A Proposal:

Change the IT Funding Model to Eliminate Most Telecommunications Monthly Chargebacks

Office of Information Technology
Michigan Technological University
Houghton, MI 49931
www.it.mtu.edu

March 27, 2015

Approved by the IT Governance Committee, March 24, 2015

Approved by the Michigan Tech Executive Team, April 23, 2015

A Proposal: Change the IT Funding Model to Eliminate Most Telecommunications Monthly Chargebacks

Walter W. Milligan
Chief Information Officer, and Professor, Materials Science and Engineering
March 27, 2015

Executive Summary

The funding model for the Telecommunications Network at Michigan Tech is no longer appropriate for the university, and does more harm than good. Charging users a monthly fee for data connections prevents them from fully benefiting from the network, and drives all sorts of behavior that is rational for the user (minimizes Telcom bills) but that is irrational for the campus. Further, it promotes a negative, adversarial relationship between IT and the campus. Instead of IT asking, "How can we help you succeed?" IT has to ask, "What account number can you give me to pay for that service?"

Most other universities also had this funding model in the 1990s, when network utilization and demand for services exploded. The model made sense in the 1990s to ensure that funding scaled with growth in services, but it makes no sense now. Connectivity is a core service and should be generally funded. Most other universities have done this already.

The proposal may be summarized as follows:

- Beginning on July 1, 2015, IT will discontinue monthly charges for data and phone connections. All existing connections, including wireless, will continue to be supported for "free".

- IT will allow users to add new data connections and phone lines with no monthly charges. There will be a nominal 1-time activation fee, and users will have to buy the telephones and pay for any jack upgrades or installations that may be necessary.

- Chargeback revenue will be recovered, where possible, by a 1-time, permanent budget reduction equal to the amount of Telcom charges that departments incurred in Fiscal Year 2014. Auxiliary departments will continue to be billed, but at the rate that they paid in FY14, and no longer per jack or per phone. Research Institutes will be billed $800/person/year, which is about what they paid in FY14, and is exactly equal to the revenue per person per year that departments in the College of Engineering will be giving up in the budget reduction.

IT will give up around $120k in revenue that was charged in FY14 to faculty incentive accounts, IRAD accounts, student lab fee accounts, etc. IT believes that this is a small price to pay for eliminating a bad funding model. Users will make decisions based on outcomes, instead of based on trying to minimize Telcom bills. People can focus on doing their jobs, and IT can focus on trying to help people succeed.

Introduction

When the Ethernet and Internet started to become ubiquitous on university campuses, in the early-to-mid 1990s, information technology (IT) departments struggled to keep up with increasing demand for network services. For the most part, IT departments were comfortable with a mainframe model, whereby a select few researchers and a minority of administrative staff members used simple terminals to connect to "big iron" in the datacenter.

Starting in the late 1980s, the demand for computer labs, PCs in faculty and staff offices, and connected computers in traditional research labs led to explosive growth in the demand for network services. IT departments reacted at most universities in a consistent way. To ensure that the funding grew with the demand for new services, IT departments instituted a "chargeback" model, whereby every device connected to the Ethernet required an installation fee, as well as a monthly fee to support the electronics behind the jack plates.

This model was appropriate for the era of explosive growth in the 1990s, as it allowed IT departments to generate the revenue that was necessary to provide new services. The chargebacks also limited growth to those who actually needed the services, or more accurately, to those who were willing and able to pay for the services.

Almost every university in the country has since abandoned the chargeback model for data connections, and many have also abandoned it for "VOIP" (voice over internet protocol) telephone services. The model was appropriate for an era of explosive growth, but at steady state, it does more harm than good, as explained below.

It is long past time for Michigan Tech to join our peers and abandon this model.

Drawbacks of the Chargeback Funding Model

The chargeback model has many flaws:

- ***Connectivity is no longer optional***. Almost every Michigan Tech employee needs to connect to the network to accomplish his or her job responsibilities. Connectivity should be similar to electricity; one should come into the office, flip on the light switch, flip on the computer, and get to work. Charging extra for such a core service is no longer appropriate.

- ***Chargebacks discourage users from taking advantage of beneficial services.*** Many faculty members would like to connect computers in their research labs to the network, but choose not to do so because of the $15/month fee. Faculty members would prefer to spend their discretionary funds on research, not on a core service like connectivity. As another example, many departments have eliminated the jack and conference phone in their conference room, to save the $22/month. As a result, faculty, staff and students are unable to conduct conference calls in their conference rooms.

- *Managing chargebacks wastes valuable time and energy.* Administrative staff members spend hours and hours trying to manage Telcom bills, often while trying to save just a few dozen dollars per month. Groups have wasted days trying to identify a few data connections that are not absolutely necessary. People get angry understandably so.

- *Chargebacks promote a negative, adversarial relationship between IT and campus constituents.* Instead of IT asking, "How can we help you succeed?" IT is forced to ask, "What account number can you give us to turn on that network connection?" Users resent having to pay for a core service out of their discretionary funds.

- *Chargebacks drive behavior that is rational for the user, but irrational and counterproductive for the campus as a whole.* Examples:
  - Since IT has not figured out a way to charge users for wireless connectivity, and since it is "free" to the user, many users unplug their wired data connection and try to get by on the wireless network. Wireless is inherently less stable and reliable than the wired network, so users get frustrated. Wireless is **not** "free" to the campus. The access points and controllers and software are expensive, and the data is transmitted on the wired network after it gets to the access point. It is only "free" to the user because IT has not figured out how to charge users for it.
  - Users often ask IT to deactivate jacks or phones for a month or three at a time when they "will not need it", to save the $15-$22/month. However, the jack and switch ports are still committed, so they sit idle, and IT doesn't save any money. Further, the staff time needed to disconnect and reconnect a jack for a month or three is a waste of valuable resources.
  - Some users set up rogue wireless networks so they can connect without a fee. These networks interfere with the IT wireless network, and degrade the wireless service for everyone. They are also often insecure.
  - Many users forego connectivity in labs and offices to save the $15/month. Then they transfer data back and forth with insecure and unreliable USB devices or hard drives.
  - Users often disconnect data connections and telephones in conference rooms, to save the monthly fees. Then, they are unable to conduct conference calls in their conference rooms. So, sometimes, users call IT and ask IT to install a conference phone for a day or a week. Once again, this is a poor use of valuable staff time.
  - Public areas such as residence hall common areas or the SDC have limited jack connections available.

Only two arguments can be made in favor of keeping the chargebacks:

- Chargebacks insulate IT somewhat from budget fluctuations, and do continue to increase IT revenue with growth in network services.

- Users only pay for what they truly value, so chargebacks do act to limit the growth of IT network costs.

The disadvantages far outweigh the advantages. Every consultant and colleague that IT has discussed this with in the last 8 years, including Dr. David McConnell who is a "Consultant in Residence" at Michigan Tech this year, has said the same thing:

"Connectivity is a core service that should be generally funded."

Current State of Telcom Funding

IT leaders have been trying for a number of years to replace the chargeback model. Until now, the efforts have been unsuccessful. Within the last 6 months, due to impending changes in both IT and campus leadership, IT has intensified the effort to better understand the Telcom operations and transition to a modern Telcom funding model.

These efforts have resulted in a wealth of useful data, some of which is presented in this report. There are 5 tables in the Appendix. These tables are the result of 6 solid months of study by a team of around 8 people, not all inside IT, adding up to around 4 person-months of effort. The tables contain Banner data related to chargebacks in Fiscal Year 2014 (July 1 2013 – June 30, 2014, abbreviated from now on as FY14.)

Many other tables and spreadsheets were created in an effort to deeply understand the operation. These other tables helped IT formulate this proposal, and are available if anyone cares to see them. Five fiscal years of data were studied, and several possible solutions were constructed in an effort to come up with a "fair" new funding model.

The most basic problem becomes evident by studying Table 1:

- Total chargeback revenue in FY14 for data connections and telephones, excluding IT charging itself, was $1.436M.

- Chargeback revenue from General Fund SS&E accounts for data connections and telephones was only $698k, less than half of the total.

So, every time IT came across something like this over the years, the difficult question became "how are we going to replace the non-GF revenue?" As an example, in the academic departments, total Telcom chargeback revenue for phones and data connections in FY14 was $523k (Table 2). But $102.5k of that was charged to literally hundreds of indices; faculty incentive accounts, student course fees, instrument use fee accounts, departmental IRAD accounts, faculty startup accounts, and many more. Academic departments are not going to give up limited General Fund SS&E dollars to pay for network connections in faculty research labs, so that revenue is not recoverable from the General Fund.

Unfortunately, the network is very expensive, and so IT needs to recover as much of the $1.436M in revenue as possible. The network is more than optical fiber and copper; it consists of $3.7M worth of switches and routers that need to be replaced regularly. Figur 1 shows a schematic view of the network.
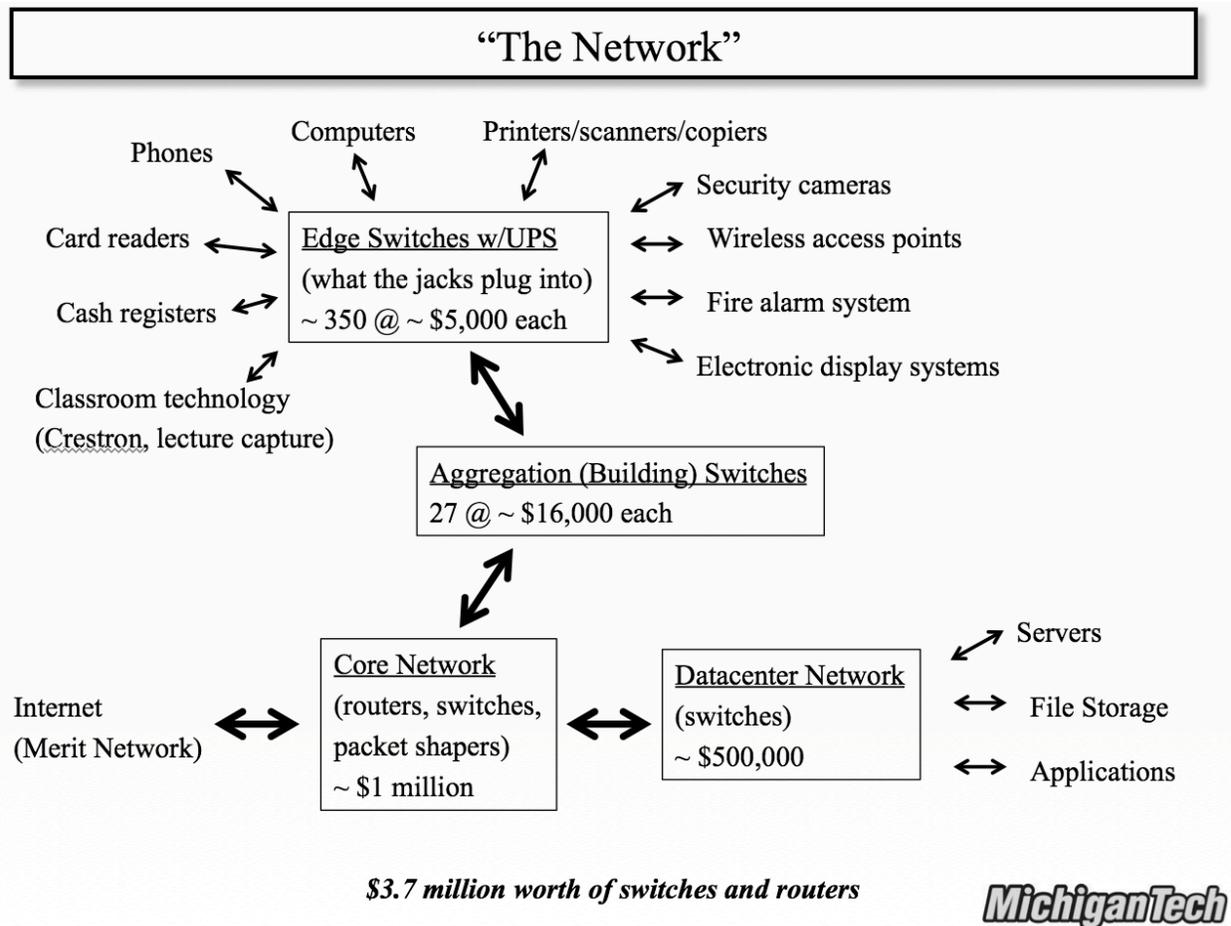

Figure 1. Schematic of Michigan Tech's Network

Every networked device (data jack, phone, etc) plugs into a port in the back of an edge switch in a closet. There is concern that if new connections become "free", the available switch ports will quickly disappear, and IT will need to buy many new switches. At this time, it is a risk that IT is willing to take, in order to better serve the campus constituents.

Proposed Solution

Several different possible solutions were developed and discussed with various constituents over the last six months. As an example, an attempt was made to determine a reasonable "Telcom charge per person" based on historical revenue trends. If successful,

one could just look at campus staffing data and tell each department "pay us $800/person/year, and turn on as many jacks as you want." This effort was not successful, due to wide differences in historical network services paid for by different departments. The revenue per person varied in FY14 *between academic departments* from $506 per (faculty + staff) to $1,544 per (faculty + staff), with an average of $839. It would not be politically possible to tell a department that had been paying $506/person/year that they were going to be billed $839/person/year from now on. Several other potential models were explored in detail, with similar issues always arising.

In the end, the "Proposed Solution" that most people could agree on was the following:

"Try to recover from each department what they paid in Telcom charges in Fiscal Year 2014."

Details:

- Completely eliminate monthly charges for data connections and telephones.

- Allow departments to add new data connections and telephones, with a small "activation fee," and ask them to pay the actual costs of any necessary jack upgrades or telephones. These charges are discussed later.

- Try to recover as much of the FY14 revenue from each department as possible, using FY14 actual Banner data as the baseline.

  o In academic departments, this amounts to a 1-time, permanent reduction in SS&E equivalent to the amount of Telcom chargebacks made to *the general fund SS&E accounts* in FY14. IT gives up the ~ $100k in non-GF, non-SS&E revenue.

  o Research Centers in academic departments are treated no differently than research-active faculty members. Thus, IT gives up that revenue, ~$20k.

  o Research Institutes (KRC and MTRI) receive a new billing model. As soft-money organizations with variable staff and funding, and being responsible for their own indirect costs, they will be billed a "per person charge" of $800/full time employee/year. This is exactly the average that departments in the College of Engineering will be contributing in the SS&E sweep, and it is very close to what KRC and MTRI paid in FY14. The rate scales with staffing levels, which is appropriate for soft-money operations that have more fluctuation in staffing than other departments. Staff counts will be taken from the Compendium once per year, and that staff number will be the basis for the bill in the next fiscal year.

  o In administrative departments, which often charged Telcom bills to designated fund accounts, auxiliary fund accounts, etc. a simple SS&E sweep will be inadequate, but this is not an insurmountable problem. IT is working with the Budge Office and Institutional Analysis to solve these problems during the "budget load" time in July. Departments will be involved and will have opportunities to help inform decisions.

- Auxiliary departments (with no SS&E) will be billed monthly or quarterly or annually, based on their expenses in FY14, instead of per-jack. To be fair and consistent with the one-time budget reduction in generally funded departments, the bill will not be changed in future years unless the Executive Team approves a change. (Such a change is not anticipated in the next 5 fiscal years. However, it is possible to envision a scenario in which some new technologies or unexpected increases in IT costs, or even a decrease in costs necessitate a change in the IT General Fund budget. At that time, a President or Provost might ask for a proportional change in contributions from Auxiliary Funds.)
  - The exception to this is Housing and Residential Life. Each year, their Telcom bills are negotiated and worked into the room and board rates that the Board of Control approves, based on actual costs. So in this case, the negotiated amount will be billed instead of the FY14 baseline.

The implementation of this solution is given at a high level in Table 5, with details in Tables 2 through 4. The bottom line (Table 5) is:

- FY14 total revenue for phones and data: $1.436M
- FY16 predicted revenue for phones and data: $1.446M

IT gave up about $120k in revenue from academic and research departments, but added a slightly higher amount in Housing and Student Life. The increase was due to the residence hall wireless project that was accomplished in Summer 2014, and that additional revenue will be applied towards maintenance and replacement of that system.

In summary, IT can eliminate a bad funding model and obtain the same revenue in FY16 that it did in FY14. The obligations are larger, and if the chargebacks stayed in place the FY16 revenue would be higher due to growth, but at this point the trade-off is worth it.

Implementation

Assuming that this proposal is approved, the implementation is not trivial, but it is manageable. It will involve a combination of 1-time budget reductions (SS&E), changes in transfers, bills to auxiliary units (but not on a per-jack basis), and some shifting in budget loads between SS&E and Designated Fund accounts. The details are being worked out by accountants and will be negotiated with the appropriate executives and managers. In the end, everyone's budget process will be far simpler, and the chargebacks can be completely eliminated.

Table 2 shows the 1-time budget reductions proposed for academic departments. The values amount to the general fund SS&E charges for network services in FY14. Table 4 shows the total chargebacks to administrative departments in FY14 for all funds, not just general fund SS&E. As discussed already, IT needs to recover most of this revenue, and

people are working hard to try to figure out how to do it.   Table 5 is a summary of all anticipated revenue.

The data behind Tables 1-5 are readily available down to the individual journal entry level so departments will have flexibility and full disclosure during implementation. IT is confident that this can be accomplished in time for the July 1, 2015 start of the 2016 fiscal year.

Service Levels and Costs

This section documents the services that IT will commit to, and the expected costs to departments. Two important notes are relevant:

- In some cases, actual costs of parts and labor will be billed. Information Technology will not charge staff time or labor costs for the efforts of full-time staff. However, IT will charge labor costs for student workers, sub-contractors (if they are needed) and any pass-through labor costs associated with work done by Facilities Management.

- IT is proposing a $50, 1-time activation fee for new data connections and telephones, with no monthly charge afterwards. Note that in the current model, a new data connection costs $15/month forever, and a new telephone line costs $22/month forever. So a $50, 1-time charge is a bargain. There are two reasons for proposing this activation fee:

    o When network connections become "free", we anticipate growth in network connections and switch port utilization. This is good, and is one of our goals. But it will necessitate buying new edge switches. The most common edge switch on the network has 48 ports and costs around $5,000 including the UPS. That is about $100/port. $50 covers half of that, so it will mitigate somewhat the costs to IT of buying new switches to accommodate growth.

    o When a data connection is activated, a student worker or staff member has to go on-site, plug a cable into a switch port, and test the connection performance. Further work is often necessary. This staff effort goes well beyond simply checking a box in the network management software. A nominal fee will discourage abuse, to some extent.

Information Technology will commit to the following:

Data connections
Any wired data connection that is active on 3/27/2015 will continue to be supported, with no monthly fee.

New wired data connections will be activated upon request, with no monthly fee. One-time charges for new data connections will be as follows:

- $50 if a jack exists and does not need to be upgraded.
- $50 plus the actual cost of parts and labor if a jack needs to be installed, moved, or substantially upgraded, and/or if new local switches and patch cables are needed.

<u>Wireless access points</u>
Note: Wireless coverage on campus is inadequate, but a funding source to enhance the coverage in a reasonable amount of time needs to be identified.

Any wireless access point that is active on 3/27/2015 will continue to be supported, with no monthly fee. Existing access points that fail will be replaced by IT at no cost.

New access points will be installed as the IT budget allows, with no cost to departments. Current budget for new installations is very limited, and the IT Governance Committee will come up with a prioritization scheme. Unless a new funding source is identified departments should not assume that IT will be installing new access points for them in the near future. New access points that fail will be replaced by IT at no cost.

If a department is willing to pay $50 plus the actual cost of parts and labor to install a new access point, IT will do so, and there will be no monthly fee. New access points that fail will be replaced by IT at no cost.

<u>Telephones</u>
Any telephone line that is active on 3/27/2015 will continue to be supported, with no monthly fee. This includes analog and digital lines. Long distance calls will continue to be billed to departments, as this is an actual cost passed through from AT&T.

New IP telephone lines will be activated upon request, with no monthly fee. One-time charges for new telephone lines will be as follows:

- $50 if a jack exists and does not need to be upgraded.
- Department purchases the new IP telephones at cost from IT. Current actual cost for a mid-range IP telephone with programmable keys and a backlit screen is about $200, while a high-end IP telephone with a touchscreen is around $300.
- If a jack needs to be installed, moved, or upgraded to accommodate the new IP telephone line, the department pays $50 plus the actual cost of parts and labor (in addition to the telephone connection fees).
- New Centrex or ISDN lines are discouraged, and subject to negotiation. New analog lines for FAX machines, elevators, alarm panels, etc. will bear the same costs as a new IP telephone line ($50 + any parts and labor).

IT replaces failed IP telephones with a mid-range IP telephone at no cost. Departments wishing to replace or upgrade functioning IP telephones purchase the IP telephones from IT at cost.

<u>Networked copiers, printers, and scanners</u>
Any networked copier, printer or scanner that is active on 3/27/2015 will continue to be supported, with no monthly fee.

New network connections for such devices will be activated upon request, with no monthly fee. Department pays for the device, and any maintenance or repair to the device, unless the machine is owned by IT. One-time charges for new connections will be as follows:

- $50 if a jack exists and does not need to be upgraded.

- $50 plus actual cost of parts and labor if a jack needs to be installed, moved, or substantially upgraded.

Card readers

Any card reader that is active on 3/27/2015 will continue to be supported, with no monthly fee. Card readers that fail will be replaced by IT.

New card readers will be supported by IT with no monthly fees, but departments pay the actual cost of parts and labor to install a new reader. New card readers that fail will be replaced by IT.

Security cameras

Security cameras will continue to be supported by monthly recurring charges. This is not a core network service.

New security camera installations will require actual parts and labor charges, in addition to the monthly recurring charges. The cost of the camera itself is covered by the monthly recurring charges.

Cable TV

Cable TV will continue to be supported by monthly recurring charges. Our cable TV contract has a per-drop charge, and it is not a core network service.

Conclusion

If this proposal is approved, on July 1, 2015 Michigan Tech will join our peer institutions by abandoning an antiquated funding model that does more harm than good. Users will be able to utilize new network services with only a nominal activation fee and no monthly fees. Users will make decisions based on outcomes, instead of based on trying to minimize Telcom bills. People can focus on doing their jobs, and IT can focus on trying to help people succeed.

Table 1 Actual Phone and Network Revenue from Banner in FY14

General Fund (GF) SS&E Accounts	Revenue	Notes
General Fund (GF) SS&E Accounts	**$ 698,504**	
Academic Departments	$ 425,561	Details in Table 2
Administrative Departments	$ 272,943	Details in Table 3
Non-GF Accounts - continue to collect in future	**$ 578,415**	
Agency - Advancement	$ 7,284	S73860 - (Agency) - Michigan Tech Fund
Agency - Graduate School	$ 258	GSG
Agency - Housing and Residential Life	$ 922	Hall councils and Pre-school
Agency - Student Activities	$ 4,775	USG, etc.
Agency - Univ Marketing & Communications	$ 804	WGGL
Auxiliaries - AE Seaman Mineral Museum	$ 52	
Auxiliaries - Athletic/Rec Facilities Admin	$ 1,164	
Auxiliaries - Camps/Clinics/Tournaments/Leagues	$ 538	
Auxiliaries - Dining Services	$ 13,564	
Auxiliaries - Facilities Management	$ 1,272	
Auxiliaries - Ford Center	$ 3,169	Ford Forestry network connections
Auxiliaries - General Athletics	$ 22,190	
Auxiliaries - Housing - Facilities	$ 7,817	
Auxiliaries - Memorial Union	$ 14,096	
Auxiliaries - Merchandising Operations	$ 8,795	
Auxiliaries - Mont Ripley	$ 4,524	
Auxiliaries - Portage Lake Golf Course	$ 3,039	
Auxiliaries - Recreation Programs	$ 1,741	H45115 - (Auxiliary) - SDC Memberships
Auxiliaries - Retail Dining	$ 9,860	
Auxiliaries - Student Activities	$ 342	H48303 - (Auxiliary) - Tech Adventures
Auxiliaries - Univ Marketing & Communications	$ 1,685	Print shop
Auxiliaries - Van Pelt and Opie Library	$ 1,509	Archives and public Library equipment
Designated - Advancement	$ 1,079	
Designated - AE Seaman Mineral Museum	$ 2,184	Seaman gift shop and offices
Designated - Alumni Relations	$ 700	
Designated - Center for Pre-College Outreach	$ 1,355	
Designated - Innovation & Industry Engagement	$ 2,358	
Designated - Jackson Center for Teach & Learn	$ 172	
Designated - Office of Advancement	$ 13,280	
Designated - Waino Wahtera Ctr Student Success	$ 1,275	
Designated- Pavlis Honors College	$ 156	
Housing and Residential Life	$ 445,285	
Plant - Facilities Management	$ 814	Admin Bldg Student Success Ctr
Scholarship- Pavlis Honors College	$ 359	
Research Institutes	**$ 56,599**	
Auxiliaries - Keweenaw Research Center	$ 3,864	
Designated - Keweenaw Research Center	$ 20,730	
Designated - Michigan Tech Rsrch Institute(MTRI)	$ 32,005	
Non-SS&E accounts - eliminate charges in the future	**$ 102,547**	
Academic Depts IRAD, course fees, designated funds, etc.	$ 80,412	
CTT - IRAD	$ 11,667	
Designated - Mich Tech Transportation Inst-MTTI	$ 1,988	
Designated - Vice Pres for Research (Academic IRAD)	$ 7,342	
Retirement and Insurance- University Wide Commitments	$ 580	
Scholarship- Isle Royale Institute (IRI)	$ 558	
Grand Total - Banner revenue in FY14	**$ 1,436,065**	Analysis excludes IT charging themselves

Table 2 - Revenue and Proposed Collection for Academic Departments (phone and network charges only)

	2014 Total Banner Bill	Proposed Collection
College of Sciences and Arts	**$169,144**	**$151,987**
College of Sciences & Arts (Dean)	$2,505	$2,505
Aerospace Studies (Air Force ROTC)	$3,951	$3,951
Biological Sciences	$19,487	$17,333
Chemistry	$20,461	$16,422
Cognitive & Learning Sciences	$11,511	$11,430
Computer Science	$16,737	$14,924
Humanities	$22,354	$20,018
Kinesiology/Integrative Physiology	$6,384	$4,329
Mathematical Sciences	$23,306	$21,860
Military Science (Army ROTC)	$5,254	$4,954
Physics	$15,397	$13,092
Social Sciences	$13,147	$12,889
Visual & Performing Arts	$8,649	$8,280
College of Engineering	**$246,525**	**$194,588**
College of Engineering (Dean)	$5,695	$5,695
Biomedical Engineering	$10,932	$8,226
Chemical Engineering	$22,967	$21,592
Civil & Environmental Engineering	$36,629	$28,608
Electrical and Computer Engineering	$56,668	$43,260
Engineering Fundamentals	$8,062	$7,804
Geological & Mining Eng & Sciences	$22,035	$15,366
Materials Science and Engineering	$23,576	$17,374
Mechanical Engrg-Engrg Mechanics	$59,961	$46,664
Sch Forest Resources & Environ Sci	**$37,842**	**$30,806**
Sch Forest Resources & Environ Sci	$34,673	$27,637
Auxiliaries - Ford Center	$3,169	$3,169
School of Business and Economics	**$23,031**	**$21,751**
School of Technology	**$27,708**	**$24,705**
Pavlis Honors College	**$5,408**	**$5,408**
CTT - IRAD	**$11,667**	**$0**
Designated - MTTI	**$1,988**	$0
Total	**$523,312**	**$429,245**

Table 3 - SS&E Revenue for Administrative Departments (phone and network charges only)

Department	2014 Banner SS&E GF Bill
Academic & Community Conduct	$844
Admissions	$9,453
Alumni Relations	$3,444
Athletic/Rec Facilities Admin	$774
Athletic/Rec Facility Operations	$3,561
Budget Office	$838
Business Operations - VP Admin	$1,207
Career Services	$5,204
Center for Diversity & Inclusion	$5,584
Center for Pre-College Outreach	$5,295
Counseling Services	$4,294
Dean of Students Office	$2,902
Enrollment Services	$4,357
Facilities Management	$30,335
Financial Aid Administration	$6,023
Financial Services & Operations	$9,808
Financial Svcs & Oper Exec Director	$743
General Athletics	$6,340
Governmental Relations/Sec Board	$1,737
Graduate School	$6,062
Human Resources	$12,748
Innovation & Industry Engagement	$4,748
Institutional Analysis	$2,029
Institutional Equity	$2,191
Internal Audit	$1,048
International Programs and Services	$4,570
Jackson Center for Teach & Learn	$5,904
Occupational Safety & Health Svcs	$496
Office of Student Affairs & Advance	$5,371
President's Office	$2,208
Provost and VP for Acad Affairs	$2,919
Public Safety & Police Services	$13,101
Registrar's	$8,084
Rozsa Ctr for Performing Arts	$3,078
Sponsored Programs Accounting	$3,267
Sponsored Programs Office	$476
Student Activities	$2,897
Ticketing	$7,313
Univ Marketing & Communications	$17,136
University Wide Commitments	$417
Van Pelt and Opie Library	$35,760
Vice Pres for Research	$22,789
Vice President for Administration	$2,232
Waino Wahtera Ctr Student Success	$3,357
Total	**$272,943**

Table 4 - FY14 Banner Revenue Detail for Administrative and Auxiliary Units (phone and network charges only)

	Executive	GF charges FY14	Other charges FY14	Total charges FY14
President	president	$4,399	**$0**	**$4,399**
President's Office	president	$2,208		
Institutional Equity	president	$2,191		
Board of Control/Gov't Relations	BOC/govt	$2,785	**$0**	**$2,785**
Governmental Relations/Sec Board	BOC/govt	$1,737		
Internal Audit	BOC/govt	$1,048		
Provost	provost	$8,823	$172	**$8,995**
Provost and VP for Acad Affairs	provost	$2,919		
Jackson Center for Teach & Learn	provost	$5,904		
Designated - Jackson Center for Teach & Learn	provost		$172	
Agency - Graduate School	provost		$258	
Van Pelt and Opie Library	provost	**$35,760**	**$1,509**	**$37,269**
Van Pelt and Opie Library		$35,760		
Auxiliaries - Van Pelt and Opie Library			$1,509	
Vice President of Research	research	**$34,643**	**$9,700**	**$44,344**
Vice Pres for Research	research	$22,789		
Budget Office	research	$838		
Innovation & Industry Engagement	research	$4,748		
Institutional Analysis	research	$2,029		
Occupational Safety & Health Svcs	research	$496		
Sponsored Programs Office	research	$476		
Sponsored Programs Accounting	research	$3,267		
Designated - Innovation & Industry Engagement	research		$2,358	
Designated - Vice Pres for Research (Academic IRAD) research			$7,342	
Research Institutes	research	**$0**	**$56,599**	**$56,599**
Auxiliaries - Keweenaw Research Center	research		$3,864	
Designated - Keweenaw Research Center	research		$20,730	
Designated - Michigan Tech Rsrch Institute(MTRI)	research		$32,005	

(cont'd)

	Executive	GF charges FY14	Other charges FY14	Total charges FY14
Vice President of Administration	admin	**$26,931**	**$56,113**	**$83,044**
Vice President for Administration	admin	$2,232		
Business Operations - VP Admin	admin	$1,207		
Public Safety & Police Services	admin	$13,101		
Rozsa Ctr for Performing Arts	admin	$3,078		
Ticketing	admin	$7,313		
Auxiliaries - AE Seaman Mineral Museum	admin		$52	
Designated - AE Seaman Mineral Museum	admin		$2,184	
Auxiliaries - Dining Services	admin		$13,564	
Auxiliaries - Memorial Union	admin		$14,096	
Auxiliaries - Merchandising Operations	admin		$8,795	
Auxiliaries - Mont Ripley	admin		$4,524	
Auxiliaries - Portage Lake Golf Course	admin		$3,039	
Auxiliaries - Retail Dining	admin		$9,860	
Human Resources	admin	**$12,748**	**$0**	**$12,748**
Human Resources	admin	$12,748		
Facilities Management	admin	**$30,335**	**$9,903**	**$40,239**
Facilities Management	admin	$30,335		
Auxiliaries - Facilities Management	admin		$1,272	
Plant - Facilities Management	admin		$814	
Auxiliaries - Housing - Facilities	admin		$7,817	
Financial Svcs & Operations Exec Dir	fin svcs	**$10,551**	**$0**	**$10,551**
Financial Services & Operations	fin svcs	$9,808		
Financial Svcs & Oper Exec Director	fin svcs	$743		
Miscellaneous non-bill		**$417**	**$1,138**	**$1,555**
R&I - University Wide Commitments			$580	
Scholarship- Isle Royale Institute (IRI)			$558	
University Wide Commitments		$417		

(cont'd)

	Executive	GF charges FY14	Other charges FY14	Total charges FY14
VP Student Affairs & Advancement	stu/adv	**$85,918**	**$27,461**	**$113,379**
Office of Student Affairs & Advance	stu/adv	$5,371		
Academic & Community Conduct	stu/adv	$844		
Admissions	stu/adv	$9,453		
Alumni Relations	stu/adv	$3,444		
Career Services	stu/adv	$5,204		
Center for Diversity & Inclusion	stu/adv	$5,584		
Center for Pre-College Outreach	stu/adv	$5,295		
Counseling Services	stu/adv	$4,294		
Dean of Students Office	stu/adv	$2,902		
Enrollment Services	stu/adv	$4,357		
Financial Aid Administration	stu/adv	$6,023		
International Programs and Services	stu/adv	$4,570		
Registrar's	stu/adv	$8,084		
Univ Marketing & Communications	stu/adv	$17,136		
Waino Wahtera Ctr Student Success	stu/adv	$3,357		
Agency - Advancement	stu/adv		$7,284	
Agency - Univ Marketing & Communications	stu/adv		$804	
Auxiliaries - Univ Marketing & Communications	stu/adv		$1,685	
Designated - Advancement	stu/adv		$1,079	
Designated - Office of Advancement	stu/adv		$13,280	
Designated - Alumni Relations	stu/adv		$700	
Designated - Center for Pre-College Outreach	stu/adv		$1,355	
Designated - Waino Wahtera Ctr Student Success	stu/adv		$1,275	
Athletics	stu/adv	**$10,674**	**$23,354**	**$34,028**
Athletic/Rec Facilities Admin	stu/adv	$774		
Athletic/Rec Facility Operations	stu/adv	$3,561		
General Athletics	stu/adv	$6,340		
Auxiliaries - Athletic/Rec Facilities Admin	stu/adv		$1,164	
Auxiliaries - General Athletics	stu/adv		$22,190	
Sports and Recreation	stu/adv	**$0**	**$2,279**	**$2,279**
Auxiliaries - Recreation Programs	stu/adv		$1,741	
Auxiliaries - Camps/Clinics/Tournaments/Leagues	stu/adv		$538	

(cont'd)

Table 4 - FY14 Banner Revenue Detail for Administrative and Auxiliary Units (cont'd)
(phone and network charges only)

	Executive	GF charges FY14	Other charges FY14	Total charges FY14
Housing and Student Life	stu/adv	**$2,897**	**$451,324**	**$454,221**
Housing and Residential Life	stu/adv		$445,285	
Student Activities	stu/adv	$2,897		
Agency - Housing and Residential Life	stu/adv		$922	
Agency - Student Activities	stu/adv		$4,775	
Auxiliaries - Student Activities	stu/adv		$342	
Total				**$912,754**
Academic Departments from Table 2				**$523,312**
Grand total FY14 revenue				**$1,436,066**

Table 5 - Proposed collection by University Budget Object (phone and network charges only)

	2014 Total Banner Bill	Proposed Collection	Notes
President	$4,399	$4,399	
Board of Control/Gov't Relations	$2,785	$2,785	
Provost	$8,995	$8,995	
Graduate School	$6,320	$6,320	
Van Pelt and Opie Library	$37,269	$33,807	1
Vice President of Research	$44,344	$37,002	2
Research Institutes	$56,599	$55,200	3
Vice President of Administration	$83,044	$83,044	
Human Resources	$12,748	$12,748	
Facilities Management	$40,239	$40,239	
Financial Svcs & Operations Exec Dir	$10,551	$10,551	
VP Student Affairs & Advancement	$113,379	$113,379	
Athletics	$34,028	$34,028	
Sports and Recreation	$2,279	$2,279	
Housing and Student Life	$454,221	$571,253	4
College of Sciences and Arts	$169,144	$151,987	5
College of Engineering	$246,525	$194,588	5
Sch Forest Resources & Environ Sci	$37,842	$30,806	5
School of Business and Economics	$23,031	$21,751	5
School of Technology	$27,708	$24,705	5
Pavlis Honors College	$5,408	$5,408	
Misc not to be billed in future	$13,654	$0	6
Total	**$1,436,065**	**$1,446,829**	

Notes

1. Library reduced network services in FY15 due to e-journal budget crisis
2. Subtract $7,342 in IRAD paid by VPR for academic center network services
3. New Institute funding model, $800/person/year: MTRI=$33,600, KRC=$21,600
4. Bill increased due to wireless project in residence halls
5. Subtract faculty IRAD, course fees, instrument fees, etc.
6. Mainly CTT, MTTI - academic center IRAD no longer billed