**Boilerplate: Computing Resources at the School**

**UNC Campus Computing Organizations**

Technology resources at UNC are tiered, with most commodity and enterprise-level services provided at the campus level by the central Information Technology Services (ITS) organization. These include basic services such as networking, telecommunications, common applications such as email and calendaring, listserv management, learning management system (LMS), web content management platform, centralized help desk, file storage, PeopleSoft enterprise resource planning system for HR, finance and student functions (“ConnectCarolina”), and information security consultation/incident response. It also offers 24-hour telephone support to the UNC community and assists with planning, provision, and management of data and video communications services to the campus, including campus network support, as well as a basic level of CIFS storage available to individuals and departments. The ITS Information Security Office develops and manages the security policies governing campus use of information.

ITS operates public computer labs across campus. The ITS Computer Lab housed in the Health Sciences Library across the street includes Intel Core Duo 2 machines running Windows 7 as well as Mac OSx machines. These systems run office productivity, networking, storage and printing tools & resources, as well as a variety of graphical, modeling, and statistical software appropriate for public health students. ITS also maintains a virtual computing lab, offering customizable software images to any computer with an internet connection, for instruction and research.

The School’s technology approach has been to leverage as many campus services as possible, including networking, telecommunications, common applications and information security consultation/incident response in order to invest its more limited technology budget in value-added and differentiating computing services at the School level. These services are mainly provided by the School’s Instructional & Information Systems (IIS) unit, in some cases augmented by department-specific services, especially for direct support of specific research data management needs.

**UNC Gillings School of Global Public Health Computing Resources**

The UNC Gillings School of Global Public Health Instructional and Information Systems (IIS) provides central computing systems for the administrative, instructional, and research activities of the School and manages the provision of desktop computing services. IIS also coordinates data management and information technology needs between the Schools, wider campus services and beyond. IIS’s central technology infrastructure includes forty physical and virtual servers running Red Hat Enterprise Linux and Microsoft Windows Server operating systems, connecting to Fibre Channel and iSCSI storage area networks, and housed securely in a central campus data center. This infrastructure supports the wide and local area networks, data repositories, streaming media, and collaboration tools, in addition to providing Internet services to students, faculty, and staff. Institutional research visualizations using Tableau and an Oracle database cluster support the business operations of the School and allow business intelligence projections. In addition, campus storage, research computing clusters, and digital repositories for publications are provisioned and managed. The School maintains a networked print infrastructure and handles access management and permissions for School and some campus services.

This infrastructure uses a large switched network for data communications between the three main buildings and buildings across campus and beyond. All of the 1,760 network ports provide at least 100-megabit connections with the majority running at 1 Gbps in occupied spaces in the School. Connections between the buildings run at 10 Gbps and connection to the commodity internet is provided by the campus through a pair of redundant 10 Gbps connections. A total of 183 wireless access points have been installed in the School’s main buildings, providing secure wireless networking to the vast majority of the building complex. Guest wireless and inter-institution roaming access (eduroam) are available. The School also has servers residing in its academic departments for research and administrative purposes and approximately 900 desktop computers active on its network daily. These are supplemented by 120 network printers as well as other devices.

The School has 17 shared-use classrooms and 6 shared-use conference rooms throughout Rosenau Hall, McGavran-Greenberg Hall and the Michael Hooker Research Center. Classroom technologies include desktop computer with Internet access, Blu-Ray DVD player, ceiling-mounted LCD projector, mounted/ceiling tile speakers, PowerPoint remote, digital/analog connections for laptops, podium/lectern, conference telephone port and classroom hotline phone. Larger classrooms also include wireless clip-on lavaliere microphone, in-room document camera, and static webcam for remote conferencing.  Integrated touch interfaces enable instructors to select devices and features. Two advanced collaborative classrooms also include Polycom videoconferencing, ceiling and podium microphones, controllable cameras, and a touch-screen control system.  Five classrooms include MediaSite lecture capture systems to provide live streaming and recording of class sessions to access on-demand.  Conference rooms are equipped with desktop computer with Internet access, ceiling mounted LCD projector, mounted/ceiling tile speakers, digital/analog connections for laptops, and conference speaker phone.

The IIS group offers remote conferencing sessions to connect classes, seminars, and meetings at a distance primarily with Polycom videoconference systems in 5 rooms, as well as through the Blue Jeans application that allow users to bridge web conferences, videoconferences, telephone conference calls, chat and screen sharing functions through a web-based tool.  Videoconferencing is facilitated from the W. Fred Mayes Telecommunications Center, which includes classroom-style seating with a lectern, camera, display, and microphones to conduct classes, seminars, and meetings, as well as a state-of-the-art control room used to operate each session. Multiple sites are bridged through the use of the Center’s Multipoint Control Unit (MCU). Videoconference sessions are typically connected using H.323 or Internet Protocol (IP) Video. The Center offers on-demand webcasting services and houses a post-production suite to provide non-linear digital editing as well as a narration booth to record voice-overs.

Multimedia resources include lecture capture via MediaSite so that lectures or short videos may be readily captured and streamed live or made available on demand. Routine lecture capture is provided in four rooms including the School’s two main auditoriums. For materials requiring higher production value, the IIS staff offer professional-level sound booth audio recordings. The IIS group also provides some video production and post-production services using a non-linear digital editing suite, and facilitates key events such as the annual Minority Health Conference every February and the National Health Equity Research Webcast every June.

Deskside support is provided for faculty and staff on Windows desktop and laptop machines as well as Macintosh OSX machines and smart phones. The campus Remedy Ticket system is used for reporting and tracking end user problems. This support can be personal hands-on, as well as secure remote desktop support. Some departments maintain local deskside support services that are co-located with faculty and staff.

The School also maintains an inventory of media equipment for short-term loan to students, faculty, and staff at no cost. Items include media equipment, audio kits, digital cameras, camcorders, speaker phones, laptops, DVD/VCRs, and LCD projectors.

The School’s main website, sph.unc.edu, resides in the campus WordPress environment but is managed by School staff. The site was recently redeveloped to include responsive design elements, to accommodate an increasing demand for access via mobile devices. Over 60 content managers keep content fresh.

Lastly, data security is governed by a set of campus information security policies, and managed via a set of 10 formal School Information Security Liaisons (ISL) assigned to each department and unit. These professionals respond to incidents and provide expert consulting to faculty and staff regarding proactive protection of university data, including research data, first line incident response, and connection to the Campus Information Security.