

**Background Information for  
IT Infrastructure Funding Committee  
Nov 2010**

**Contents**

- 1. Proposed Information Technology Infrastructure Funding Principles**
- 2. The FTE-based cost allocation model**
- 3. Issues to Resolve**
- 4. What UCSB Services Are Covered by Current Fees?**
- 5. Other Universities' Funding Models**

## **Proposed Information Technology Infrastructure Funding Principles**

May 2010

UCSB currently uses two different fees to recover some of the campus network and security costs. These are the annual RUAC fee which is allocated by IP addresses, and the monthly Data Network Surcharge applied to telephone lines. The Information Technology Board has supported changing to a new model with a single fee that replaces these existing fees and achieves the following principles:

1. All fund sources should pay their fair share because the University depends on IT infrastructure for everything from instruction to research to services.
2. The model should be neutral with respect to technology so that the infrastructure can evolve as new technology becomes available.
3. The model should not discourage use of electronic communication and collaboration.
4. The model should not incentivize behavior to avoid local costs at the expense of university-wide costs. Current examples of such incentives include replacing telephone lines with VoIP service to avoid the monthly Data Network Surcharge, or hiding network ports to avoid the IP address charge.
5. The model should not require time-consuming manual processing to assess the fee.
6. The model should use a simple methodology that allows predictable costs for budget officers.

### **The FTE-based cost allocation model**

A model under discussion at UCSB would allocate the costs of services based on the proportion of Full Time Equivalent (FTE) employees on each funding source.

1. A person working quarter time counts as .25 FTE.
2. Data on FTE counts would be derived directly from the payroll system, and the fee would be charged as part of each payroll run.
3. All employees including student employees would be counted with few exceptions. (Work-study student employees would not be charged on the portion of their pay that comes from the government).
4. A person who is paid on several accounts would have their fee attributed proportionally to each account.

## Issues to Resolve

1. Would all FTEs get charged the same rate?

One argument is that people who don't use information technology regularly should not incur the same rate as people who do use it. Some campuses (e.g. UCSD & UCR) have distinguished "communication workers" by job title codes; those workers incur the fee, while others (e.g. grounds workers, food services workers, etc.) do not.

2. How would research FTEs be charged?

UCSD and UCLA changed their indirect cost structure to make the technology infrastructure fee a direct charge for contracts and grants.

- One advantage of that approach is that it spreads the fee costs across a larger base and decreases the rate per person.
- A disadvantage is that UCSB people have learned for years that such costs are not supposed to be charged directly, so we would have to teach everyone a new set of principles.

If we continue to treat the technology infrastructure costs as indirect, we would have to agree to actually fund those costs from Indirect Return.

3. Students use the technology infrastructure as much or more than employees. Shouldn't we include student FTEs in our rate structure?

As part of their rent, students in residence halls have historically paid for the University's cost to be their residential Internet Service Provider (ISP) as well as network operation services covered by the RUAC fee. Students who live off campus pay for ISP services through companies like Cox Internet and Verizon, but they do not pay the RUAC fee. All students can use network services such as web pages, Gold, or GauchoSpace, and also can gain Internet access via campus wireless, the library, or computer labs. What is a fair way to allocate the costs of all the different services students use?

4. How should the fee be assessed to avoid time-consuming manual processing and keep costs predictable for budget officers?

It has been proposed that this fee could be assessed with each payroll run and debit the same accounts that employees are paid from. Alternative proposals would create the ability for departments to specify another account to be debited for these costs.

## What UCSB Services Are Covered by Current Fees?

### **RUAC** (Charged for each IP address)

Funds the staff and computer systems to operate the services required for a campus-wide data network, in addition to the staff and tools to begin to implement a campus-wide security program.

### **Data Network Surcharge** (Charged for each telephone)

Funds UCSB's off-campus network connections and the staff and operations to support communications services and infrastructure projects.

---

## Other Universities' Funding Models

Many other universities have implemented cost allocation models with similar objectives. Here are the principles from some we have studied.

### **UCR's principles:**

- Obtain "Technology Transparency" (*funding not linked to any one technology – no fiscal incentive to remain obsolete*)
- Encourage Network Use (*the model does not encourage using the network "less" to reduce expense*)
- Avoids Inappropriate Departmental Practices (*Best Buy switches, hidden hubs, etc.*)
- Resolve Non-Wired Access Issues and Issues with Semi-Autonomous Department Networks
- The Model is Scalable, Robust, Predictable, and Allows UCR to Develop a comprehensive plan for Renewing and Replacing its Network

[http://www.ucop.edu/irc/itlc/meetings/documents/ucr\\_fundmod\\_netsrvcs\\_0107.ppt](http://www.ucop.edu/irc/itlc/meetings/documents/ucr_fundmod_netsrvcs_0107.ppt)

### **UCSD's goals:**

- Sustainable infrastructure
- State-of-the-art, but not "bleeding-edge"
- Flexibility
- Better service
- Enhanced network security
- Converge voice, data, and video technologies

[http://www.ucop.edu/irc/itlc/meetings/documents/ngn\\_to\\_itlcFeb2007.ppt](http://www.ucop.edu/irc/itlc/meetings/documents/ngn_to_itlcFeb2007.ppt)

### **UCB's design rules:**

- Includes the full IST costs of delivering voice, data, security and emergency communication services to the campus.
- Is in compliance with campus recharge policy.
- Is simple and scalable.
- Provides a transparent, consistent, and timely distribution of service costs.
- Facilitates a consistent/estimated billing expense for customers for planning purposes.
- Is technically and financially sustainable for at least a 7-year life cycle.
- Supports evolving technologies.
- Moves the campus toward a goal of ubiquitous network access.
- Allows departments the flexibility to control their "spend" by reducing or increasing some services.
- Accounts for a small number of compelling departmental service variations.
- Should not encourage behavior that is detrimental or counter productive to the overall goals of the campus.
- Can be implemented in FY 2009/10.

[http://technology.berkeley.edu/datanetwork/documents/Network\\_Model\\_general\\_presentation.pdf](http://technology.berkeley.edu/datanetwork/documents/Network_Model_general_presentation.pdf)

### **UCLA's Principles & Formulation:**

<http://www.citi.oit.ucla.edu/documents/2005/TIF%20Model%20Principles%20and%20Formulation.pdf>

<http://map.ais.ucla.edu/portal/site/UCLA/menuitem.789d0eb6c76e7ef0d66b02ddf848344a/?vqnextoid=83497b2d8ae91110VqnVCM10000dcd76180RCRD>

### **From the ECAR paper Network Funding Models: Cornell University, University of California at San Diego, and University of Wisconsin-Madison ECS0501**

#### **Cornell University's Principles:**

- A model that matches "cost to cost cause," assigning the true cost of the service delivered to the unit incurring the cost.
- A model that doesn't either bundle all costs into a single fee or obscure individual services' true costs and value.
- A model that provides a fair and equitable rate structure for all users.
- A model in line with commercial service providers' market rates.
- A model that considers best practices of higher education network funding models.
- A rate structure that supports unified campus network architecture, competitive in features and performance with peer institutions.
- A model that ensures affordable access to basic services for all and also provides premium services to allow world-class research and education.

**UCSD's Principles & Goals:**

- A model that would work well over time, not something that needed to be changed often.
- A model that would make sense to users and minimize administrative work in departments.
- A model that wouldn't use voice telephone charges and rates to subsidize the network.
- A model that would further UCSD's competitive position compared with other top R1 universities in its ability to recruit and keep the best students, faculty and staff.
- A model that would encourage use of the network and further the UCSD goal of eventually providing all official communications via the network.
- A model developed with leadership from and full involvement of the academic constituents.
- A model that would ensure a sustainable high-end network for the entire campus. Previously, there were "haves" and "have nots," and evening this out would give everyone a high quality of network service and infrastructure.

**University of Wisconsin-Madison's Principles & Goals:**

- A model that took advantage of peer institutions' best practices.
- A model that eliminated all cross-subsidies and based charges on cost only.
- A model that funded all ongoing infrastructure costs of a state-of-the-art network including technology upgrades, security, extensive redundancy and backup power, and so on.
- An extensive consultation process with campus executives and faculty governance committees.
- A model in which the billing process doesn't negatively influence network design and scope. The previous charging scheme, for example, charged users per network connection to a building. This resulted in departments running their own cables between buildings to avoid network costs, which compromised network design.