

## Data Network Recharge: FAQ



Nancy He on February 5, 2020

### Frequently Asked Questions

Common questions about the new network funding model are answered below. You can click on a particular question to get to the corresponding answer, or scroll down the page to view all of the questions and answers.

### Background

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#### Why does UCSF have a recharge funding model for network services?

UCSF's Strategic Plan calls for improvements in infrastructure, including the support of information technology. Over the past two decades, researchers, administrators, instructors and students have come to rely on UCSF data network infrastructure as a strategic resource that supports effective communication, research, patient care, instruction and collaboration.

Similar to many other academic institutions, UCSF's data network was built in many stages over a number of years. As a result, portions of the critical equipment in UCSF's data network needs to be upgraded and/or replaced annually.

Reliable sources of revenue are needed to enable the replacement of highly critical aging network equipment. Not replacing this equipment puts at risk UCSF's ability to carry out our core mission and our leadership in education, research, and patient care.

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#### What is the ?network??

The UCSF data network provides the backbone of UCSF's electronic information flow.

Almost all electronic communications, ranging from administrative systems to e-mail and connection with the internet, relies on and makes use of UCSF's data network. The network carries and routes electronic traffic within and beyond UCSF.

The network consists of 1) wiring within and between buildings and sites, and includes links to approximately 200 off-campus sites in San Francisco, and 2) equipment that routes the traffic from the network to individual devices, such as PCs, servers, printers, etc. Each device on the network has an Internet Protocol (IP) address, which identifies that device to the rest of UCSF and beyond; network routers assure that information is delivered to the appropriate address via the best electronic route. The data recharge will pay for the maintenance and replacement of thousands pieces of network equipment that support the appropriate routing and delivery of data.

The physical network ends at the Ethernet plug to which a device is connected or the wireless access point that provides wireless access to the network. The network does not include the PCs, servers, printers, and other devices that are connected to the network, and therefore the network recharge does not include support of these devices (as might be provided by a department's Computer Support Coordinator (CSC) or other departmental IT staff).

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### **What is the history of funding for UCSF's Network?**

Since its beginnings in the late 1980s, UCSF's data network has been funded primarily by the Chancellor's Office, with resources used to create and expand the network. Most importantly, however, the replacement of equipment has never been funded systematically. While industry and University of California standards suggest that critical network equipment should be replaced every three to five years, a portion of UCSF's core network equipment is older, out of warranty, and no longer supported by the manufacturer. Even the equipment in newer sites, such as Mission Bay, are in need of being replaced.

The Chancellor's Office currently subsidizes, and will continue to subsidize, the the data network. These funds are used to support a variety of costs, including personnel, licenses, costs associated with connection to the Internet, and very limited equipment replacement. Despite this ongoing support by the Chancellor's Office, additional funding is needed to provide for appropriate replacement of critical network equipment.

The Chancellor's Office has also invested in other strategic IT initiatives:

- Academic administrative systems (Cayuse/Grants.gov, CHR, Academic Advancement)
- Research support systems (MyResearch and the Integrated Data Repository)
- Data center
- MyAccess (reduced sign-on)
- ? and others

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### **Who decided that there should be a data network recharge?**

In September 2007, Chancellor Bishop commissioned the Data and Voice Services Advisory Committee (DVSAC) to recommend a strategic approach and methodology to fund UCSF's

escalating demand for voice and data services over the next decade,? while considering the needs and requirements of UCSF faculty, staff, and students, and the ability of UCSF's schools, departments, ORUs, and other units to allocate revenues to these services. DVSAC's membership included senior faculty and administrators, with representation from all schools and major campus locations.

Over a nine-month period, DVSAC studied background information about current and projected use and costs of voice and data services, possible sources of revenue, and methods used by other UC campuses and peer institutions to support these services.

DVSAC concluded that achieving a reliable state-of-the-art network would require roughly doubling our current level of investment from about \$9 million to approximately \$18 million a year. DVSAC recommended that the additional revenue needed to fund the gap be derived from a recharge. After exploring various charging models, DVSAC unanimously agreed to recommend to the Chancellor's Executive Committee a recharge for data network services using a Percent FTE (per employee) funding methodology.

In June 2008 the Chancellor's Executive Committee agreed in principle with DVSAC's recommendation and appointed the Data Network Recharge Committee (DNRC) to specify the methods, timing, and amount of the recharge. After five months of deliberations, the DNRC made a number of specific recommendations to the Chancellor's Executive Committee, which referred the recommendations to the Chancellor's Executive Budget Committee for consideration and decisions.

In March 2009, the Chancellor's Executive Budget Committee agreed with the DNRC recommendations and decided that a recharge of \$35 per month per full time equivalent campus employee would begin November 1, 2009. Subsequent increases have been reviewed and approved by by the DVSAC and the Budget Office.

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### **What is the charter of the Data Network Recharge Committee?**

The Data Network Recharge Committee is responsible for 1) the review of data network recharge rates and rate development methodologies annually; 2) recommending approval of the developed rate structure; 3) the definition of the type and level of network services to be delivered; 4) establishing principles/standards by which service center performance will be measured; and 5) monitoring the implementation of the data network recharge.

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### **How much will it cost?**

The recharge rate applies to Campus only; it does not apply to UCSF Medical Center. FY17 rates are \$44/month for faculty & staff, and \$11/month for students & affiliates. FY18 rates are estimated at \$46/month for faculty & staff and \$12/month for students & affiliates.

Campus accounts will be charged proportionate to the percent effort each employee is paid by each project.

Portions of the network equipment are replaced annually with the most critical being replaced first. The Data Network Recharge Committee regularly assesses assumptions and financial requirements associated with cost of this investment.

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### **When did the recharge take effect?**

The data network recharge took effect on November 1, 2009, based on October month-end payroll.

The recharge rate is reviewed periodically by the Data Network Recharge Committee and by the Chancellor's Executive Budget Committee, for assessment of possible changes to be effective the following year. Any future changes are likely to be implemented on a fiscal year basis, i.e., starting on July 1st.

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### **What is the schedule of planned network charge (or rates) over the next few fiscal years?**

Continuing with the general understanding that the current \$44 per FTE per month is a significantly subsidized rate. Please find below the CEC approved schedule of network recharge rates for your review and planning purposes.

	Monthly Recharge per FTE					
Population Pool	FY16	FY17	FY18	FY19	FY20	FY21
Faculty, Staff, Postdocs, SFGH, Hughes	\$41	\$44	\$46	\$47	\$48	\$50
Students	\$10	\$11	\$12	\$13	\$14	\$15
Affiliates-Campus	\$10	\$11	\$12	\$13	\$14	\$15

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### **Were other funding methods considered?**

Five charging methods were considered: Data Outlet (Port), IP address, Bandwidth, Percent FTE, and Fee-for-Service. The Percent FTE model was judged to be the fairest and least costly to implement administratively and technically.

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### **Is there a recharge for network services at other UC campuses?**

UCLA, UCSD, UCSC, UCR, UCSB all currently have some form of a recharge to support data network services. The remaining campuses are considering a similar charge.

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### **Why can't the Chancellor pay for the replacement of critical network equipment?**

The Chancellor has limited discretionary funds. The Chancellor's Office funding accounts for

only five percent of the overall campus budget, and no more than half of this amount is discretionary. A significant portion of the Chancellor's discretionary funds is used for expenses that were previously, but no longer, funded by the State, such as utilities, operations and maintenance of the new buildings at Mission Bay and increased insurance costs that can't be directly charged to federal funds. Given the requirements for these and other pressing investments, the Chancellor's Office is not able to increase its current level of investment in the network.

## **Who is Affected**

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### **Who is subjected to the recharge for data network services?**

The recharge is applied to all persons (faculty and staff) paid through the Campus payroll system, students, and Campus affiliates.

The recharge will be applied only to the campus-funded portion of an employee's pay plan; that is, for staff or faculty who receive part of their salary directly from a non-campus payroll funding source (e.g., the Medical Center, the VA, other affiliates, etc.), only the portion paid through campus will be subject to the recharge.

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### **Are Medical Center personnel subject to the recharge?**

No. However, the Medical Center does rely on the campus network (e.g. for connectivity to the Internet), and the Medical Center pays an annual fee to the Campus for services. Personnel employed and paid by the UCSF Medical Center are not subject to the recharge.

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### **Are employees located at off-campus locations, such as a rented office, subject to the recharge?**

Yes. Every campus employee benefits from UCSF's data network and associated services.

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### **My department already invests in its own network. Will my department and I be subject to the recharge?**

Yes. All UCSF networks are in one way or another supported by the campus network and therefore all campus employees using those networks are subject to the recharge.

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### **Can I opt out of the network and not have to pay?**

No. All campus employees are subject to the recharge unless specifically excluded.

## **Methods**

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### **How is the recharge be applied?**

The data network fee is applied according to the percent time that an employee is paid by a

particular funding source.

For example, campus employee May Smith is paid on three different funds, with the \$44 allocated each month according to the percent time she is on each source:

May Smith 20% dpa/fund X \$ 44/mo. = \$8.80/mo.

May Smith 40% dpa/fund X \$44/mo. = \$17.60/mo.

May Smith 40% dpa/fund X \$44/mo. = \$17.60/mo.

Total 100%: \$44.00/mo.

Thus, May Smith's funding source that supports 20 percent of her time would be charged \$8.80 each month.

For part-time campus employees, the charge will be proportional to their percent FTE, e.g., someone working 50% time would be recharged \$22 (50% of \$44).

An account will be charged according to number of FTE's charged to the account. For example, if a project budget includes 10% of an investigator's salary, 100% of an analyst, and 50% of a programmer, for total of 160% FTE, the account would be charged \$70.40 per month (1.6 X \$44).

More detailed information and training for financial administrators will be offered to clarify the mechanics of the recharge process.

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### **Why was a ?Percent FTE? recharge method chosen?**

Basing the recharge on each employee's percent time on each funding source is scalable and adjustable over time, and applies the recharge appropriately according to an employee's effort, thus making it straightforward to pass proportionate costs to all fund sources including federal contracts and grants. In addition, the FTE model is administered relatively easily. The accounting credits and debits for the recharge will follow the payroll cost transfers so no manual intervention is necessary for departments.

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### **Isn't the network included in UCSF's indirect cost calculations? Why can't the cost of the network be covered by the return of indirect costs to the campus?**

UCSF's data network has never been included in indirect cost calculations, and, because indirect costs are capped, cannot be included in the future. Therefore, the indirect costs that are returned to the campus do not include funds for the network. The federal government has told UCSF that the cost of the network can and should be included as a direct cost on contract and grant budgets. Facing similar circumstances, many other peer institutions have instituted recharges to support their data networks.

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### **Should I build this cost into the budgets of my grant and contract proposals?**

Yes. The costs of network services should be included as direct costs on all future contract

and grant applications.

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### **Can the network recharge be included in budgets for my federal contracts and grants?**

Yes. The federal government has told UCSF that the network recharge is allowable as a direct charge on contracts and grants.

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### **What standard language can be used in the proposal budget justification?**

The following language has been approved by UCSF's Office of Budget and Resource Management:

Per review and agreement by our cognizant federal agency, UCSF data network costs are an allowable direct expense. Questions from the sponsoring agency regarding this charge should be directed to the Department of Health and Human Services ? Division of Cost Allocation, San Francisco CA.

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### **What if a funding source does not allow this type of charge?**

The default choice is the funding source(s) as shown in the payroll file for an employee; if, however, a department decides that a particular account/fund cannot accept the recharge, for whatever reason, the department needs to provide an alternate account/fund to charge. Departmental administrators can override any account/fund combination, and charge an alternate account/fund. In most cases the alternate account will be a departmental discretionary fund, although in the case of departments that have little or no discretionary funds, the account might be a non-departmental account, such as a school account. More specific information will be forthcoming soon about the methods to be used to designate alternate accounts.

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### **Who is responsible for the mechanics of the recharge?**

Information Technology Services, which has responsibility for the core UCSF campus network, is responsible for creating and implementing the mechanics of the recharge. ITS developed the current ITS Recharge System to automatically administer the recharge.

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### **Will the recharge amount stay the same from year-to-year?**

The Data Recharge Network Committee and the Chancellor's Executive Budget Committee will decide how much to invest each year, and will authorize the recharge amount for the following year. The recharge amount will be based on a number of factors, including criticality of current equipment upgrades and campus growth.

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### **Will the recharge go away at some point?**

Most likely no. There will be a need for ongoing investment in the network. It is not anticipated

that the need for investment will decline; rather that costs will remain stable or increase in the future as new network and user needs are identified.

## Benefits and Equipment Details

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### What benefits will result from the recharge?

The recharge is intended to provide the additional resources necessary to assure the future reliability, capacity, and security of UCSF's data network. The main components of UCSF's current network, particularly the equipment that routes traffic between campus sites, and to and within buildings, need to be upgraded/replaced every five to seven years. The recharge allows routine maintenance and replacement of this equipment. Without this maintenance and replacement, UCSF is at high risk of suffering a major network failure, which would be catastrophic if it occurred at a time of high need for the network, such as a week before an NIH proposal submission deadline. In addition, recharge resources support the implementation of advanced security measures that protect the network and help prevent malicious access to valuable UCSF resources.

The upgraded UCSF network has significant state-of-the-art features which will allow, for example, greatly improved capacity for and reliability of videoconferencing and telehealth.

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### What do we have to do to revitalize the network so that it will meet our current and future needs?

In order to improve and stabilize the network, it is necessary to adhere to a normal equipment replacement plan (e.g. every five to seven years).

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### Why are equipment replacement costs so high?

There are thousands of devices and other major equipment that make up the network. Network equipment costs between \$5,000 and \$250,000 a piece to replace; in addition, a service contract adds approximately 15% each year to each piece of equipment.

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### What are the relative benefits of UCSF's network compared with my home internet connection?

Although it might be tempting to equate home network services (e.g., DSL and cable) with the services provided by UCSF's network, they differ substantially in speed, reliability, security, service agreements, and other features.

- **Bandwidth\***: UCSF's bandwidth ranges from 10 Mbps in the slowest locations to 100 Mbps in many locations while many locations support our new 1 Gbps standard. In contrast, DSL bandwidth ranges from 128 Kbps to 3 Mbps; basic cable generally supports 5 to 10 Mbps, with speeds up to 30 Mbps (generally a premium service.) Note that actual home internet speed rarely reaches the theoretical maximum, especially for cable connections, which share the connections with others in the same neighborhood. Thus, the lowest speed available in the UCSF network is about the same as the highest

speed available in home locations, and in many UCSF locations is 10 to 100 times faster than premium home Internet.

- **\*Bandwidth\*** is the amount of data transmitted in a given time. The standard measure of network bandwidth is the number of **bits per second (bps)**. **Kbps** = one thousand bps; **Mbps** = one million bps; **G** = one billion bps.
- **Security**: Transmissions within the UCSF network are significantly more secure compared with either DSL or cable. The common neighborhood sharing of cable also makes security, privacy and bandwidth problematic because multiple homes share a common cable connection, which is a potential security concern.
- **Reliability** (minimizing **down time**): The overall reliability of the campus network is significantly better than DSL and cable. Because data transmission is not their core service, the reliability of DSL and cable tends to be quite variable. The response time to outages and connection issues of DSL and cable modem providers can vary greatly; reaching the right person on the phone can take significant time. In contrast, the UCSF data network has a dedicated Network Operations Center along with support technicians on call 24x7x365. UCSF IT has a dedicated Help Desk staff who are closely connected to the network staff.
- **Service Level Agreement (SLA)**: An SLA defines the quality of the services that will be provided and the responsibilities of the provider to maintain the defined quality of service. The UCSF Campus network has an SLA <sup>[1]</sup> that clearly defines the service that customers can expect from the Campus network. In contrast, DSL and cable services generally do not provide an SLA for their services; the user must accept whatever quality of service is provide short of switching Internet providers.
- **Service Coverage**: There are multiple ways to connect to the UCSF network, and therefore to UCSF's resources (e.g., email and calendar, research and financial systems, the Library, etc.). While on campus, one can connect to the network via an Ethernet plug in any UCSF building and connect via wireless in a number of locations. When away from the university, one can connect securely to the network via VPN over the Internet. In contrast, a home Internet connection provides one line into the house. If one wants to share this line beyond a single computer, the installation of routers and/or wireless connectivity has to be implemented by the customer; DSL and cable companies provide essentially no help beyond the single connection.

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## How often does network equipment need to be replaced?

Industry and University of California standards suggest that critical network equipment should be replaced every five to seven years. The replacement period for UCSF network equipment varies depending on the **criticality** of the piece of equipment, with the most critical equipment being replaced in approximately five years and less critical equipment replaced within seven years. (**Criticality** is defined based on the number of users a piece of equipment serves. For example, the core inter-campus network is most critical since an entire campus site would be affected if a core inter-campus router fails; a router that links to the core inter-campus network and distributes network traffic to an entire building (a **Building Distribution Facility (BDF)** router) would be considered to be less critical than a core inter-campus router; a router that receives the traffic from the BDF and distributes it to a single floor

of a building (an Intermediate Distribution Facility (IDF) router) is somewhat less critical; etc. In general, the most critical pieces of equipment are also the most expensive.

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## **How can I be sure this money will be spent as intended; and isn't it just a blank check to buy things we may not need?**

The Data Network Recharge Committee is charged with overseeing and approving investment in the network on a year-by-year basis. Built-in to this process is an annual review of expenses to ensure funds were disbursed as allocated and to determine funding needs for the next year.

## **Contact Information**

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### **Who can I contact with questions?**

Communications and trainings regarding the administrative and mechanical aspects of the recharge will be rolled out to campus over the next several weeks and upcoming months. For specific questions regarding the mechanics of the recharge (e.g., specific data network recharge rates or billing processes) please contact ITS Billing Service (email: [data.recharge@ucsf.edu](mailto:data.recharge@ucsf.edu) <sup>[2]</sup>)

## **Required Service Information**

Data Network Recharge: System Information <sup>[3]</sup>

**GET IT HELP.** Contact the Service Desk online, or phone 415.514.4100

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