.
None
Better and faster access to software and media of campus supported software. Provide a mechanism for departmental backups. Support data projectors in departmental controlled rooms. Better flow of technology information from DoIT to departmental IT staff.
It seems that audio-visual services, as good as they are, are spread out across the campus in a variety of departments. Overall the OIT staff we have contact with are professional and very competent.
CPS has already taken aggressive steps to reduce its IT staff to create budget savings. In January of 2009 CPS IT had a position elimination of the Assistant Vice Provost. Since then, CPS IT members have assumed extra responsibility to fill the void from the loss of this CPS leadership position. Also as of 2/26/2010, ZZ our PT Contingent I CPS IT staff member will be resigning from his position at UMBC. As of now there are no plans to replace that position, so CPS IT staff will work together to absorb responsibilities of this position. Reducing 1.5 positions in the last 2 years has increased our workload, but we understand the economic climate and these are some of the challenges we face and have to take on in order to do our part for UMBC. One suggestion is to keep Departmental Information Technology (DIT) staff such as the CPS IT Team members regularly updated with Campus IT initiatives. Now this is done in DIT meetings which are scheduled approximately once a semester, but we would

As human and budgetary resources continue to be stretched, examining ways in which all departments can be supported in a timely manner needs to be examined. For some departments, such as ours, time is of the essence in making our work happen for our constituents.
Centralize desk-top support in IT. Standardize desktop applications and setup. Version control of popular desktop software.
I have seen trouble tickets get bounced around for weeks without any real indication that there is a light at the end of the tunnel (i.e. a resolution to the request). Other times I have gone a week or more without seeing any action on a trouble ticket--to the point where I log into the system just to be sure it went through. My perception is that there is not adequate staffing in DoIT to provide a timely response to trouble tickets.
I'd like the Division of Student Affairs to have one central IT person who could learn each departments individual software and be available for help.
Not at this time.
Hardware support for PC's Techs that just don't wipe discs clean when there's a problem, losing valuable information. It seems like we don't consider IT to be critical until there is a crisis. IE Jack Suess saving PeopleSoft and SA. The IT group running the registrars office I believe are contractors this is nuts.
Computer purchasing, infrastructure and troubleshooting would be a big item that I'd like to take out of our hands, assuming there would be more support centrally. In addition, some support centrally in the development of some online modules/databases to improve office efficiency could be of benefit. This would require dedicated personnel that could meet the high demands of a growing and robust internal operation.
Bringing fiber to the Warehouse building would improve network connectivity and provide a more stable IT platform for departments housed in the building.
I think it would be helpful to have a dedicated IT person or group of people for each division or department. It would allow for more familiarity with the IT needs of each division as well as ongoing issues. I think it would also create better relationships between OIT and other parts of campus, if there was a specific person to talk to not just a number.
Dedicated campus-wide R25 IT person or a dedicated IT person per department.
Lack of web support has made it difficult to develop and maintain pages without using costly or external solutions. We either rely on student with high turnover or do nothing.
None.
The offices or clusters of offices that manage IT issues the best have a person dedicated to their area. Could we consider "cluster" IT assignments based on similarity of needs or location or by department/college?
More help and training with dept. website design and maintenance for inexperienced staff, such as with Contribute
More support for classroom technology. More rooms with equipment and support for IT staff to maintain it.
It would be helpful if OIT could respond more quickly to tickets generated by faculty when they're having trouble accessing Blackboard, or having trouble with hardware or software on their office computers.
The campus would benefit from staff having a better understanding of the R/T ticketing system.
Improve the turn-around time for service : new computer installation, cable installation and routine help desk issues
We have no staff so we are dependent on centralized support. Better quality service and more training would help.
Have a clear/transparent system when we need to report problems with SA.

We have come to rely on outside consultants for services that could be provided by campus IT if they had more personnel and could answer calls in a more timely manner. Our IT expenditures represent a significant portion of our small budget.
Provide discipline-specific hardware and software support for academic programs (such as for new and veteran P-12 teachers); increase efficiency of support for faculty and staff members on campus; provide opportunities to enhance 21st century knowledge and skills such as information and technology literacy of UMBC students.
None.
The current "ticket" system for help does not work well for advanced systems requests or problems. Getting the "ticket" assigned to the right individual is difficult. More centralized assistance for multi-platform logins, file sharing, and interoperability. More staff help in the area of network security.
Improve quality of desktop support. Haven't used them recently because of previous bad experiences.

Question 2: Please provide us with any additional information or comments that you feel might be useful.

Response Text
We're a very small program and there is no "wiggle room" at all for undertaking IT tasks locally--we have no faculty and .5 staff. Any reduction in services will hit small programs particularly hard!
The Library is an Information Organization; its IT operations and staffing are closely linked to the Library's unique role in providing for the campus' research, teaching and learning information needs. Please see additional information to be sent.
Useful to what?
Onsite blackboard and help desk support is critical for departments that will never have sufficient resources to provide these services for themselves.
No
I don't know the difference between Enterprise Infrastructure Support and Network Infrastructure.
From a planning perspective, it would be helpful to know what systems will be supported by DoIT versus what we in the departments should plan to support or consider "hosted solutions."
None
The Hilltop Institute is entirely a grant-funded institution. Our budgets for IT and other services to our clients originate with the contracting agencies. We have made several changes recently to improve efficiency in IT services recently, but these efficiencies do not affect UMBC's budget.
Departmental IT has tried to ease the burden of IT support from DoIT, especially when it comes to tier 1 issues, allowing DoIT to focus more on enterprise wide concerns and initiatives as well as decrease response time to get users back up and running. At the same time CPS IT is very grateful for the services that DoIT provides to us. We recognize that DoIT supports the entire campus and campus affiliates which is an arduous task. CPS IT tries to rely on its resources (where it makes sense) before involving DoIT. By doing this we reduce the amount of time and resources that DoIT has to spend on CPS IT-related requests as well as CPS IT is able to better understand CPS' technical needs. CPS IT tries to help the university's IT support services run more efficiently and smoother.
It should be noted that the majority of our IT non-personnel costs are for online services to students and employers.

Within Student Affairs, there is a significant disparity between units in terms of in-house IT support. Therefore, the degree to which are units are "wired" and equipped to leverage technology to improve our routine and not-so-routine business processes varies widely. Having a technology person with a student affairs background to help smaller units stay on top of emergent trends/applications would be helpful. In other words, I am not in favor of growing DoIT centrally, but I am in favor of growing DoIT and having resource people "out in the field" to help various units move forward.
UHS is really going to need additional support once we "go live" with our new Electronic Medical Record system. This is going to most likely include a secured web portal so security (i.e. HIPAA compliance) will be a major issue.
The responsiveness of IT helpdesk is a lifesaver.
I need help with our department webpage, we contracted out to set it up ($5,000 several years ago), but I have no help for the major improvements that it needs. Research computing support has disappeared, non support of linux, unix, etc in a research university is unheard of, these people have been retasked on the delta initiative.
Almost, if not all, of our internal IT support is centered around managing internal business systems that include our databases and website. Sometime is spent on setting up computers, diagnosing computer issues and requesting future purchases. I would like to take the computer hardware and infrature support out of the hands of our grads and other staff if this support could be better achieved centrally.
The FAQs on the OIT website are very helpful. They should be expanded so that more issues can be solved by individual users.
Help desk should be aware of all software being used on campus and supported by OIT so they can at least acknowledge that they know that it exists.
Better accessibility to staff and equipment. Providing access to departmental IT staff that have been cleared by DOIT. This would allow departments to control and fix occurrences as they arise and quickly while relieving DOIT of some of the workload.
N/A
Content management in myUMBC and Facebook is now important to student communication, but did not seem to fit into any of the categories of this survey.
More help and training with dept. website design and maintenance Have IT help communicate better with non-IT faculty and staff
The department appreciates any support for the Computer Replacement Initiative to replace faculty and staff computers.
I did not include in this survey the costs of supervising the writing labs
Our department is not the usual department on campus. We have 2 staff with degrees in IT, one of whom handles the majority of our IT needs that don't require OIT input.
Within the department, there is a great deal of informal help and instruction between faculty and staff. This is ad hoc with little apparent cost -- hence savings are not possible.
The registration/authorization system often goes up and down throughout the day, especially during peak usage.
We believe it would be helpful to have more IT staff that are skilled on MacIntosh computers.
Several IT support staff in EM also spend significant amount of time on data querying and reporting.
Departments would benefit from a centralized web development office that would provide services at no charge.
Inventory issues for portable computers, mobile devices, and electronic/AV equipment take an inordinate amount of staff time to implement.

Question 3: Are there any additional staffing or resource issues related to IT about which you wish to inform the IT Restructuring Work Group?

Response Text
Better service on weekends. No response to calls made on Sunday, for example.
WiFi should be available to all areas on campus. We have an area that includes offices and a small classroom with poor or no WiFi coverage. OIT has informed us that we would have to pay to have coverage to these areas.
Funding for equipment renewal is within LIMS budget - not reported above
OIT is understaffed needs more staff and I fully support getting more.
The lack of an efficient central process for providing desktop/laptops to departments is an incredible hardship for unit with small operating budgets. This means we can't replace machines until they are entirely unusable. Also, the lack of central backup machines has left staff in my unit without computing capability while waiting for new machines to arrive.
No
I have been unable to find resources or support for the redesign of our department webpage, which is awful.
While I see the benefit to IT to have the on-line ticketing system, it creates an annoyance for me. Since I am the Director of the office, I am the one to give approval for staff and students to access particular drives/calendars/etc. I used to have our tech student email me the requests and then forward them to IT help. Now I have to go to the website, find the form, and complete the form. Given the number of student leaders we are working with who need different things, it takes a lot more steps for me now. Additionally, the form probably isn't all that helpful when you get it from me because I don't fully understand the options I'm choosing in identifying to whom the ticket should be directed.
We find that student workers are the first responders on issues and we can appreciate this cost effective approach. At the same time, however, we often find that the resolution of problems takes a number of attempts over an extended period of time which may be due to their level of experience.
It is very important that our network system be operational at all times. The only way to insure our systems are up and running 24/7 is to have redundancy built-in to the network system, access to the off-campus internet provider and the campus telephone system. At the present time we don't have any of these. We also need additional IT staff instead of relying on one (1) person to do everything.
CPS IT strives to do what is best so that we can support our division and UMBC overall. We would like to work more closely with DoIT to see how we can work together more efficiently and effectively for the campus.
Just my comment that I think Student Affairs would benefit with one (or two) dedicated IT individuals.
Not at this time.
Why are the techs from the helpdesk contingent I employees? We keep losing good people that then get "real" jobs having to retrain people over and over. A week of not getting paid on top of the snow storm is plenty of motivation to look for another job. I was actually shocked yesterday to hear that we do this.
We will be looking at future housing software in the near future. Currently we are utilizing an obsolete software package as CBORD is development a new product. We will need to decide whether to migrate to that new software or choose a completely new product. Better interfacing with PeopleSoft is a MUST.
Not at this time.
ZZ is great!
While we have not spent money, it is not because we don't need to, it is because we are looking for ways to spend wisely. We have added a grad assistant in CommonVision.
N/A
Need more help with dept. websites and with Bb

About 1/2 of the department uses Apple computers and about 1/2 PCs. We appreciate the improved support for Mac users that OIT has undertaken in recent years.
It would be very helpful if we could have support for developing/ revising our dept. web site. This will be something we will have to hire out since our site is outdated.
None that I can think of at this time.
Not all departments or divisions use IT the same way. Some have more complex systems (e.g., SADI, ImageNow, CollegeNet, etc.).
Provide Financial Services/IT with additional resources in order to respond to request for trouble-shooting on either PS Finance or Student Administration issues.
It would be most helpful if there were designated staff to troubleshoot and answer questions for faculty on SA issues. It is not clear who does what in the Registrar's Office for troubles with the registration process or SA system, and often, there is no one to respond to questions, or there is misinformation to students. Two of the staff members spend a good percentage of their IT time serving as a liaison for faculty and students in trying to resolve SA issues.