Quinsigamond Community College Computing Environment

Technology Lifecycle: To ensure technologically current access to information resources, the College employs a “Build Forward” approach to replacing Desktop Systems. Each system is assigned a specific lifespan at which point it is replaced by a new system and traded in to the vendor. The hardware/software standards are set such that there are no intended upgrades to the hardware or the operating system during the expected lifespan. However, minor upgrades are made if a system presents a compatibility issue with existing toolbox software or other required capability. This effective and innovative Acquire/Retire Policy insures that faculty, staff and students have access to appropriate equipment for the tasks they need to accomplish. Additionally, all use of campus computer systems is governed by the QCC Acceptable Use Policy.

Technological Facilities

Basic Information Tools: Each faculty and staff member is provided a desktop system with the Microsoft Office Suite and Jenzabar CX client as the basic toolbox. Each system is upgraded according to the College’s “Acquire/Retire” strategy for information technology. The College uses Citrix to provide virtualized applications such as Microsoft Office, PowerFAIDS, Jenzabar CX to remote users requiring these applications for their Jobs.

Campus Administrative Systems: The campus utilizes a suite of systems to facilitate the administration of the college. The main ERP (Enterprise Resource Planning) system is Jenzabar CX. This system provides automation for admissions, financial aid, student information, and business functions. Jenzabar provides frequent updates which are applied as often as several per month. Additionally PowerFAIDS is used to enhance Financial Aid processing and integrate to Jenzabar CX through an upload. PowerFAIDS is also updated frequently. Raiser’s Edge accommodates development activities. ImageNOW provides document management services. Higher Reach provides services for non-traditional education activities. The campus portal, “the Q”, (Jenzabar Internet Campus Solution) provides a variety of access and services to faculty and students. Mass communications such as announcements funnel though the Marketing department according to the electronic communications guidelines. Bulletin boards and groups need to be moderated by a faculty or staff member and are requested through the Portal itself (bulletin board area or groups area).

Information Architecture: A centralized data service capability is essential to support all of QCC core business processes. QCC’s information architecture is driven by and supports the organizational five year strategic plan.

As systems have developed the college’s ability to collect data has increased. The trend is to centralized and integrated data to improve business processes. The college’s architecture is built upon IBM Informix version 11 and Microsoft SQL Server. SQL server serves as an integration point between ancillary application and the main Jenzabar database. Cognos 10 has been implemented and is used as the primary data mining and reporting tool as well as the method of providing decision data to faculty and administrative leaders.

Information Storage Strategy: In order to manage the 1500 systems on campus, the College employs a strategy whereby all information is stored via network directory services on our Storage Area Network.
SAN. This allows centralized backup of staff data, ensuring against loss of data during local system failures. In case of a local system failure a “loaner” can be placed and merely configured with the staff member’s profile and all their personal data is available. The SAN is backed up to “Disaster Recovery” SAN then to a physical disk. The main disk the then backed up to an off-site “Disaster Recovery” disk.

Electronic Mail:
- Staff: All QCC faculty and staff utilize Microsoft Outlook client connecting to a Microsoft Exchange 2010 server. The server is configured to provide collaboration tools such as public folders and shared calendaring. Remote access to email is provided via Outlook Web Access.
- Students: Upon enrollment, each student is provided with a Qmail account powered by GMail. The email system is accessed using any World Wide Web browser or a POP3 email client.

Classroom & Student Computing Facilities: QCC provides 605 computers for student use. Through these systems students are provided access to the Internet, campus email, campus toolbox software, and software required for completion of coursework in the Harrington Academic Computing Center, Individualized Learning Center, Communications Skills Center, and the Math Center. The College also provides ten (10) general purpose computerized classrooms and fourteen (14) program-specific computing areas.

Campus Wireless Network Access: Wireless Internet access is available throughout the buildings on campus. Student and guest users with working wireless network cards are provided pamphlets at the library circulation desk, library reference desk, and computer center as to how they can connect.

Datacenter: On the West Boylston St campus servers are housed in the Datacenter located in the Administration building. The data center was built in 2010 and is outfitted with a 40 Kilowatt UPS with a dedicated backup generator. The datacenter employs an APC rack solution that includes in-row cooling units to keep the servers at the optimal operating temperature. Halon fire suppression protects the room from fire. Within the data center there are 70 physical servers and 44 virtual servers. Each remote campus (May St and Southbridge) has a small server room that replicates staff account information contained in the Windows Active Directory. Data on the main campus is contained within a storage area network (SAN) with a 21 Terabyte capacity. The data is backed up through two mechanisms; data stored on the SAN, including users’ home folders, Exchange, etc., is backed up every night to a secondary SAN, where it is retained for 14 days. The same data, plus data on other servers, is backed up to an ExaGrid disk system, with a full backup each weekend and differential backups each weekday. The ExaGrid disk on the West Boylston St. campus mirrors to an identical unit in Southbridge. {Tape sets are rotated every 4 weeks, with 4 retained sets. Data at May St is backed up on a similar schedule, with tapes rotated every 4 weeks with a 12-tape rotation. Data at Southbridge is currently minimal and not backed up.}
**Desktop System Management:** Desktop systems operate Windows 7 (student labs and some administrative desktops) and Windows XPSP3 and can be managed centrally and remotely using a combination of tools including Microsoft System Center Configuration Manager, Windows Server Update Services, Microsoft Active Directory Group Policies & Preferences, RealVNC and McAfee EPO. Each full time staff and faculty assigned a system is mapped to an H:\ drive (Personal Share) and a G:\ drive (Group Share when applicable). Users should store any important data on these network shares. Network Services cannot be responsible for any information stored on the local hard drive.

The QCC Software Toolbox includes Adobe Acrobat Reader 9, Microsoft Internet Explorer 7, and Microsoft Office 2007. As of the summer of 2011 Microsoft Office 2010 is the standard.

Individual staff members are responsible for any non-Toolbox Applications and data resident on the local desktop systems C:\ drive.

In the event of a desktop system failure, an analogous system (if available) will be used to replace the failing system. There will be no attempt to recover data stored on the local desktop system.

**Distance Education:** The College offers online distance education for credit using the Blackboard Learning Management System. This integrated system provides content delivery, chat, asynchronous discussion, email, testing, and grading. Students and Faculty access the system through Internet Explorer or Chrome browsers. Students are registered through a download from Jenzabar CX. Helpdesk support is available 24/7.

The College established strategic partnerships to provide best of breed online services. UMASSonline provides hosting services for Blackboard, Video Streaming, and Wimba hosting as well as consortium purchase of 24x7 Helpdesk services from PerceptIS. Additionally, Quinsigamond enjoys membership in Massachusetts Colleges Online (MCO); a consortium of the 15 community colleges and 9 state colleges of Massachusetts. The institutions have joined to share their convenient and flexible online courses and programs with students throughout the state and beyond.

In recognition of the NEASC requirement to offer the same academic supports for Distance Education students as are available to on-campus students, QCC began offering 24/7 tutoring via the premier online tutoring service *Smarthinking*. This service includes free Webinars for faculty who teach in the areas tutored. The program has been well received with usage climbing and excellent student feedback related to the convenience of the service and the helpfulness of the online tutors.

**Network Infrastructure:** The campus network is based on a Gigabit backbone providing (3 of ports) Megabits to each desktop.

**Internet Connectivity:** Both the main campus and the Southbridge location are connected to the internet via optical fiber. This allows the College to scale bandwidth as needed. We are currently using 40 Megabits/ sec at the main campus and 10 Megabits/ sec at May St. and Southbridge. Internet utilization is monitored and increased as needed. Millbrook street is fed through Charter Business Cable internet. The Automotive and HVAC programs use the host site network infrastructure.
Technology Support: Technology support for faculty and staff is offered through the Information Technology helpdesk. A technician is also assigned to rotate between the remote campuses. Each area can be contacted by telephone or email. For Distance Education 24x7 technical support is available to students and faculty through an arrangement with PerceptIS in cooperation with UMassonline.

Classroom Presentation Equipment: As of Summer 2012 100% of our classrooms are outfitted with the following presentation equipment:

- Internet connected Windows 7 PC
- Speakers; Either mounted on actual lectern or embedded on wall or ceiling of the classroom. See Lectern Types for details.
- Monitor, Mouse and Keyboard
- DVD/VHS Combo player
- At least two USB 2.0 ports
- Additional VGA cable for laptop hookup
- Stereo Mini audio cable for audio devices (i.e. Laptops, MP3 players, portable CD players, smart phones)

Since 2011 the following capabilities are included as part of the technology replacement lifecycle:

- HDMI connector cable for newer laptops/netbooks
- Document Camera

World Wide Web: QCCWEB provides an array of information regarding programs, courses, and student services.

- Main Web Site: The main Web Site (www.QCC.edu) is hosted off campus and managed by the Office of Institutional Communications. We had a major upgrade to the site in 2012. The site is built on a Content Management System, allowing decentralized administration, enhanced communications and more accurate course and program and information.
- The Intranet: The campus Intranet is managed by the Web Services manager and is targeted specifically at providing information and services to faculty and staff. It is not intended for external audiences although may point to pertinent information located on the main Web site when necessary. The Web services department also develops specialized web applications, Intranet forms, web pages, and newsletters for internal service departments.

Central IT Staffing (FTE: Full Time Equivalent)

Given the rate the college has been growing managing staffing needs has been a challenge. We have employed a strategy for “elastic” staffing where we employee technical staff from contracted firms to help us during semester startup and other peak times.

This includes helpdesk technicians, telecommunications technicians and utilizing an external firm to provide support to our 24x7 distance education program.
Our core staff is as follows:

- Chief Technology Officer (1 FTE)
- Deputy Chief Technology Officer (1 FTE, Vacant)
- Clerk IV (1 FTE)
- Academic Computing Staff: Director, Computer Center Manager, 3 PT Lab Assistants (3.5 FTE)
- Information Systems: Director, 2 Programmer/Analysts, 1 Database Administrator, 1 Portal Manager, and 1 ERP Client software specialist. (6 FTE)
- Network Infrastructure: Director, Associate Director, Microsoft System Administrator, Desktop Administrator, Windows Systems Administrator, Network Support Engineer (Vacant) (5 FTE)
- User Services: Director, Helpdesk Operator, 4 Desktop Technicians, 3 PT Techs, 2 PT HD operators. (6 FTE)
- Web Services Manager (1 FTE)
- Media Services: 0.25 Assistant Dean, 3 AV tech I and 2 PT AV Techs (4.25 FTE)

Program Specific Staff
- Distance Education: Assistant Vice President (Academic Affairs), Coordinator of Distance Education (Academic Affairs) (2 FTE)
- Applied Arts: Learning Manager (1 FTE)
- Computer Systems Engineering Technology: 1 Unit Professional, 1 Technicians (2 FTE)