January 17, 2012

To: Biological Sciences Community

From: EEMB Chair –
          MCDB Chair –

Re: Life Sciences Computing Group Information Technology Support: Services and Charges

Introduction

The Life Sciences Computing Group provides a wide variety of services in support of instruction, research and administration for EEMB, MCDB and other units sharing space or otherwise closely affiliated with the two departments. The types of services can be roughly classified as either infrastructure or user support. Of the various services, some are core-funded while others are done on a recharge basis. This document will describe most of the services provided by the support group and how the services are funded.

Infrastructure Services

These services are provided without charge to all users serviced by the technical support group. Many of them are completely behind-the-scenes but absolutely essential for other services to function. The following is a list of the low-level networking services provided:

- *IP routing*: Manage the configuration of the central router to ensure that TCP/IP network traffic is correctly routed between our internal networks and the campus backbone.
- *Intrusion detection and prevention*: Maintain an appropriate set of filters at the network edge to prevent most hostile traffic from entering the Life Sciences Network. Monitor the network traffic for signatures that may indicate compromised hosts. Scan computers on the Life Sciences Network looking for known vulnerabilities.
- *IP address management*: Assign IP addresses to systems on the Life Science Network ensuring that there are sufficient addresses to meet the need in physical spaces. Prevent problems caused by duplicate IP addresses. Network addresses will be provided via DHCP to all hosts unless a technical issue prevents DHCP configuration.
- *DNS management*: Maintain accurate, standards-compliant DNS ("Domain Name Service") databases for all "ucsb.edu" domains delegated to the Bio Core, BMSE, EEMB, IGPMS, and MCDB, and as needed for other groups affiliated with these organizations.
- *Physical network connection*: Configure the cabling and switches in the communication closets to provide a live TCP/IP network connection over installed building wiring to the wall-plate. Provide a validated patch cord (up to 25' in length) to connect the wall-plate to the end device.
- *Cable/Fiber plant management*: Ensure that there is sufficient capacity (both network bandwidth and port density) in the communications closets to meet user needs. Coordinate with other campus organizations to minimize network disruptions caused by building renovations.
- *Guest Network management*: Provide a functional Guest network to allow departmental, campus, and visiting users access to basic Internet services throughout our buildings.
- *Wireless Network management*: Manage and provision wireless networks for departmental, campus and guest users to facilitate collaboration and flexible working environments within departmental meeting spaces. Support the extension of these networks into faculty and research spaces in partnership with faculty members and research groups.

In addition to these low-level services, there are a variety of server applications that are so essential that they can be considered infrastructure.

- *Authentication/authorization*: Manage all user accounts that have access to department resources. This includes account creation, account deletion, and management of the account's permissions. We also will act as a liaison assisting users with gaining access to campus resources we do not manage (i.e. the campus LDAP, PPS, etc.).
- *Data backups*: Schedule and maintain backups of critical department systems to protect against accidental deletion and disaster. The backup media will be kept in accord with the current UCOP and department policy. Provide disaster recovery backup for selected laboratory research data.
- *Database services*: Maintain all database engines (4D, MySQL, MS-SQL, etc.) and the systems hosting them required to support department business. Ensure that these systems are configured to secure confidential data in accordance with federal and state laws and applicable UC policies.
- *Data storage/file-sharing*: Manage data storage locations (file servers, network-attached-storage, backup systems, etc.) tasked to store various categories of user data. Some locations will only be accessible to individual users while others will be shared among groups of users. Space allocation quotas will be used as necessary to avoid contention for resources.
- *Email services*: Manage/maintain server software necessary to provide email services. This includes a mail transfer agent (MTA) using the SMTP protocol and one or more delivery agents using protocols such as POP3 or IMAP. Research and deploy anti-spam and anti-virus tools to prevent the abuse of mail systems.
- *Mailing lists*: Provide and maintain a mechanism for managing mailing lists in support of department business and the university's mission.
- *Print queue management*: Configure and maintain server-based print queues to facilitate the use of network printers. Coordinate with other campus groups to ensure that these queues are accessible as needed to other campus and system applications (PPS, STAR).
- *Support documentation*: Develop and update web-based documentation to assist users with the most common technical support issues and to distribute the department's technical support policies and procedures.
- *Tool development*: Find or create then test and deploy those tools necessary for the provision of other services.
- *Voice Services*: Assist users with voice services outside of the telephone (POTS) service provided by UCSB Communications Services. Advise on the use of VOIP technologies (Skype, iChat, etc.) when appropriate and ensure that such technologies are used in accordance with University policies and guidelines. This does not include management of the POTS service provided by USCB Communications Services. That service and the related charges are the responsibility of the individual department or organization.
- *Web services*: Configure and maintain web server software using both standard (HTTP) and encrypted (HTTPS) protocols. Provide web space for departments, graduate programs, and organizations affiliated with the departments to maintain an organizational web presence. Provide web space for each faculty member to maintain a research web presence. Provide faculty, staff, and graduate students in the EEMB, MCDB, MSI, NRI, IGPMS and BMSE with space for a personal web page to be used as they wish subject to UC policies.

User Support Services
These services differ from the infrastructure in that they tend to involve solving problems for specific people or small groups of people. These services also differ in that they are not all core-funded; some of them are done on a recharge basis.

- *Analysis/programming environments*: Maintain the department-owned systems used for data analysis and developing custom applications. This includes maintaining the hardware, operating system, and applications and installing the required applications and compilers. It does not include assisting with the analysis or code development.
- *Application development*: Write custom applications to meet high-priority, department needs if no viable commercial product exists.
- *Administrative application support*: Assist users on the Life Sciences Network with software applications used in support of administrative functions (i.e. MS Office, web browsers, GUS, etc.). If the application was developed internally, then make changes and correct programming errors as needed. This does not include support for research applications such as modeling or statistical software.
- *Email client support*: Assist with the installation, configuration, and use of desktop email clients for computers attached to the Life Sciences Network. Provide online documentation and limited telephone support for configuring email clients on computers that are not attached to the Life Sciences Network (i.e. located in other departments or off campus).
- *Hardware installation*: Assemble new computers, printers and other network-aware devices and attach them, if needed, to a live network port on the Life Sciences Network.
- *Hardware recommendations*: Provide configuration suggestions and vendor quotes upon request for computers, printers, or network-aware devices to be attached to the Life Sciences Network.
- *Hardware troubleshooting/repair*: Attempt to diagnose and repair problems with computers attached to the Life Sciences Network. If the computer is university-owned, under warranty and manufactured by a vendor with whom a strong support relationship exists, act as a liaison with equipment vendor.
- *Instructional support*: Maintain the departments' instructional computer labs. Assist faculty in creating content for course web pages. Consult with faculty on instructional technologies. Coordinate with L&S Collaborate Project.
- *Multi-user lab support*: Manage and maintain the open-access, multi-user computer facilities in EEMB and MCDB.
- *Scientific Computing*: Assist with the installation, compilation, and maintenance of scientific and research software. Work with students, staff and faculty to build and maintain scientific computing systems. This does not include support requiring extensive scientific skills or knowledge.
- *Security configuration*: Define baseline security configuration required for computers attached to the Life Sciences Network. Maintain online documentation and tools to simplify configuration of systems. Ensure that new systems connected to the Life Sciences network meet the baseline profile and coordinate system modifications necessary due to threat changes. Clean up compromised systems after an intrusion.
- *Software installation*: Assist with the installation of software packages on to systems connected to the Life Sciences Network for which a valid license has been obtained. Due to the wide variety of software, the support group will only be able to do limited application testing to verify the installation.
- *Software license coordination and tracking*: Assist users purchasing licenses via one of the campus purchase agreements. Act as a liaison with the campus agent(s) negotiating contracts with vendors. Negotiate license agreements with vendors for large, departmental software purchases. Track software licenses to ensure compliance with copyright law.
- *Software troubleshooting*: Attempt to diagnose and correct problems with software installed on computers attached to the Life Sciences Network and for which a valid license has been obtained.
- *Web site support*: Maintain the organizational web sites for EEMB and MCDB. Provide

assistance and support for users developing research or personal web sites.

Core Funded Services

As indicated above, all of the infrastructure services are provided at no cost. However, many, but not all, of the user support services are core funded. Those services that are not core funded are done on a recharge basis. The following list includes those support tasks that are always core-funded:

- Hardware recommendations
- Instructional tasks for core undergraduate courses. Tasks for other courses are recharged to the appropriate course budget.
- Maintenance of programming/analysis environments on centrally supported systems (i.e. Molbio)
- Maintenance of the official, department web pages. ***Note:** This does not include personal, lab, or research web pages.*
- Maintenance of the departments' multi-user lab systems
- Trivial tasks taking less than 10 minutes to resolve

In addition to the core-funded tasks listed above, the departments choose to provide limited core-funded support for faculty. Each ladder faculty member may designate two devices (typically their office computer and one lab computer) as department-supported. Each lecturer may designate one device. In these cases a device is a computer and all peripheral equipment directly connected to that computer. For example, a printer connected to the computer would be included while a network printer would not. Labor charges (not including replacement parts) for configuration, troubleshooting, and administrative application support provided for the department-supported systems is considered core-funded.

Recharge Services

Any task that does not match one of the previous, core-funded categories will be performed on a recharge basis. Included in work performed on a recharge basis is the restoration of functionality as a result of a system security breach, or the installation of peer-to-peer (P2P) software. The restoration of data deleted due to user error or negligence will also be performed on a recharge basis. In all cases, initiation of work on a recharge basis may be delayed until the source of the funding is identified.

Current Recharge Rates

Recharge rates are updated at the beginning of each fiscal year. The current composite recharge rates effective March 1, 2007 are:

Shea Lovan - $39.12/hour

Ted Cabeen - $39.12/hour

Joe McLain - $39.12/hour

Brian Wolf - $41.73/hour

Student assistants - $12.00/hour