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Connecticut Community Colleges

Information Technology System Strategic Plan

2004-2006

Presented by:

The Information Technology Policy Committee

Connecticut Community Colleges

Education That Works For a Lifetime

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MANAGEMENT OVERVIEW

Technology planning is the process of determining how best the organization can use technology to further its mission and tie System priorities to technology trends. The management supported planning process includes assessing current resources, defining needs, and exploring various solutions through input from a range of technical and functional staff members. The outcome of a successful technology plan will help the organization use technology effectively, avoid crises, save and perhaps obtain funding, and select the appropriate hardware and software to meet the System's goals and objectives. (*Excerpts from http://www.techsoup.org – The Technology Place for Non-profits)*

The planning document covers the next three (3) calendar years, 2004-2006, and presents the primary goals, objectives, activities and critical success indicators of the Connecticut Community College System's Information Technology (IT) Department and the System level activities of the colleges' IT staff. It should be noted that the IT Strategic Plan supports the goals and objectives identified in the System's Strategic Plan which is currently under development. The planning process is structured to ensure business area management and IT management collaboratively participates in the development of IT priorities and helps ensure business goals are met. The process through which this plan was developed, iteratively modified, and evaluated is presented in "Appendix I – Process for Developing the System IT Strategic Plan".

The Plan contains a listing (see System Information Technology Activities for 2004**)** of the System IT activities projected to be initiated and/or completed during the 2004 Academic Year. Among them are such major activities as the implementation of a Web Portal (i.e., Luminis), the upgrade of our course management system, the continued implementation/integration to the State's Core-CT systems, and the final implementation phase of the Active Directory and email project.

Although covering a three year period, the Plan will be reviewed and updated through a continuous planning cycle as System needs change, and budgets and resources fluctuate. The goals, objectives and activities cited in this plan carry high expectations for new and exciting technological endeavors during the next three years. Continued and additional financial support will be necessary for their success.

Comments, observations, and suggestions regarding the Plan are encouraged and welcomed and should be submitted to the Chief Information Officer, Gerald Papazian, gpapazian@commnet.edu.

INTRODUCTION

The Connecticut Community Colleges (CCCs) strive to maintain a leadership role in information technology by providing state-of-the-art technology for the colleges' instructional activities and administrative departments. The CCCs will accomplish this leadership role by integrating technology into the classroom to enhance the students' educational experience and provide information technology services necessary for the colleges and System to perform its daily operations.

The CCCs face many challenges from internal and external forces in achieving this leadership role, including an increasingly diverse student population; a general increase in both student credit and non-credit (business training) enrollments; intense competition for students among the institutions of higher education and business organizations; demands for accountability; fluctuating economic conditions; a severe tightening of the State's budget; increasing demands for technology support services; increasing difficulty in hiring and retaining technology professionals; and, rapid technological advancement.

Recognizing these challenges, the following are a few basic assumptions that are at the core of the planning process:

- **information technology is a critical strategic resource;**
- **students, faculty and staff require access and services anytime, anywhere to take advantage of the full range of benefits inherent in information technology;**
- **instructional environments should be provided that meet the evolving needs for integrating technology into the instructional processes;**
- **information systems are to be stable, standard and secure;**
- **management information is a valuable resource that must be managed and coordinated in order to maintain its integrity and utility; and,**
- **training and support are essential elements to the success of this plan.**

The Community Colleges must be proactive in their methods of delivering knowledge to their students. The colleges must embrace technology and allow students and staff to access information across college locations and across the world outside the System. In order to provide services and programs which respond to student expectations and workplace demands, our hardware and software must be maintained at a state-of-the-art level by funding the ongoing upgrade of all technology equipment; new laboratories and technology centers; technology to support alternative instructional delivery methods; and, personnel to support the above technology and services.

CONNECTICUT COMMUNITY COLLEGE MISSION

On February 23, 2003 the Board of Trustees of Community-Technical Colleges reaffirmed its commitment to the 12 Connecticut community colleges and their mission that ensures access and academic success for students seeking opportunities offered by higher education and required by the high demand workplace of the 21st century. The resolution can be found at http://www.commnet.edu/co/Board_of_Trustees/Mission-Board%20Resolution%202-24-03.doc

Vision Statement

Twelve Connecticut Community Colleges will be educational leaders recognized for the responsiveness, relevance and relationship of programs and services to diverse student needs as well as state workforce initiatives. The quality, excellence and accessibility of learner-centered teaching, curricula, services, human resources, facilities and instructional technology will be valued and supported as essential resources that add to the success of the State, its citizens and communities.

For more information regarding the System's Strategic Plan and related process please link to http://www.commnet.edu/co/planning/home.htm

INFORMATION TECHNOLOGY VISION

The Connecticut Community College System will create and maintain an information technology environment that promotes and expands access to learning and service experiences for all, regardless of time or place.

INFORMATION TECHNOLOGY STATEMENT OF PURPOSE

The Office of Information Technology at the System Office and the colleges support the mission of the community colleges by providing resources and support services for the System's academic, instructional, and administrative activities. Specific activities include:

- **enhance the educational experience of students through the use of information technology resources and services;**
- **supply efficient and effective information technology resources and services necessary for the colleges and system office to perform their daily operations;**
- **provide students, faculty, and staff access to information technology resources and services that exist at the college, state, and beyond; and,**
- **assume a leadership role in information technology.**

CURRENT INFORMATION TECHNOLOGY ENVIRONMENT

The CCCs are linked together via a high-speed network (COMMNET) built using SBC's public ATM as a "hub and spoke" network with the hub being the System Data Center. There are diagrams presented in this document which will show the local college and Data Center's network components.

As can be seen from the diagram of the CCC wide-area network COMMNET has a link to the Connecticut Education Network (CEN) - a statewide high speed education network. CEN is a consortium of the CT Department of Higher Education, public and private CT Higher Education Institutions, Health Centers, State Library, State Department of Education, Connecticut Library Network and the Regional Education Service Centers. The consortium has developed a set of standards and guidelines to implement the statewide network so that it will be flexible, expandable, secure, reliable and sustainable. This network will allow for elementary and secondary education, higher education (public and interdependent), state and local libraries, museums and state agencies to electronically communicate on and through the network. See the CEN link at *http://www.ctstateu.edu/infosys/ctednet/* for more information as well as a technical discussion.

The community colleges information technology strategy operates on a tiered approach using centralized databases located at the System data Center with decentralized operations at the colleges. For example, our administrative software system, Banner, is run on a single Unix database server housed in the System Data Center and is accessed by each college via our internal high speed data network. The Oracle database is segregated into data views using various coding schemes such that individual college information is private to that college and can only be viewed by that college. The community colleges look to this type of solution with all our information technology systems and has resulted in a cost savings in hardware, software, and personnel while maintaining quality services.

The community colleges' information technology personnel are dispersed among the System Data Center and the 12 college locations. The Center's staff is responsible for the operation of the Center, development, implementation, and maintenance of the application systems, negotiating for system-wide hardware and software contracts, installing and maintaining the wide area network, access to the Internet, and assisting users with the hardware/software systems. See the following link for the Office of Information Technology's Organization Chart.

The college staffs vary in size and composition depending on the size of the institution and local college priorities. In general, the Director of Information Technology and staff provide administrative/academic and network support at the

local level and acts as a liaison with the System Data Center staff. However, there is no system reporting structure in place, local staff report directly to college supervisors. The college's personnel are an essential link between the System Data Center and local information technology activities. For example, most major projects, particularly those involving technical services are discussed and agreed upon in the IT Director's Council and Directors are participants and take a lead role on project teams.

Environmental SWOT Analysis and Cruciform Chart. To further help identify the System's information technology strengths, weaknesses, opportunities, and threats the IT Strategic Planning Committee brought in consultants (SCT Strategic Planning Consultants). The following cruciform chart resulted from the collection of items within each of those four categories and then identifying those that are most significant.

Strengths	Weaknesses
• Communication systems and platform in place (1 extraordinary and 1 significant) • Good cooperation between IT and functional (1 extraordinary and 9 significant) • Willingness to take on challenging projects -- system and local (5 significant) • Excellent data center service, performance and uptime (3 significant) • High percent of faculty have strong interests and capability in IT (2 extraordinary and 1 significant)	• Insufficient staff resources and levels (ten extraordinary and 3 significant) • Lack of funds for personnel (3 significant) • Limited funding for IT hardware and software replacements, acquisitions and upgrades (4 significant) • Heavy focus on administrative instead of academic technology with limited funds (9 significant) • Capability to retain good staff as the future will require support of a different environment (7 significant) • Training at local colleges on applications to maintain faculty support and standards (4 significant) • Revision of vision and mission of IT (1 extraordinary and 2 significant)
Threats	**Opportunities**
• Local college flexibility and innovation restricted by central system to provide services to local community (1 extraordinary and 1 significant) • Trends in external security threats slows infrastructure development, adds expense and requires more planning which diverts resources (3 significant) • Vendors plans for upgrades and new versions (3 significant) • Must have competitively attractive web site that is user friendly (3 significant) • Traditional academic term limits on scheduling (3 significant) • Rapid technology change (10 significant) • Lack of sustained or diminishing funding from state (8 extraordinary and 4 significant) Disasters (3 significant)	• Funding for training facilitates high-end IT, certification, etc. (3 significant) • New administrative technologies (2 extraordinary and 1 significant) • Opportunities for partnerships with sister organizations (5 significant) • Chance to re-engineer processes (1 extraordinary and 3 significant) • Faculty to become multimedia capable (5 significant) • Better use of technology to enhance service (1 extraordinary) • Collaboration/sharing of teaching/learning content (1 extraordinary and 2 significant) • More effective marketing; informing public of distance learning courses and all courses/programs offered by college (1 extraordinary and 6 significant)

Cruciform Chart for SWOT Analysis

From a review of the chart, the consultants helped the Committee identify possible conclusions and strategies. The major points are summarized here while a complete discussion of the SWOT can be found in Attachment 2: IT Strategic Plan SWOT Analysis.

The consultants suggested that the heavy focus on administrative instead of academic technology can be associated with a need to revise the vision and mission of IT. It appears this weakness could possibly be overcome by refocusing known strengths - the willingness to take on challenging projects and the high percent of faculty that have strong interests and capability in IT.

The key environmental threat of rapid technology change can exacerbate this weakness if no action is taken by CCC; however, several opportunities exist that may provide external resources to CCC in addressing such a weakness including available funding for training as well as collaboration potential for teaching and learning content. One possible long-term *strategy* to draw from this cruciform chart is for CCC to train interested faculty on emerging academic technology that lead to collaboration and sharing of teaching and learning content

IT Resource Constraints. *(The following are excerpts from a Price Waterhouse Cooper Information Technology audit conducted during October, 2003.)*

In order to maintain industry standards and meet internal strategic planning expectations, demands on IT resources system-wide can be expected to increase during upcoming years. To-date, there is no anticipated corresponding increase in IT funding at the system-level and certain IT functions (application support) are already functioning beyond capacity (i.e. experiencing significant overtime).

Connecticut Community College allocates technology support resources through both centralized and decentralized funding sources. Campus IT resources are allocated through the campus budget process; whereas, centralized IT operations are funded from the System Office. While most technology enabled curriculum initiatives are funded and run on a campus basis, there are certain system-wide initiatives (e.g. active directory, system-wide IT strategic plan, Banner updates) that are driven by the system, but require considerable coordination and resources across campuses. To ensure that such system-driven initiates are successful, appropriate resources need to be available both at the campus and system levels.

Given the number and complexity of upcoming and ongoing IT initiatives it appears that necessary resources will be beyond expected funding. Without adequate resources there is an increased risk that industry standards and end-user service will not be maintained.

This audit management letter recommends that focused attention and structured planning by IT and campus leadership be given to IT resource allocation in order to ensure that existing service levels can be maintained, appropriate controls and monitoring can be assured, and that future projects are appropriately prioritized and executed.

IT ORGANIZATIONAL ADVISORY STRUCTURE

The Community Colleges have implemented a policy and advisory structure that formally connects the appropriate system-wide Councils to information technology decisions. Inherent in this structure is an effort to tie the planning and budgeting process for information technology to required resources and desired objectives and the activities required to achieve them. If appropriate resources are not available, then specific management decisions are made regarding which objectives will receive priority.

The structure and committee responsibilities are shown in "Appendix II – Information Technology Committee Structure". The Information Technology Planning Committee (ITPC) is the primary management committee and has representatives from the Presidents, various Dean's Councils, and the Chancellor's Office. The ITPC directs the development of the system-wide Information Technology Strategic Plan; and, reviews and approves said plan. Other responsibilities of this Committee include: coordination of system information technology priorities, establishment of the standards and guidelines for systems development and acquisition efforts, and, the assessment of information technology services offered through the System Computing Center. A website containing its membership, charge, and minutes of past meetings can be found at ITPC Home.

In addition to the advisory committees discussed above, there are several other systemwide committees that have specific responsibilities in information technology. The Council of IT Directors is comprised of the local campus Directors of IT and representatives of the System Data Center. The Council meets regularly to discuss, recommend, and work on systemwide and campus issues.

The Distance Learning Council is comprised of one representative from each campus with additional non-voting members from campuses and the System Office. The council reports directly to the Academic Deans Council and has specific responsibility developing policy and procedure recommendations for distance technology including compressed video and web-based instruction.

The Council of Librarians plays a critical role in the investigation, innovation, and implementation of information technology in our System and are significant stakeholders in the planning process. Classes in library instruction and information literacy are commonplace, and library instruction classrooms, whether actual rooms or part of the library itself are essential components of institutional support.

IT INFORMATION SYSTEMS

There are a number of IT applications, services, etc. that are provided to the 12 Community Colleges and the System Office centrally by the System Data Center. They include:

CCCs Wide Area Network, Exchange Electronic Mail, File Sharing, and Web Services.

As mentioned above, the CCCs are linked together via a high-speed network built using SBC's public ATM network. This CCC-WAN network is designed as a "Hub & Spoke" network with the hub of this network being System Data Center.

The Windows NT 4 network is a Multi-master/Single-Resource domain model, where each college manages a (one or more) Windows NT 4 master domain and the Windows NT 4 resource domain being housed in the System Data Center. Using this domain model, the CCCs have implemented a variety of services (e.g., file sharing, Web hosting, Exchange e-mail, etc.).

Electronic Mail. The Exchange implementation is based on the Single Organization, Multiple Site and Multiple Server model (Email Implementation). All external email routes through a SMTP gateway, which is protected via a Checkpoint Firewall cluster. Outlook Web Access is used to access email when off-campus.

Internet-available Web services. The majority of the college websites (i.e., exceptions are Manchester CC, Tunxis CC & Naugatuck CC) and the System Office are hosted on a server in the System Data Center. The colleges manage the content for their site via a variety of tools (Frontpage, Deamweaver, etc.) and also by FTP content to the server. The URL for main CCC website is www.commnet.edu.

File sharing. There are a number of NT shares in the CCC resource domain that are used by the college users. They include resources for Banner users, systemwide committees, etc. The content of some of these NT shares are also available via a web browser (www.internal.commnet.edu).

Banner. The Banner enterprise resource planning (ERP) system provides an integrated administrative system for all 12 colleges and the System Office. Banner includes the following modules: Student, Financial Aid, Finance and Human Resources. Students, Faculty, and Staff use Banner to manage their class schedules, student accounts, registration, and perform other administrative services. The Human resources module has recently been replaced by a State

mandated PeopleSoft (Core-CT) HR module and will be discussed later in the document. See Banner Hardware Environment for the current hardware environment in the System Data Center that operates the Banner software.

Core-CT Project. Core-CT is a statewide agency initiative to replace the core financial, payroll, and administrative systems using PeopleSoft software (link to Core-CT website). The primary systems to be implemented during 2003-2004 will be Financials (i.e., Banner interfaces will be implemented to Core-CT, however the book of record remains in Banner); and, HRMS modules (which will be moving to Core-CT and PeopleSoft) including, Position Control and Jobs, Benefits Administration, Time and Labor, and Payroll. College and System Office HR and Payroll staff will enter and use information (e.g., through CCC developed reports) from the Core-CT PeopleSoft system while some HR information will need to be double entered into Banner. Goals and objectives related to the Core-CT Project can be reviewed in the HR and Financial Team sections of the Banner/Core-CT Team Priorities 2003-2004.

Banner team goals and priorities for 2003-2004 are in **Appendix III**.

Internet Native Banner (INB). INB is the method by which the standard SCT Banner application is accessed and run within the CT Community Colleges. It uses web-based Java technology, and launches from within a web browser (Internet Explorer or Netscape). At this time, Internet Native Banner is intended for use only within the Connecticut Community College network. It is not configured to function from home over the Internet. See Banner INB Environment for a graph of the INB Hardware and telecommunications environment.

Banner Self-Service. The CCCs have implemented on-line resources through Banner Web for Students/Financial Aid and Web for Faculty/Advisors in a secure (SSL) environment for all CCC students, faculty & staff to access. The self-service systems are used extensively for verifying personal information, admissions, registration, and tuition and fee payments, grade entry, class and schedule look-ups, transcripts, and entering and following-up Student Financial Aid documentation. See Banner Self-Service for a diagram over-viewing this system.

WebCT Course Management System. The CCCs have standardized on the Campus Edition of WebCT as its single course management system. The WebCT server is housed off-site and is managed by the CT Distance Learning Consortium (CTDLC). The WebCT software has been integrated with the Banner database to provide data synchronization between the two systems. Figure 6, **Banner to Web-CT Integration** (Page 54) details the process.

Library Resource Information System (LIBRIS). LIBRIS is an integrated library network for the 12 community colleges. The URL for this system is www.libris.commnet.edu. The Libris network is built on the Voyager Integrated Library Management System manufactured by Endeavor Information Systems Inc. using an Oracle database that provides efficient, uniform access to resources in a wide variety of formats.

Library Proxy System. The library proxy system provides access to subscription databases from off-campus via a URL-rewriting proxy server. The proxy server redirects authenticated remote users to some external service that normally may not be accessible to off-campus (i.e., distance learners) students. The result is a seamless environment for the CCCs remote users to access external library services. The URL for this system is www.eid.commnet.edu. Figure 7, **Library Proxy Service** (Page 55) summarizes the components of this system.

SYSTEM INFORMATION TECHNOLOGY ACTIVITIES FOR 2004

There are a number of projects that have been identified to be initiated (or completed) during the 2004 Academic Year. Among them are such major activities as the implementation of a Web Portal (i.e., Luminis), the upgrade of our course management system, the continued implementation/integration to the State's Core-CT systems, and the final phase of the Active Directory and email project. The new projects must be balanced with the need to provide ongoing support and maintenance of our IT infrastructure and current information systems. Ongoing support is our number one priority, thus to ensure that these system-driven initiates are successful, appropriate resources need to be available both at the campus and system levels.

Project Listing

- Ongoing support and maintenance of IT infrastructure and Information Systems at the System and college levels.

- Banner 6.0 Upgrade. Upgrades are a continuing process with Enterprise Resource Planning (ERP) system. It is particularly time consuming for the CCCs as Banner has been modified to accommodate our 12 college single database solution. Banner 6.0 is a major release that provides a new problem resolution tool, support for eProcurement integration, expanded credit hours/GPA, new registration fee assessment to improve quality and performance, improved menus and navigation. The release also includes open learning registration, which offers flexible scheduling, teaching and learning.

- Core-CT implementation and CCC information systems integration. The CCCs must comply with Connecticut state government's project to replace its legacy core financial and administrative systems with an integrated ERP package.

- Implementation of LUMINIS portal. Implementing a common portal to our administrative and academic services is a natural next step for the CCCs. Luminis will enable the colleges to deliver highly personalized information, Web services and community interaction to every campus constituent, from faculty and students to administrators and alumni. The Luminis portal creates a virtual one-stop service center on the web. A well designed portal will allow constituents from each college to access common institution

services, online course content, email, calendar, and collaboration applications such as chat and bulletin boards with common user interfaces all available through a single sign-on. The Luminis portal would also allow each college to customize and organize their portal pages with content and services they feel best meets their interests and needs.

- Windows Server 2003 Active Directory and Exchange Server 2003 Implementation. By migrating to AD and upgrading its email system the CCCs will provide the foundation for moving towards a single sign-on environment by using the AD as an enterprise-wide Unified Directory by centralizing all user accounts and third party application credentials into a single directory so a applications don't require a separate authentication process. The email upgrade will provide greater control of the user desktops at the local college level and provide almost 100% of the full Outlook client functionality via the web component. For further information on the AD Project click on the following link and go to the February 28, 2003 minutes of ITPC.

- Upgrade of Campus Edition of WebCT to VISTA. The CCCs will upgrade its Campus Edition to WebCT's academic enterprise system - Vista. The CCCs entered into a consortium agreement with the other CT units of higher education to purchase the Vista product. CTDLC will continue to house and support the WebCT Vista product for the CCCs as it does with the Campus Edition and the product will continue to be fully integrated with Banner. With WebCT Vista, the CCCs will have a simpler and more contextual way to control how content is made available to users across the institution and across the System. Institutions can aggregate content or an entire curriculum and make it available to departments and users across the institution. See the WebCT Vista webpage.

- Increase the level of instructional technology resources within each of the colleges. The CCCs have made great strides over the pass several years to increase the use instructional technology for distant and campus based courses. It is the CCCs goal to continue the support for these activities and to provide an environment that encourages collaboration and learning for our students.

- Begin the process of implementing a Business Continuity Plan. The purpose of the plan will be to explore possible options to cost-effectively restore critical IT services and business functions if there is a serious outage.

- Continue review of the Mission of IT and the development of the IT organization, policies, and procedures. The Information Technology Policy Committee and supporting committee structure will continue to review, update, and revise the stated mission of IT within the CCCs. New and revised policies and procedures will be documented as the need occurs.

SYSTEM INFORMATION TECHNOLOGY STRATEGIC GOALS AND OBJECTIVES

I. Vision/Emerging Technologies

Encourage and recognize the creative use of information technology in support of the System's mission and goals.

- The Information Technology Policy Committee (ITPC) will develop a CT Community College System vision and operational structure for Information Technology.
    - *ITPC will review the current IT committee and advisory structure and recommend appropriate organizational strategies to the Chancellor for approval.*
    - *ITPC will adopt a systemwide approach to insure that the colleges' and System web pages meet web accessibility guidelines.*
    - *ITPC will investigate and analyze applications of new technologies to the academic and administrative needs of the System.*

- The ITPC will sponsor a comprehensive set of IT policies/procedures and recommend implementation strategies.
    - *The Office of Information Technology staff will develop and maintain IT Policy documents (user policies, standards, security, implementation procedures, etc.) through collaboration with the colleges' technical staff with input from faculty and staff as appropriate. Completed documents can be viewed at:* (http://www.commnet.edu/it/policy/)

- Work with library personnel to provide students, faculty, and staff with access to a high quality library collection and a global network of electronic information resources.

II. Instructional Support

Provide the hardware, software, network access, human resources, and training required to support and extend the teaching and learning process within the classroom and through alternate instructional methods (e.g., distance learning).

- Each college will use the emerging technology to enhance and address the needs of their instructional programs.
    - *Provide a single point of contact within each college to coordinate all technology related issues and serve as the primary computing support service.*
    - *Improve the quality, quantity, and availability of classroom technology, including the use of Smart-boards, language and computer labs, and studios equipped to support technology-based instruction.*
    - *Provide online communication tools that will enable faculty to augment classroom discussions (e.g., email, message boards, chat applications, and course calendars that can be integrated with students' personal calendars).*
    - *Place an emphasis on service for faculty using technology-equipped classrooms to minimize problems and insure successful instructional use of available facilities.*
    - *Provide the technologies and support for instruction and learning to faculty and students regardless of location.*
    - *Provide training for faculty and support staff in effective use of emerging technology.*

- The System Office's Academic Department will coordinate a collaborative System approach to online learning.
    - *Establish a Director of Instructional Technology to reside in the System Office in support of the effective integration of technology into the teaching and learning process.*
    - *Provide faculty with the technological and pedagogical tools to effectively use and integrate technology to enhance student learning.*
    - *Provide baseline support for the use of information technology across all disciplines.*

- The System will support each college's effort to extend their ability to connect with other colleges, local communities, and school systems through IT initiatives.

III. Student Support

Provide access and support for curricular materials, software, electronic communication, computer labs, electronic classrooms, library resources, media collections, and presentation technologies to maximize the benefit of students' educational experiences.

- Strive to provide students with seamless, anytime-anywhere computing access.
    - *Deliver convenient and reliable access to a comprehensive collection of electronic information that presents students with an individual campus experience and identity:*
        - *Student email accounts*
        - *Personal and college calendars*
        - *Single log-on to software applications*
        - *Personalized content through customized views*

- Strive to provide students with appropriate local technical support and training perhaps through the use of a College Help Desk.

- Provide students with a variety of self-service support services via the web.
        - *Admissions, registration, and course schedules*
        - *Tuition and fee payment*
        - *Access to transcripts and grades*
        - *Financial Aid*

- Support further proactive development of the digital library, the library classroom as an essential learning lab, and the future expansion of library electronic resources.

IV. Faculty/Staff Support

Create and support ongoing opportunities for technology-related professional development and training for current and new technologies.

- Provide faculty with a variety of self-service support services via the web.
    - *Course schedule and class lists*
    - *Student and advisee information*
    - *Access to students' grades and transcripts*
    - *Ability to provide course overload*

- Provide a diverse set of web-based training courses and other alternative training methods to faculty and staff (and students) on a just-in-time basis.
    - *Augment current training programs with web-based training.*
    - *Offer custom-authored online training produced internally for WebCT which will be available for ALL staff and faculty and which will be locally administered at each college.*
    - *Offer flexible training hours for all staff including adjuncts and allow local trainers to enter their own locally offered classes into the Instructional and Information Technology Training registration database providing an easy to use "one-stop shopping" site.*

- Create and support ongoing opportunities for technology-related professional development for faculty and staff, including appropriate follow-up training.
    - *Establish local college faculty support centers that provide training and support to faculty in the use of instructional technology in such topics as instructional design, web page creation, effective use of multimedia, use of presentation software, copyright issues, and identification of online content.*
    - *Incorporate the 'blended learning approach' (i.e., web-based and hands-on) to system-wide customized training needs (e.g., WebCT, BANNER, MS/Office products, PeopleSoft, library resource training, and other specialized training required by various groups).*
    - *Provide the necessary resources to support the technology based training.*

- Define and establish sets of minimum technological competencies required of all faculty and staff.
    - *Utilize the identified skill sets to create developmental paths within Element K for faculty and staff (e.g., "new" faculty, "advanced" faculty).*

- Provide faculty a comprehensive set of options to create, edit, revise and maintain online course material easily.

- Establish appropriate incentives and support for faculty and staff to encourage the creative use and application of information technology for teaching, research, and service.
    - *Work with Center for Teaching "Teaching & Learning Consultants" at the colleges to link technical training for faculty with pedagogical workshops.*
    - *Work with Academic Deans in an effort to encourage colleges to build in promotional consideration for faculty and staff who continuously enhance their pedagogical and technological skills.*
    - *Work to improve the communication among faculty by encouraging such activities as Bulletin Boards, chat rooms, and shared documents.*

V. Administrative Support / Information Systems

Develop, maintain, and improve computer applications that meet System and campus needs for administrative processes and planning to promote the effective management of the System and its resources.

Banner/Core-CT Team goals and priorities for 2003-2004 are presented in Appendix III. Banner goals are reviewed and updated annually by the Information Systems Steering Committee. The 2002-2003 accomplishments can be viewed in Appendix IV.

- Provide the appropriate on-going service level support for the Community College System's Information Systems computing environment.
    - *Provide on-going support for Banner upgrades and security, 12-college solution, custom reports and extracts, population selection/letter generation for all application areas and specific areas:*
        - *Fiscal systems (G/L, Budget, AP/PO, A/R including installment plans, deposits, bookstore vouchers and upload to State systems, Year end processing, Fixed assets, Check writing, Banner to PeopleSoft inter-agency transfers and Bond Fund processing, Purchasing Card (i.e., PCard), Offset vendor processing, Student refund check processing, 1098T processing)*
        - *HR/General systems (PeopleSoft Core-CT HR and Payroll interface, Time and Attendance, Grievance Tracking, Position Control, Budget Roll, Audit reports*
        - *Student/Academic systems (Recruiting, Admissions, Catalog, Schedule, Registration, Academic History, Graduation, General Student, Student Placement Test Interface, Student and Faculty Self-service (Web) applications, WebCT-Banner integration, Common course, Event Management, Accuplacer Windows to Banner bridge, National Student Clearinghouse integration, Banner Web survey)*
        - *Financial Aid (automated processes for data uploads, nightly disbursements, awards, packaging and tracking, Self-service (Web) enhancements, MSA Payroll interface to work study)*

    - *Work with appropriate State, Federal agencies as well as Banks to implement and/or integrate with our own systems.*
        - *Core-CT PeopleSoft ERP system of human resources, payroll and finance*
        - *National Student Clearing house*

- *Accuplacer Placement Test Service*
- *U.S. Department of Education (ISIR)*
- *CT Department of Revenue Services (offset vendor processing)*
- *Fleet Bank (PO check processing)*
- *Bank One(P-Card)*
- *CommonLine processing with Sallie Mae, USA group, CSLF-FAN and Elm Resources.*

- Provide and maintain integrated information systems in a common, standards-based platform available through appropriate authentication and single sign-on.
  - *Provide assistance and the technical services necessary for the successful implementation of a Web Portal (Luminis).*
  - *Improve information access and efficiency by implementing a data warehouse with user query and report writing tools.*
  - *Implement a software version control system (CVS - current version system) to provide source code management. The system will assist the Information Systems staff in defect tracking, versioning, labeling, monitoring and analysis of development activity, and presenting differences in source code and content components during the development life cycle.*

VI. Technical Services

Provide consistent high quality technical services at the System Office's Office of Information Technology and across all college locations.

Major areas include: **service management** (Exchange email, DNS, file and print services, MS SQL/Access, Windows NT resources); **application management** (library system, Citrix remote access, Outlook web access, Banner file sharing); **server/operating system management** (Banner application and database servers, WebCT integration servers, VOIP servers, firewall, backup servers); **database** (Banner production, training, development and clone-of-production); **operations** (support for all above systems, user workstations, wiring, air handlers, UPS/generator, media).

- Develop and maintain a secure computing/networking infrastructure and associated services to support a state-of-the-art IT environment.
  - *Maintain WAN, extranet connections, System Office LAN, Internet connection, and Network Time Protocol Service (NTP).*
  - *Participate with other State agencies in the design and implementation of the CT Educational Network* throughout the CCCs.
  - *Provide network monitoring and reporting.*
  - *Design and implement server security.*
  - *Manage firewall for Internet and Intranet cluster.*

- Provide leadership and direction in assessment, selection and implementation of network technologies.
  - *Research and recommend the best solution(s) for a secure design, implementation and use of wireless networking.*
  - *The System Office OIT will evaluate and make recommendations to the colleges' annual infrastructure plans and provide technical support to the colleges' IT staff.*
  - *Pilot a Voice-over-IP phone system in the System Office for general implementation throughout System.*
  - *Assess the impact and make recommendations regarding the delivery of audio/video over IP.*

- Provide direct easy user access to information resources at any time and any place in the form needed with appropriate security and authentication control that would enable a single sign-on to the System's services.
  - *Implement active directory/electronic communications.*
  - *Provide assistance and the technical services necessary for the successful implementation of a Web Portal (Luminis).*

- *Establish a secure, single logon environment for access to services.*

- Continue the work to establish a climate of cooperation, mutual respect, and confidence between the technical support staff(s) and their customers.

VII. Business Continuity Planning

Develop arrangements and procedures that will enable the System and colleges to respond to a disaster event in such a manner that critical business IT functions continue with planned levels of interruption or essential change.

- Develop a disaster recovery plan with increasing levels of recovery based on system and local college priorities.
    - *The Office of Information Technology will work with various outside vendors (e.g., SunGard) to review possible recovery scenarios.*
    - *Establish estimated costs for recovery services and present options to ITPC for recommendations.*

VIII. System Support for Research, Marketing, and Development

Provide support for System and institutional efforts to provide management information for policy making decisions (e.g., institutional assessment and effectiveness), formulating institutional marketing plans, organizing alumni and Foundation/Development information.

- Use technology to gather, organize, and evaluate data for decision-making and organizational improvement.

- Provide the information technology infrastructure to enable efficient, effective, and meaningful institutional research.

IX. IT Fiscal Resources

Enable the Office of Information Technology and the colleges to sustain and enhance their IT capabilities by identifying and allocating adequate levels of fiscal resources.

- Use technology procurement in an effective manner, making economies of scale, centrality, and special arrangements.

- Build a solid foundation of IT infrastructure that will enable the System to achieve a position of leadership and assure that sound fiscal planning permits the maintenance of this infrastructure at state-of-the-art levels.
    - *Identify and expend additional resources to enhance support for the use of IT in instruction for distant and campus based students.*
    - *Establish base funding for the life-cycle replacement and ongoing development of the telecommunications infrastructure as well as non-networked equipment.*

- Review the market compensation levels for qualified IT professionals to make compensation competitive with employment alternatives, both on campus and at the System Office, within the context of overall salary goals.
    - *Recruit, train, and retain staff with the skills necessary to plan, implement and support information technology programs and services.*

APPENDIX I

Process for Developing the System IT Strategic Plan

In January 2003, the Information Technology Policy Committee formed a sub-committee to develop an IT System Strategic Plan for 2004-2006 (a list of committee members can be found in at the IT Strategic Planning website). The Committee used a variety of approaches in developing the plan, including acquiring input, review, and comments from established System councils and committees and hiring an outside education consultant service to evaluate our planning process and provide assistance in a SWOT analysis.

Broad participation by faculty and staff was a goal of this process. To that end, the Strategic Planning Committee put together a survey that was administered to faculty via the Web for Faculty self-service product. The survey was available to faculty during late April through the middle of June, 2003 – during the time faculty access the Web to enter final grades. The survey was based on the major IT goals identified by the committee in conjunction with various System committees and councils. The survey simply asked faculty to review the stated goals, indicate the goal's appropriateness and suggest any specific objectives that might be associated with each goal. The responses were used by the committee in refining and editing the stated objectives.

The Committee brought in an external consulting service, Systems Computing Technology (SCT) Planning Assessment Team, to conduct an evaluation session to review the current status of the strategic plan and planning process. Needs, goals, target environment, strategies, and schedule for the institution's information technology initiatives were reviewed - including applications, computing and networking infrastructure, and staffing. The Committee felt that the use of outside facilitators, who are experts in strategic plan development, will enrich the participation of stakeholders in this process. The primary purpose of the session was to ensure that the community colleges were positioned to take maximum advantage of the capabilities of information technology to achieve our organizational objectives.

The Committee also felt that the planning process should also include an assessment of the organization's environment because no organization operates in a vacuum. The SCT consultants were invited back to facilitate a SWOT analysis with participation from IT internal stakeholders. The session helped the

Committee verify strengths and weaknesses and identify opportunities and threats to the IT organization. The results and recommendations from the SWOT analysis can be viewed in Appendix xxxx.

The completed Plan and its development process must be participatory and representative. Under the auspices on the Information Technology Policy Committee, the Plan will be reviewed, evaluated, and updated annually. To that end, the IT System Strategic Planning Committee will place the Plan on the Web for System viewing and will continue to seek input and comment from System Councils and Advisory Committees. Measurable criteria of objectives will be used to evaluate our success (e.g., projects are on time, service delivery is appropriate and timely) and identify continuing needs and issues.

APPENDIX II

Information Technology Committee Structure

Chancellor and the Council of Presidents The Chancellor and the Presidents will be regularly updated regarding implementation timetables, organization, training, staff, and other matters regarding major decisions or policy statements. Responsibilities include

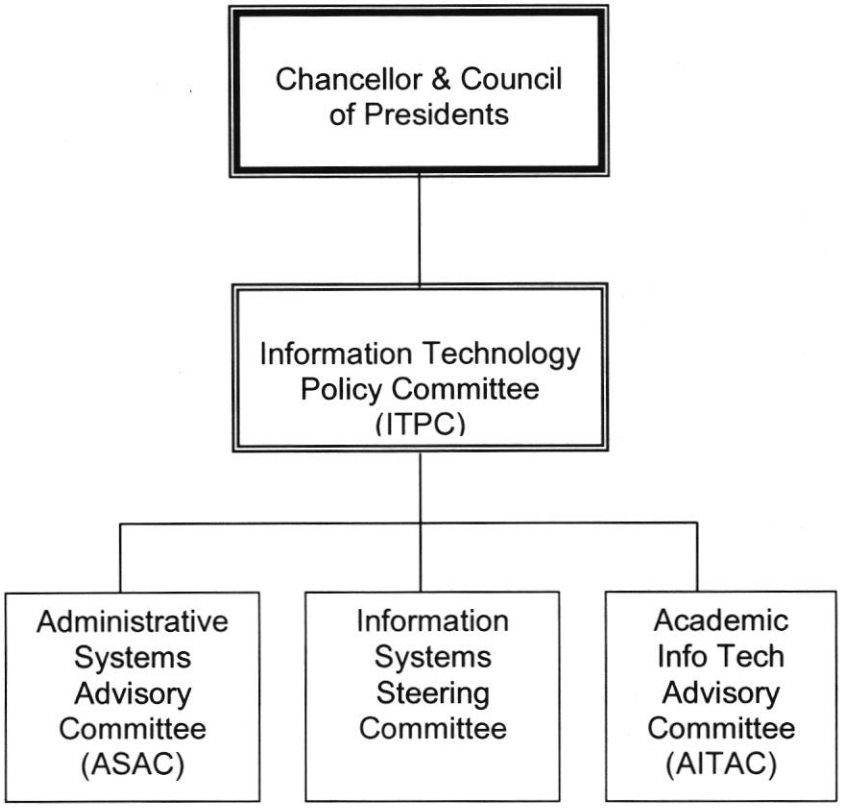
- resolving issues forwarded by the ITPC; and,
- discussing, approving policy recommendations forwarded by the ITPC.

Information Technology Policy Committee (ITPC) The ITPC composed of representatives from the Council of Presidents, Deans' Councils, and the Chancellor's Office, directs the development of the system-wide Information Technology Plan and reviews and approves the plan. Other responsibilities of this Committee include: coordination of system information technology priorities, establishment of the policies, standards and guidelines regarding information technology System resources, and the assessment of information technology services offered through the System Data Center. Recommendations from this Committee are forwarded to the Chancellor.

Information Systems Steering Committee (ISSC) Originally formed as a steering committee for the Banner enterprise software implementation, the ISSC is composed of core system project leaders, the chair of ITPC and knowledgeable and interested core function campus managers. The committee meets regularly and, within the broad policy directions approved by ITPC, is responsible for policy and resource issues which impact the development, integration, implementation, and enhancement of administrative technology systems and other technology systems which interact with them. The committee is also responsible for identifying and advocating for the appropriate resource levels necessary for timely project completion. Unresolved issues and significant new policy and implementation proposals will be forwarded to the ITPC.

Administrative Systems Advisory Committee (ASAC) ASAC is a system-wide committee with representation from various Councils (e.g., IT Directors, Records, Admissions, Financial Aid, etc.) within the CCCs that provides advice on all administrative systems projects, reviews requests for information services and administrative software modifications, recommends priority for administrative systems, suggests appropriate policies, monitors activity schedules, and initiates the integration of information technology services throughout the CCC system. This Committee forwards its recommendations to the ITPC and reports regularly to their appropriate Councils.

Academic Information Technology Advisory Committee (AITAC) Under the sponsorship of the Chief Academic Officer, the AITAC is composed of faculty and staff and provides advice related to the use of academic information technology. The committee suggests appropriate academic instructional technology policies, reviews policy and procedure proposals developed by the Information Technology Policy Committee and comments upon those proposals. The AITAC recommends priority for academic technology activities and efficient distribution of resources in support of curricular activities. This committee forwards its recommendations to the Information Technology Policy Committee.



APPENDIX III

Banner/Core-CT Team Priorities 2003-2004

BANNER STUDENT/ACADEMIC TEAM

Primary Goals

- Review, Test, and Implement Banner Student version 6.0
- WebCT / Banner Integration - Phase II
- SEVIS Compliance
- Open Learning Registration (OLR) with Revised Fee Assessment
- Common Course Numbering – Phase II
- Refresher Training for College Staff
- Program Code Clean-up
- Faculty Load - Phase II
- Data Definitions – Phase II
- Web Survey Functionality
- WEB Official Transcript Request & Payment
- Event Management Phase II

Secondary Goals

- WEB – Admissions: Quick Start Process
- Implement Luminis Portal
- Accuplacer Bridge to Banner – The Addition of Recommendation Codes
- Cross Institutional Reporting including On-Line Students
- Yield Analysis Reports

BANNER HUMAN RESOURCE AND Core-CT HR/BENEFITS TEAM

Conversion to PeopleSoft

- Clean up Banner time & attendance data
- Clean-up of Banner HR & MSA data
- Conversion of data from MSA & Banner HR to PeopleSoft
- Validation of PeopleSoft records

HR/Benefits

- Longevity automation
- Benefit notification & communications program
- In collaboration with the Finance Team, develop attendance policies, procedures, and forms
- Explore applicability of imaging functionality

Training

- Confirm user roles
- Coordinate registration for statewide Core-CT sponsored training
- Develop & deliver supplemental training specific to community college environment

Reporting/Interfaces

- Assess standard reports and identify gaps
- Develop & deliver standard queries sufficient to replace current Banner reporting functionality
- Define & address need for solution to larger reporting requirements using multiple databases including PeopleSoft, Banner history, etc.
- Benchmarking/HRIS Metrics

Support & Advocacy

- Develop articulation of support to be provided by Core-CT vs. support to be provided by the community college HRMS team
- Ongoing user support of PeopleSoft users
- Advocacy on behalf of the community college system users

BANNER FINANCIAL AID TEAM

- User Support & Production Maintenance
- New Pell Grant Calculation Implementation
- Common Origination & Disbursement (COD) Implementation
- CommonLine 5 Implementation - new transfer file protocol for student loans
- PeopleSoft/Core-CT Bridge to Financial Aid System - import work-study payroll data from new state system
- Transfer Monitoring Revisited
- Timely Implementation of Regulatory Releases
- Upgrade to Oracle 9i & Banner 6.x
- Electronic Direct Deposit of Student Financial Aid Refunds

- Customization of Banner Financial Aid Self-Service Product (ONLINE)
- Document Management/SCT Banner Xtender Solutions Development
- Open Learning: Registration & Financial Aid Development
- Implementation of Satisfactory Academic Progress Standard

FINANCE - INFORMATION SYSTEMS PRIORITIES

- Finance recurring annual activities
    - Year-end processing
    - Year-end fixed asset inventory
    - Budget upload
    - Audit and GASB financial statement preparation
    - Student 1098T preparation, mailing and federal filing
    - Archiving of old fiscal year data
    - Term setup and fee assessment issues
    - Banner upgrades / testing
    - User support of all functionality

- Banner check-writing processes – completion and enhancement
    - Banner and custom receiving and matching
    - Banner invoice functionality
    - Banner integration w/ Intellicheck vendor software
    - Banner / bank interface processing and reconciliation
    - Automation of vendor offset processing (State's file to Banner)
    - Automation of set-aside vendor designation (State's file to Banner)
    - Banner 1099 reporting
    - Banner ACH processing – student refunds and vendor payments
    - New reporting requirements to support any of above (cash management)

- Banner purchasing enhancements
    - Banner P-Card and vendor interface
    - On-line requisitioning (resources permitting)
    - E-procurement / market basket capabilities (resources permitting)

- Core-CT Finance implementation
    - Core-CT outbound payroll interface posting to Banner GL
    - Banner interagency transfer (TI) interface from Banner A/P to Core-CT A/P
    - Banner receipts/disbursements reconciliation to Core-CT deposits/direct charges
    - Automate identification of Banner "bond" payments issued from Op Fund, and Core-CT journal voucher upload to recode same
    - Core-CT Finance Phase II impacts (Jester fixed assets; A/R billing)

- Core-CT HRMS implementation (HR / Benefits / Time&Att / Payroll)
    - Payroll / HRMS user group creation
    - Time and attendance cleanup
    - Payroll and time and attendance Core-CT user training
    - Go-Live user support, trouble-shooting, CCC to Core liaison
    - Position reporting for external monitoring and budget development
    - Payroll expense coding Core to Banner chart of accounts issues
    - Core-CT outbound payroll interface posting to Banner GL

- Banner 6.0 Upgrade and testing
    - Testing of completely re-written fee assessment functionality
    - Testing Open Learning Registration (OLR) optional fee assessment capabilities
    - Web fee assessment and credit card payment impacts

- Fixed asset inventory bar-coding and automation of upload to Banner (resources permitting)

BANNER GOALS FOR THE OFFICE OF INFORMATION TECHNOLOGY

- Banner and other administrative systems user and production support
- System Data Center Upgrades
    - Oracle 9i
    - Banner 6.0
- Implementation of SCT Luminis
- WebCT Vista implementation
- Datamart/Data Warehouse analysis

APPENDIX IV

Banner/core-ct team accomplishments 2002-2003

Banner Student Academic Team Accomplishments 2002 - 2003

Baseline Banner and Self-Service Upgrades – The Student Team implemented three major upgrades this year: Student version 5.5 in January 2003; Web for Student 5.5 and Web for Faculty 5.3 in May 2003. Members of the team also worked with the Finance Team last fall and winter to alpha test proposed fee assessment enhancements for SCT.

WebCT - The Banner Student Team along with CTDLC Implemented the SCT Banner integrated system with WebCT. The integrated system allows for registrations, course set up, instructor assignments and PIN resets to be automatically updated in WebCT from Banner. The integrated system allows staff to move away from manually processing WebCT transactions.
All credit faculty in the system were given WebCT course shells for their 2003 courses. WebCT training sessions were held for faculty throughout the fall and spring semesters.

SEVIS (Student Exchange and Visitor Information System)– College Admissions Offices have been working with the Student Team to load all F-1 International Student information into the INS SEVIS system. All colleges and universities in the country are required to provide this information to the federal government by August 1, 2003. This has been a major undertaking this year for our system. The Student upgrade to 5.5 which was implemented in January 2003, gave the colleges additional screens in Banner which must be completed for SEVIS. The next phase of this project will be to move the information into Banner whereby data can be batched from Banner to the SEVIS site.

Web Admissions - The credit card application fee was implemented this year. Students are now required to pay their application with a credit card when applying over the web. This process allows Admissions Offices to do away with manual processing of signature pages and application fees of applications submitted over the web.

Web for Student and Web for Faculty - In addition to the upgrades this spring, a new process was created to allow colleges to place an "advisor" hold on groups of students using the Banner job submission process. The college advisors can use the Web for Faculty product to release the hold after an advisee has been

counseled. The Web Survey functionality was enabled this year and a survey was sent to all faculty within the system regarding strategic planning for IT. Additional surveys (sent via the web) to students and faculty are planned for this fall. The Web team created a new report which enables colleges to track grading activity by method: Web for Faculty, WebCT or traditional grading. The capability for students to request transcripts over the web was developed this year, but it has not been released yet due to a FERPA ruling. The team anticipates that this functionality will be released to students later this year.

Implementation of Program and Course Fees – This year the CCTC System implemented new fees for Allied Health Programs, as well as, fees for laboratory and studio course sections. Each course offering for Fall 2003 has been evaluated by members of the Student Team to ensure that credit, contact hours, schedule type and faculty workload coding systems were correct system wide.

WIA – A task force of representatives from the Student Team, Academic Affairs Division and College staff met to document and program a process to comply with the Workforce Investment Act. The Team wrote, tested and implemented reports and new Banner forms to support this initiative.

Continuing Education and BISN – Over 220 new detail/attribute codes were created in Banner to link student registration in continuing education programs with corresponding revenue data. Major modifications were made to three reports in the Events Management module.

Tech Prep – Secondary tech prep students will be reported to the State Department of Education for the first time this summer. Members of the Student Team created, tested and implemented reports and report modifications to support this effort. Several training sessions were held for Tech Prep Professionals to ensure that correct data entry and reporting procedures were in place.

Data Definitions Team – This team was created by the Chancellor's Office to address data integrity issues across the System. Members of the Student Team co-chair this task force which includes a cross-functional group of college and system personnel. Consensus was reached this year on data set elements for the common application; and student and admit type coding structures and procedures. The team developed reports to support the re-defined data elements. Training was delivered this spring to Admissions and Records personnel throughout the System.

Co-operative Education – Documentation for the collection of data for cooperative education programs was revised and disseminated to college co-op staff. Training was delivered to colleges as requested.

Duplicate Resolution – Over 300 duplicate resolutions were processed this year by the Student Team in conjunction with college staff.

Event Management – A subcommittee of Student team members and college staff met regularly this year to progress new initiatives in Event Management. Two new reports were developed by the team. The SWRXE09 is an extract of event/section data and the SWRXE06 is a report which contains information about room attributes. A System report was also generated by a member of the Student Team to track Event activities by college on a monthly basis. Training sessions were held this spring for all colleges.

Registration and Records - New procedures were developed to capture PTK honor society membership. An extensive review of term creation, data management and end of term processing was delivered by the Student team for the System Registrars. Nine new reports were created for this area in addition to 14 modifications that were processed for the schedule, registration and academic history modules within Banner.

Banner Financial Aid Team Accomplishments 2002-2003

Developing a Web-based Financial Aid System

During the past year the Team's major initiative was a pilot project with the financial aid staff at Capital Community College to create an electronic, seamless financial aid process of benefit to both students and staff. This work involved a comprehensive examination of business practices and modifications and enhancements to both the Banner system and the Banner Self-Service Product (ONLINE). Some of the enhancements include:

- Development of an electronic application template encouraging all students to apply for financial aid over the web and to track the application progress using ONLINE
- Customized delivery of required application documents to students within ONLINE
- Formatting of application documents in PDF fill-in online structure
- Online accept/decline of financial aid awards
- Development of customized web pages within ONLINE for the display of consumer information to students
- Development of a Title IV Authorization page using electronic signature within ONLINE
- Electronic signature of student loan promissory notes with selected vendors
- Capturing student e-mail addresses from the federal financial aid electronic output document and storing same within the Banner system
- Enhancing our customized letter generation process to send e-mail notifications instead of paper letters to students with an e-mail address in

the Banner system. The e-mail notifications serve to push students to ONLINE and encourage self-service use

Approximately 85% of the financial aid applicants at Capital Community College participated in the pilot project. Noticeable growth was achieved in applications, recipients, and financial aid expenditures. The pilot project initiative was particularly timely as students were able to enjoy the benefit of a 24/7 financial aid office operation even though the college was engaged in its physical migration to its new campus. Given the success of the pilot project, the Team decided to expand the initiative to all the community colleges. During the winter of 2002, we developed a training program and system to assist in college adoption of the electronic initiatives. For the current 2003-04 award year, all 12 colleges have increased use of electronic processes in the financial aid office. Currently 75% of students are applying for financial aid over the Internet and more than 2,000 students a month are using the Banner Self-Service system (ONLINE). For a detailed look at the scope and success of the pilot project, view ***Developing a Web-based Financial Aid System*** under Banner Training Material on the Financial Aid Services web site at www.commnet.edu/finaid.

Transfer Student Monitoring Process – Phase II

We continued our work in eliminating the need for paper financial aid transcripts for financial aid applicants and ensuring our compliance with federal regulations. Phase I of the Transfer Student Monitoring Process was completed last year and involved the identification of potential midyear transfer students though a file exchange process with the National Student Clearinghouse (NSC). Phase II of the Process included our development of the automated exchange of data between the Banner system and the National Student Loan Data System (NSLDS). All colleges are successfully using the Transfer Student Monitoring Process in lieu of paper financial aid transcripts, thus ensuring compliance with federal regulations.

Timely Implementation of Regulatory Releases

Over the past year, the Team worked to ensure the effectiveness and efficiency of the Banner Financial Aid System and particularly the Banner Self-Service product, ONLINE. With our technical staff we performed 11 software upgrades and a major conversion to a new operating platform, UNIX. Above all, we worked diligently to ensure the Banner Financial Aid System remains compliant with exacting federal regulations in the delivery of federal and state financial aid funds to students. With increased productivity in the college financial aid offices because of the use of automated processes, we were able to surpass 10,000 Pell Grant recipients in the Connecticut Community Colleges for the current 2002-03 Award Year.

Sundry Reports and Processes

Over the last year numerous reports and processes were developed or enhanced by the Team. Detailed information about our activities in support of the college financial aid offices can be found on the Financial Aid Services web site at www.commnet.edu. Feel free to browse our site and let us know if we can be of any assistance to you.

Banner HRIS Accomplishments 2002 – 2003

In addition to continuing to provide end user support and problem resolution and to manage the HR system (i.e. rule forms, salary tables and updated job transactions), there were four general areas in which HRIS focused energy over the past year.

Improved Access to Human Resource Data

- Expanded the suite of HR reports and extracts, including development and publication of the Employee Extract, which is a comprehensive extract containing all fields on the employee record, the Staff Report and the 5 Year Time & Attendance History Report, which shows the five year history and final balance records for any employee. This report satisfied an audit finding, which called for us to make the TA history of terminated employees available for at least a five year period beyond termination.
- Designed and facilitated two training sessions for system human resource professionals to enable effective use of Banner HR data using Access software.
- Enhanced the Employee Relations Website to include all system wide job descriptions and the revised version of the unclassified job application.
- Further enhancing the website to include an FAQ and pertinent links to the Core-CT project.

Improved Application of Data to Decision-Making Processes

- Collaborating with Labor Relations on projects like ACL Comp Time (which would be designed to use the Time & Attendance system) and PTL seniority, that relies on information from the HR and faculty load databases.
- Pursued development of reports to support management of salary budgets (i.e. a single report/extract that would contain both the position and job budgets and incorporate data from MSA to approximate money spent on each position.) Simultaneously pursued development of a mega-extract that would contain all position data, and enhancement of the RAM extract.
- Pursued development of business process solutions to automate longevity calculations and to enable human resource benchmarking.

- Continued to provide user training and to develop job aids to accomplish specific on-line tasks. Pursued developing a database and reporting workshop for HR users.

Improved the Banner HR Data and Application

- Participated in three upgrades (INB Banner, 5.3/5.4 and Unix migration), which called for detailed testing of HR applications, forms and processes.
- Refined the HR testing protocol to enhance our ability to complete system testing in the most efficient and thorough manner possible.
- Conducted a thorough audit of position and job FTE, employee class and hire dates

Preparation for Implementation of a New HRMS System (Core-CT Project)

- Developed and implemented a plan to convert Banner HR and MSA payroll to the PeopleSoft system
- Analyzed and configured rule and validation tables to populate PeopleSoft with values unique community college values
- Established an implementation team to work on behalf of the community college system, to ensure people & agency readiness
- Established a system-wide user group composed of college HRIS Managers and Core-CT Liaisons who will be responsible for the successful implementation of PeopleSoft at their colleges
- Introduced the Core-CT project to community college managers and potential end users, coordinated the assignment of HRMS roles, prepared for coordination of Core-CT HRMS training, and identified community college specific training requirements.
- Conducted preliminary analysis of post-implementation reporting environment that will necessitate reporting from multiple databases, e.g., Banner HR history, time and attendance, and PeopleSoft.

Finance - Information Systems Accomplishments 2002-2003

- **Banner Finance User and Production Support**
    - Finance User Support
        - E-mail / telephone support for over 1,000+ college finance user requests
        - Finance user groups, newsletter, user documentation, website and training
        - Custom reports, forms and processes impacting Finance/AR
        - On-line budget query access / training for non-finance college managers
    - Production Support and Upgrade testing of all finance functionality
        - Banner 5.0 upgrade

        - Unix Operating System upgrade
        - Internet Native Banner
    - Testing and preparation for or implementation of new /enhanced Finance functionality
        - Open Learning (date based) Registration and Fee Assessment beta testing
        - Banner 1098T regulatory upgrade for federal tax compliance
        - Banner A/P and check-writing functionality
        - Banner attribute reporting for use with financial statement preparation
        - Banner A/R collections functionality
        - Custom printing enhancements for purchase orders, student bills and receipts
        - Workforce development / non-credit revenue / enrollment coding and reporting
        - Banner Purchasing Card and bank interface
        - Banner goods and custom services receiving and matching

- **Finance recurring annual activities**
    - FY02 Year-end processing
    - FY02 Year-end fixed asset inventory
    - FY03 Budget upload
    - Calendar 2002 Student 1098T preparation, mailing and federal filing
    - Archiving of old fiscal year data
    - FY03 Term setup, tuition/fee/waiver setup, add/drop/refunding calendar

- **Allied health lecture / lab / clinical course setup**
    - Standardization of Banner nursing course setup for FY04 implementation, to meet both college course scheduling needs and achieve data commonality and integrity for utilization in system academic and budgetary decision-making (joint academic / finance collaboration)

- **FY02 Audit and GASB financial statement preparation**
    - Full utilization of fixed asset module for inventory and fixed asset accounting
    - Beta testing and implementation of GASB 35 financial reporting functionality
    - Preparation of Banner-generated first-ever CCC externally audited financial statements
    - Custom Statement of Cash Flows utilizing Banner AR, PO, AP, GL and applications of payment data

- **Preparation for Banner autonomous check-writing implemented July 1, 2003**
    - Banner and custom receiving and matching
    - Banner AP/invoice functionality
    - Banner integration w/ Intellicheck vendor software
    - Banner / bank interface processing and reconciliation
    - Banner ACH processing – student refunds and vendor payments

- **Preparation for State Core-CT Finance System implemented July 1, 2003**
    - Review Banner / State Core-CT System configuration and reconciliation issues for capturing appropriation, allotments, budget, revenues, expenditures, cash

- **Preparation for State Core-CT HR/Payroll System to be implemented October 2003**
    - Review of configuration, conversion, interface, policy, user training issues

- **Automated Budget System (ABS)**
    - Interface of Banner HR data to Office of Policy & Management budget system
    - Full implementation of ABS system to prepare biennial budget request

Office Of Information Technology Accomplishments 2002-2003

The Office of Information Technology (IT) continues to maintain, support and implement the SCT Banner Software including all of our Banner customizations and hardware for the Community Colleges and System Office.

Upgrades included, 9 in Financial Aid, 2 each for Financial Aid self service, Finance, AR and Student self service, 3 each for Student and self service faculty and 1 each for General, WebCT Integrated Components, HR and Position Control for both production and non-production. Two major hardware changes were completed, the Banner OS to Unix Conversion and Internet Native Banner (INB) implementation.

Evaluated and purchased Intellecheck from Evisions, Inc. which is being integrated into Banner to allow us to print checks. Purchased and implemented Swiftview software to support PO printing. Purchased and implemented both hardware and software for the Banner integration component for WebCT.

Finance & Accounts Receivable

- Successfully implemented the Student 1098T Processing and Banner regulatory upgrade for federal tax compliance.
- Successfully archived three years worth of data improving system performance.
- Successfully completed the Banner Finance and AR 5.3 and 5.4 upgrades.
- Successfully supported the FY2002 Year End Processing, External Audit and GASB 35 / GAAP compliant financial statements from Banner.
- Successfully supported the first year completion, utilization for inventory and financial reporting requirement for the Fixed Assets module.
- Created 4 new reports, enhanced 4 reports and 5 forms.
- Researched, purchased software and created new formats for vendor purchase orders.
- Helped with the expansion of on-line budget query access for non-finance managers.
- Created a personal services extract and database enhancements for budgeting and costing analysis purposes.
- Created faculty workload / course file data utilization for budget and costing analysis.
- Supported the FY2003 budget implementation / upload to Banner.

HR/General

- Successfully developed pieces of the SDC quick print process.
- Maintained and Created Banner General and HR reports, processes, and forms.
- Successfully completed the Banner General 5.5 upgrade.
- Successfully completed the Banner HR and Position Control 5.4 upgrade.
- Assisted in the analysis and research of the Core-CT project.
- Created many reports and scripts for the purpose of PeopleSoft data conversion.
- Implemented salary tables for unclassified employees into OPM's ABS (Budgeting) system.
- Upgraded and enhanced Grievance Tracking System.

Student Information System

- Successful implementation of SDC Quick Print with student forms.
- Created over 17 new reports and processes, 8 new forms and Web Pages, applied over 11 conversion scripts to address production data problems and augmented over 41 reports, forms and processes to address users reporting needs and to support ongoing projects such as WIA, Event Management, Data Definitions, zip code upload, institutions source and background upload, web grade posting, schedule type conversion and common course numbering.

- Modified over 15 student reports to be executed from a system user ID to create aggregate data to support the System Academic Office research.
- WebCT and Banner Integration Implementation along with the development of numerous new forms and reports to help the user community with the implementation of this integration.
- Banner Student 5.3, 5.4 and 5.5 upgrades. Self Service Student 5.4 and 5.5 upgrades. Self Service Faculty 5.1, 5.2 and 5.3 upgrades. WebCT Integrated Components 5.2 upgrade.
- SEVIS Phase I Implementation with additional ctc created objects to support the SEVIS compliance.
- SEVIS Phase II Implementation which includes the automation of the SEVIS data downloads and uploads to Banner.
- Developed and implemented a web usage reporting mechanism that allows colleges to monitor Self Service usage and plan their registration and faculty grading optimally.
- Redesigned and converted all custom Self Service web pages to conform to the ADA requirements.
- Web Admissions Payment implementation including a huge enhancement to move Application Charges and Payments from the Web Miscellaneous table into the Accounts Receivable module.
- Implementation of the Self Service Survey feature and automating it so that users are prompted for any outstanding survey as soon as they login.
- Phi Theta Kappa (PTK) honor conversion which involved the development of views and scripts to move PTK data from one area of Banner to another.

Financial Aid

- Completed 9 upgrades to Banner and 2 upgrades to Self-Service.
- Helped design a new page for the INB main page.
- Worked with all the teams in getting the new output delivery (INBOD) method working. This included several demos to the user community.
- Re-worked the new Self-Service page to be more intuitive and user friendly.
- Developed and implemented a web based Financial Aid System for all 12 colleges. This was piloted by Capital CC the previous year and rolled out to all the colleges this past year.
- Tested SCT's solution to the full year Pell calculation problem.
- Modified the displaying of Pell awards on Self-Service. Only students who have been packaged and have all their requirements satisfied will have there Pell award displayed.
- Developed a Self-Service page that will allow students to authorize use of Title IV funds. This eliminates the old paper form and data entry by the college's business office.

- Working on replacing some of the MIFed objects with Oracle views. This should eventually reduce some of the overhead on the database and speed up upgrades.
- Created a form RWVMAJR that will give control of the "Aid Eligibility" field to the Financial Aid team. This was previously controlled through the STVMAJR form by someone in the Academic department.
- Created a process to allow FinAid team members to run the Batch Disbursement from jobsub. This has been especially helpful in processing summer PELL awards.
- Implemented Transfer Monitoring Phase II. In this phase we automated the loading of transfer monitoring tables in Banner.

FIGURE 1: CCC WIDE AREA NETWORK CONFIGURATION

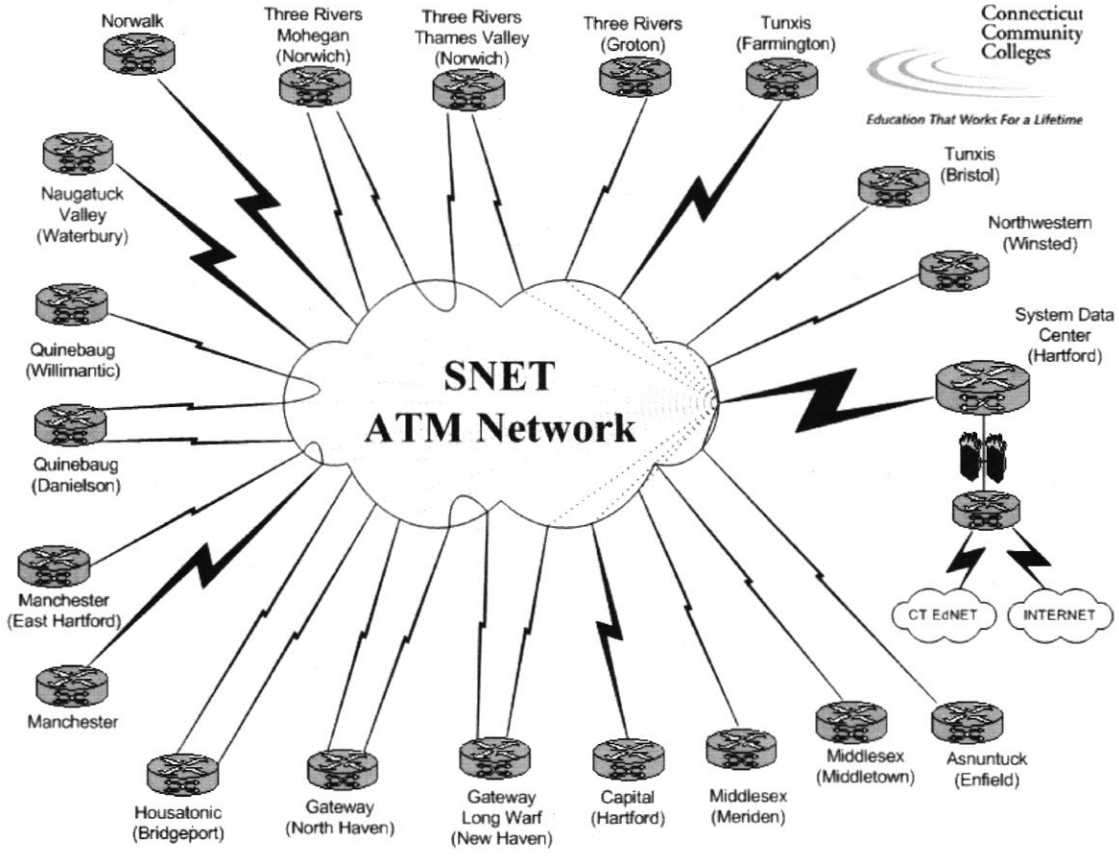


FIGURE 2: E-MAIL EXCHANGE IMPLEMENTATION

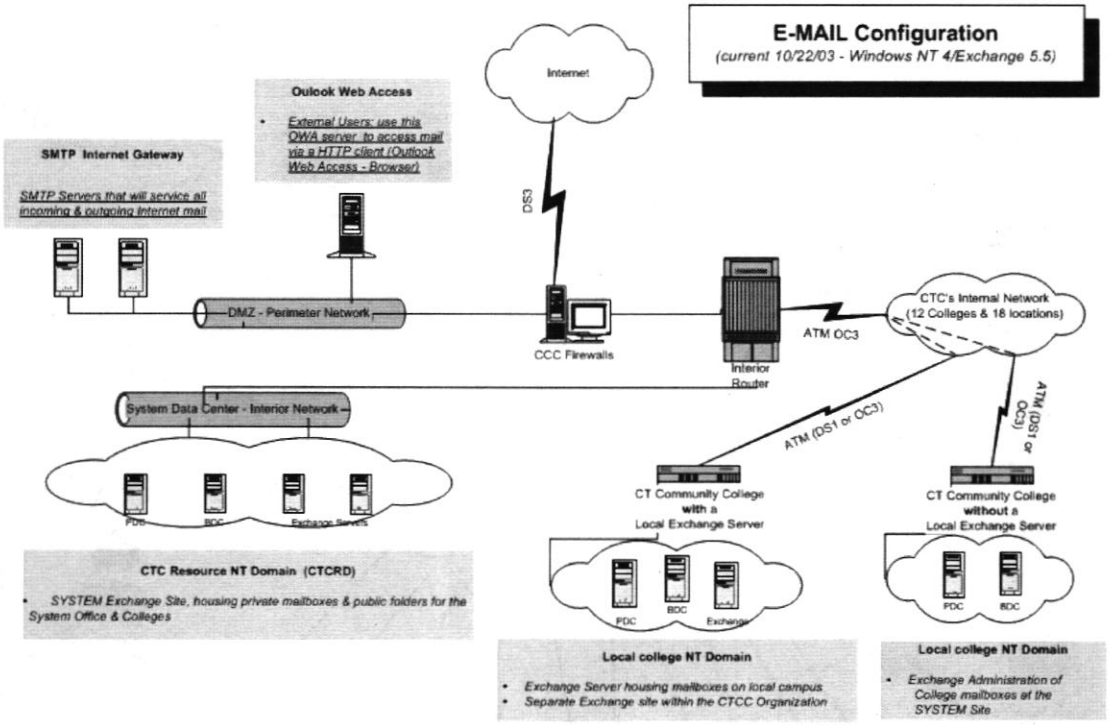


FIGURE 3: BANNER HARDWARE ENVIRONMENT

Connecticut Community Technical Colleges
Oracle/Banner Production & Non-Production Environment

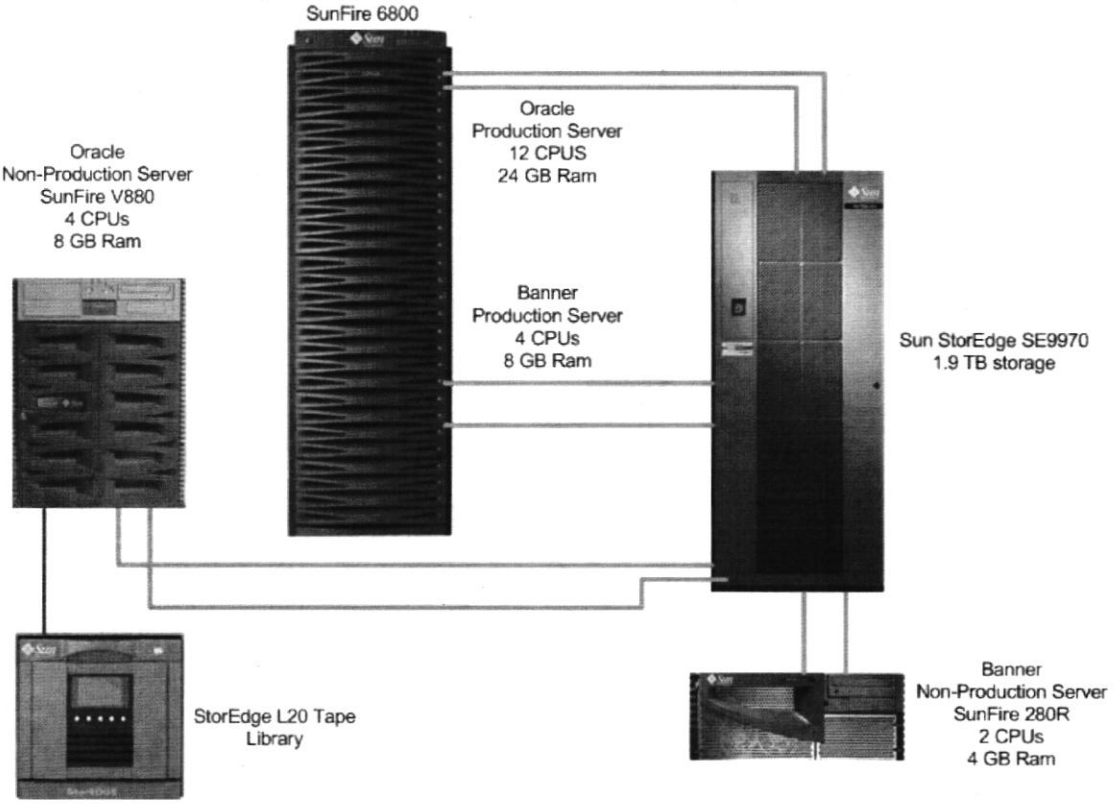


FIGURE 4: INTERNET NATIVE BANNER ENVIRONMENT

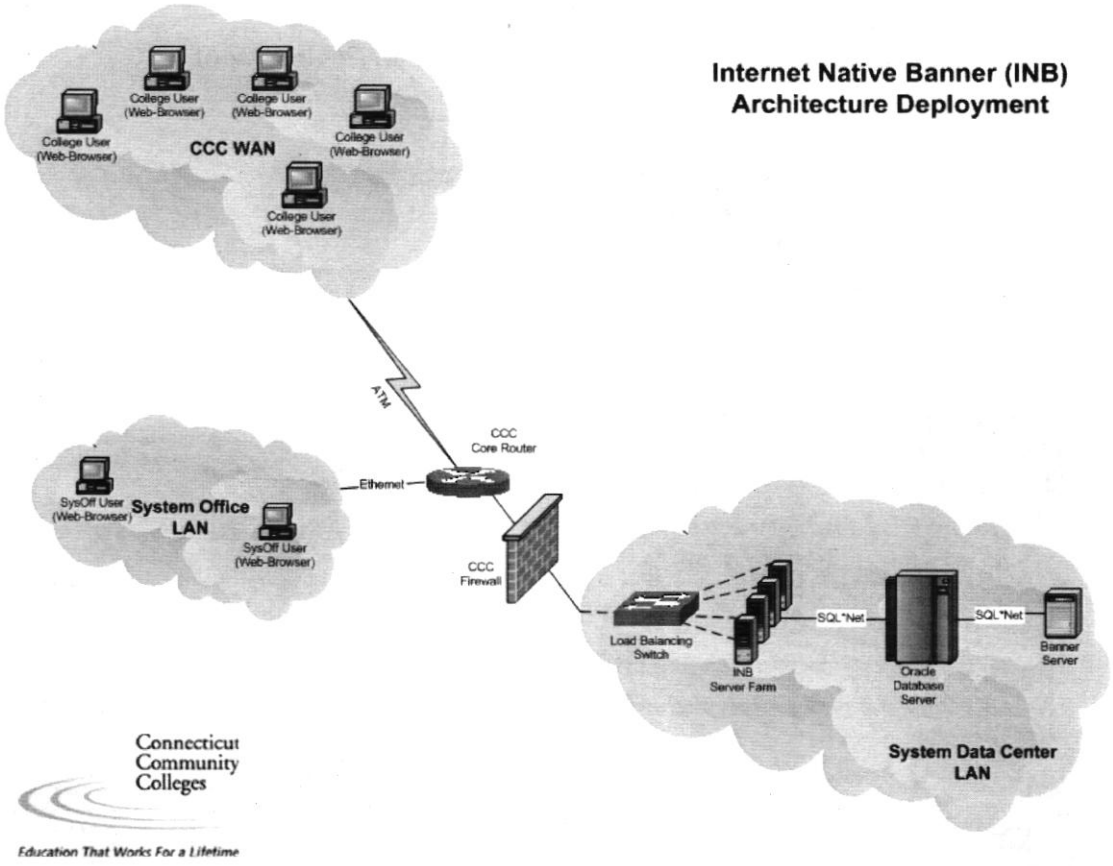


FIGURE 5: BANNER SELF-SERVICE

Banner Self-Service and iPayment integration

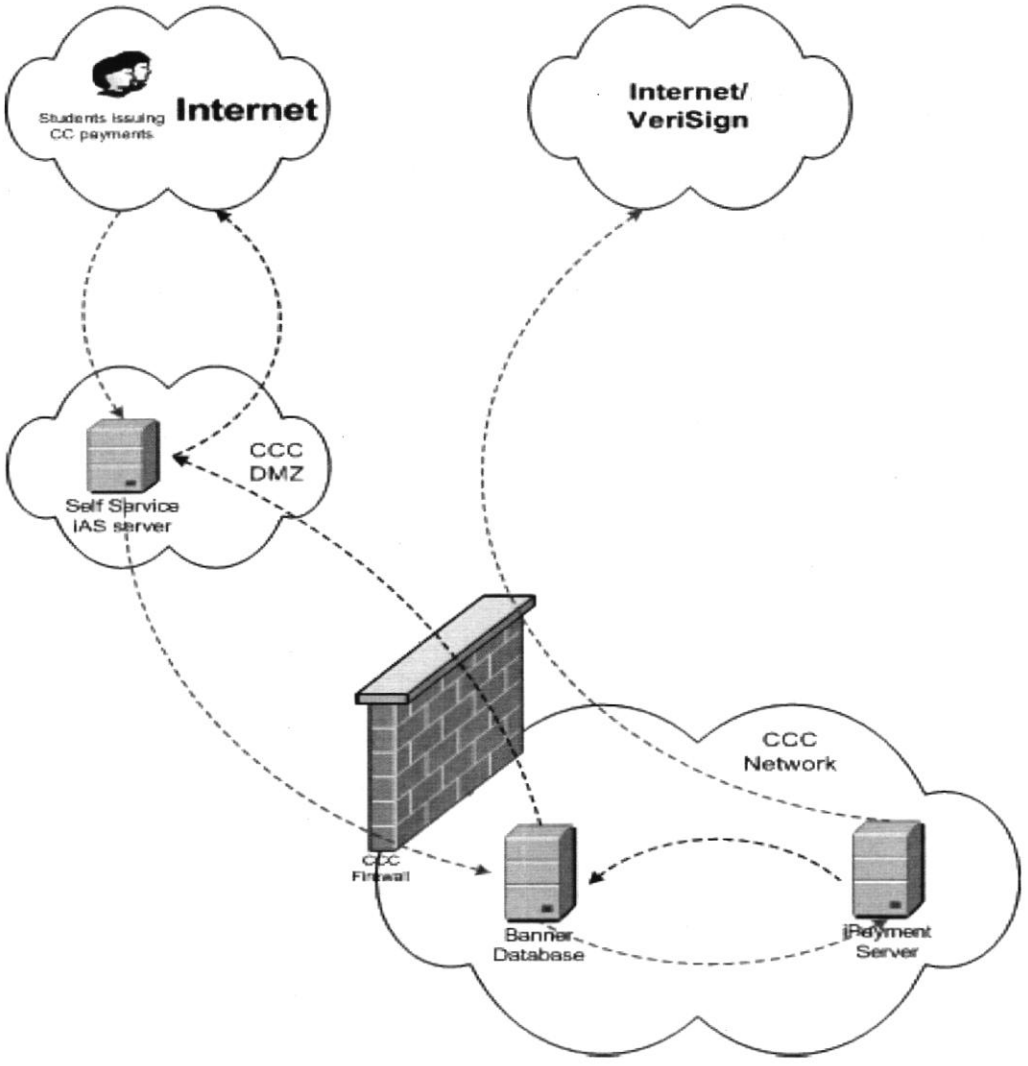


FIGURE 6: BANNER TO WEB-CT INTEGRATION

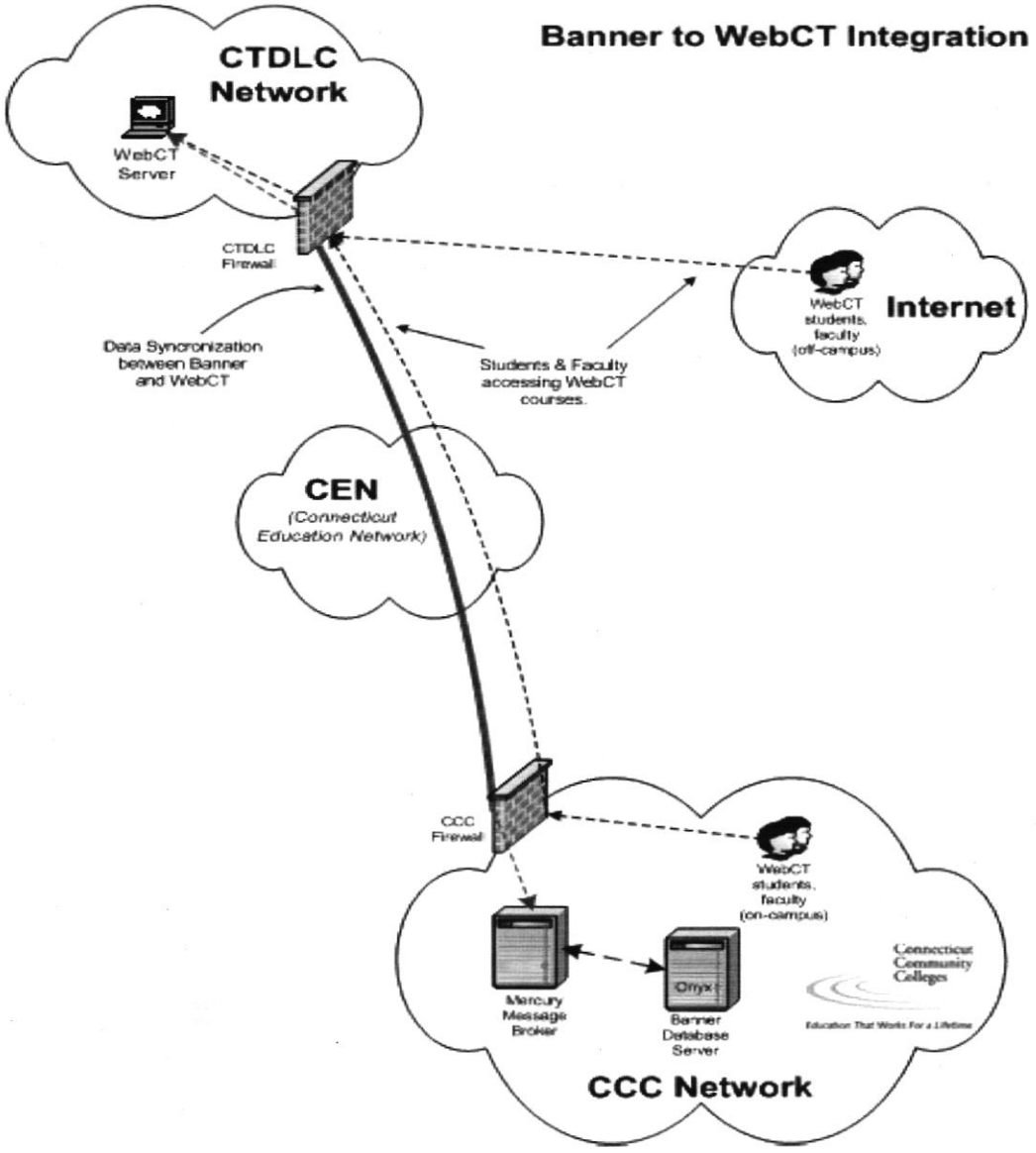


FIGURE 7: LIBRARY PROXY SERVICE

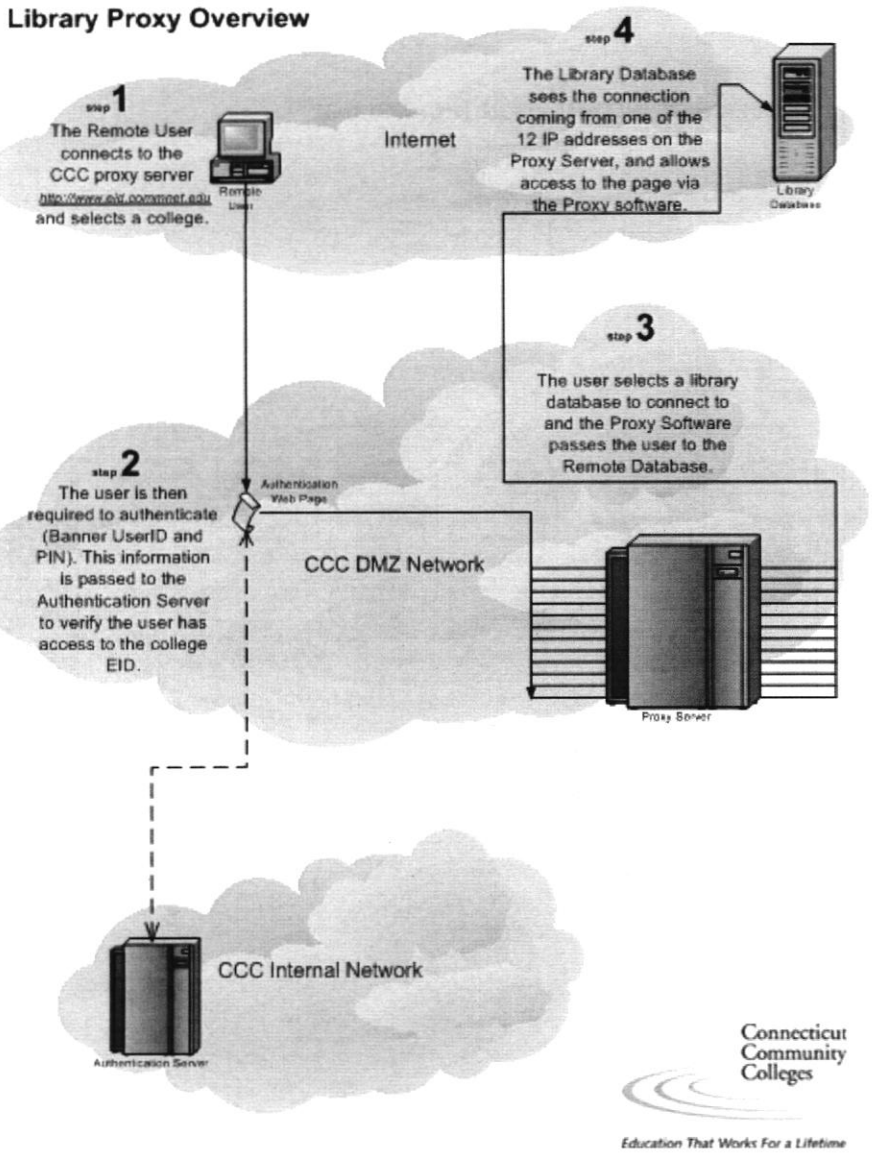
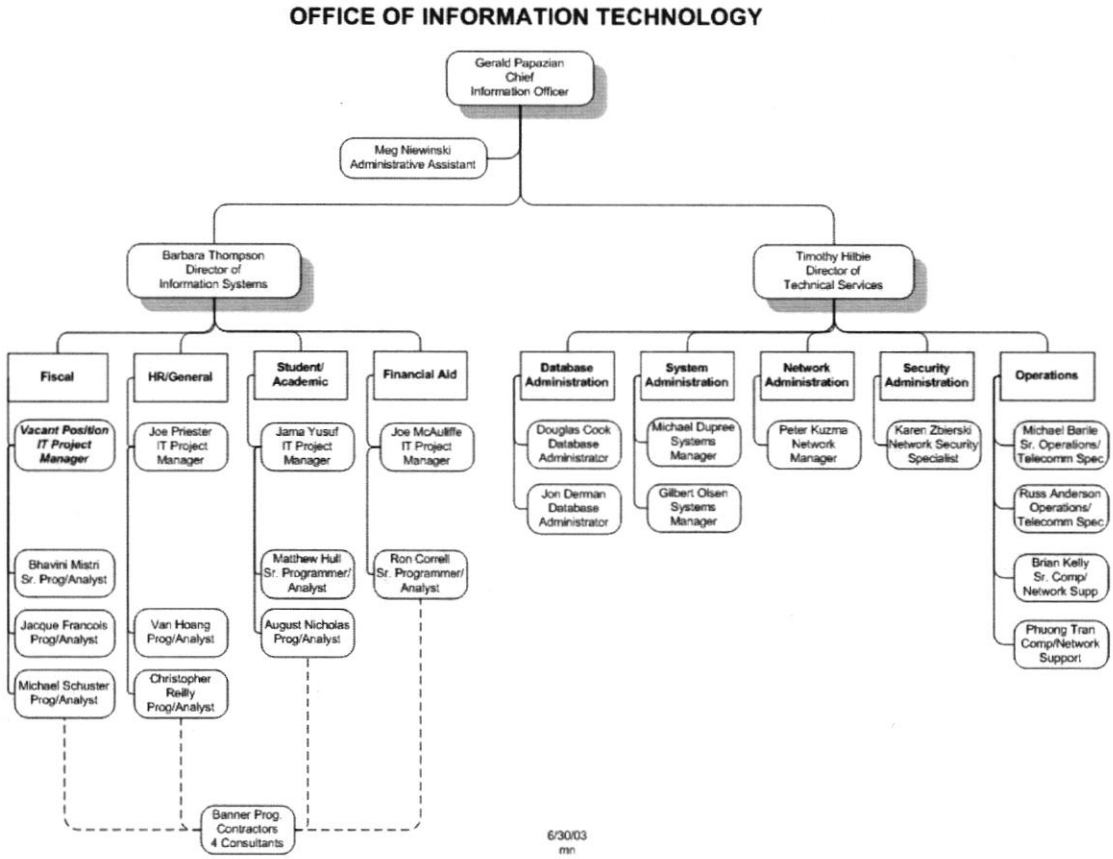


FIGURE 8: SYSTEM OFFICE OIT ORGANIZATION CHART



BIBLIOGRAPHY AND ACKNOWLEDGMENTS

Acknowledgements

The Committee would like to acknowledge the help and input provided by Barbara Thompson, Director of Information Systems and Tim Hilbie, Director of Technical Services of the CT Community Colleges System Data Center. The Committee would also like to thank the members of the Banner Teams, members of the Information Technology Policy Committee, and Corby Coperthwaite, Director of Planning and Assessment, for their input into the plan.

The Committee appreciates the insight provided by Andrew Nagorski and John Grose, SCT Senior Professional Consultants, into the development of this Plan. The Assessment Day and the SWOT analysis were extremely helpful in setting us on the right path.

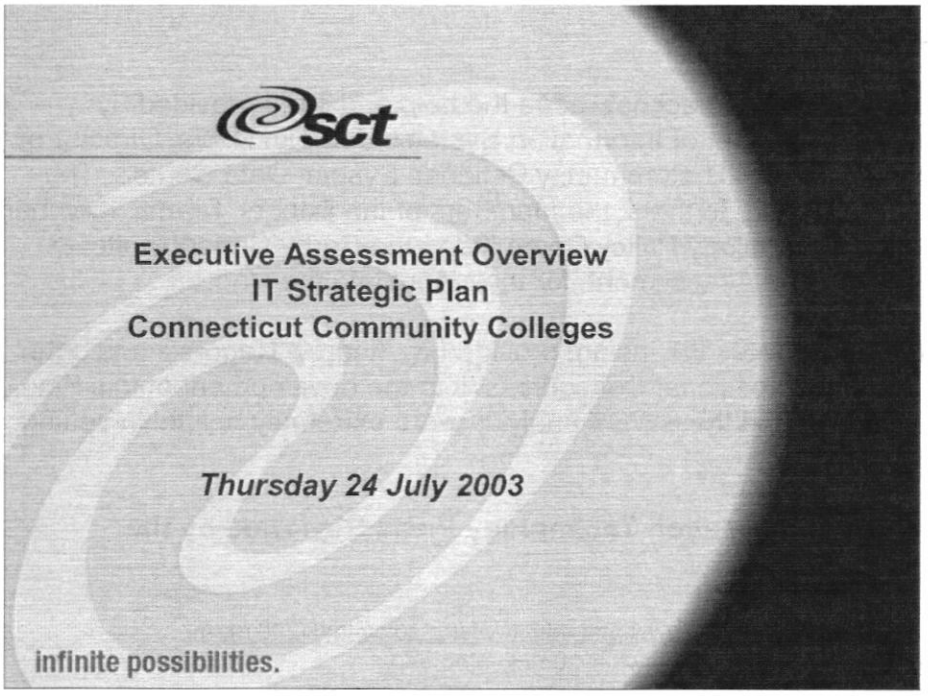
College/University Information Technology Plans Reviewed by the Committee

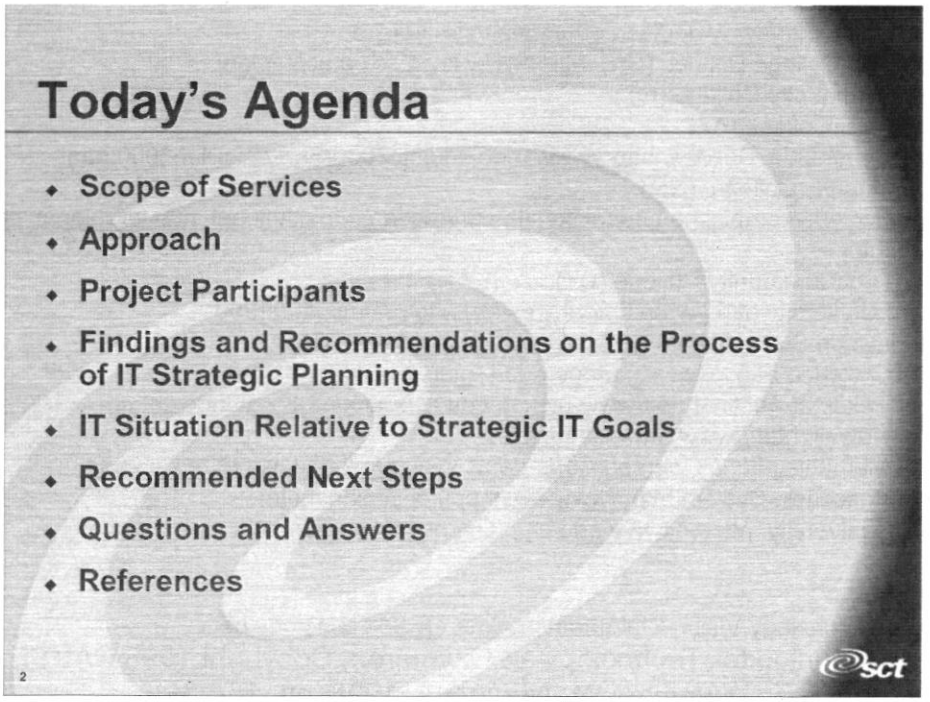
- Arizona State University http://www.asu.edu/it/fyi/strategic/plans/2001.html
- Connecticut State University http://w3.sysoff.ctstateu.edu/
- Cornell University http://www.cit.cornell.edu/oit/strategicplan.pdf
- East Tennessee State University http://www.etsu.edu/oit/acrobat/2002-05_final.pdf
- Housatonic Community College (CT)
- Indiana University http://www.indiana.edu/~ovpit/strategic/
- Kern Community College District (CA) http://www.kccd.cc.ca.us/it_plan/
- Manchester Community College (CT)
- Mesa Community College (AZ)
- Miami-Dade Community College http://www.mdc.edu/ctc2000/StrategicPlan2000.html
- Mt Hood Community College (OR) http://www.mhcc.edu/campus/campus_info/allabout/research/institutional_master_plan/it_strat_plan/main.htm
- Northwestern CT Community College (CT)
- Northwestern University http://www.it.northwestern.edu/rahimi/ppt/mr2001/
- Southwest Missouri State University http://www.smsu.edu/oit/ITPlan/
- University of Colorado http://www.colorado.edu/ITplan/
- University of Texas at Austin http://www.utexas.edu/its/about/strategic/index.html
- University of Hawaii http://www.hawaii.edu/spit/
- University of Memphis http://is.memphis.edu/depts/vpcio/unzoped/itsp2004/itsp2004
- University of Wisconsin System http://www.uwsa.edu/olit/itplanin.htm
- West Virginia University http://oit.wvu.edu/oit/plan/coveritplan.htm

Articles

- Developing a Technology Vision Statement http://strategictechnology.net
- Is Strategic Planning for Technology an Oxymoron, Copyright 1998 CAUSE. From *CAUSE/EFFECT* Volume 21, Number 1, 1998, pp. 18-23.

ATTACHMENT 1: EXECUTIVE ASSESSMENT OVERVIEW OF IT STRATEGIC PLAN





Scope of Services

- High level review of current information technology strategic plans and planning practices to allow:
  - Alignment of information technology and strategies with institutional strategies.
  - Leveraging of technology for internal improvement as well as competitive advantage.

3

Approach

- Review the needs, goals, target environment, strategies, and schedule for the institution's information technology initiatives.
- Discuss high-level outlines of the value of these items and the practices necessary to establish them
- Review all aspects of information technology—including applications, computing and networking infrastructure, and staffing.
- Ensure that the client is positioned to take maximum advantage of the capabilities of information technology to achieve their organizational objectives.
- Provide a starting point to establish (or validate) a clear long-term direction for all IT projects and expenditures.

4

Findings and Recommendations on the Process of Strategic IT Planning

- *Environmental Scanning*
- Findings
  - An environmental scan specific to IT has not yet been conducted
  - A new vision is required for instructional technology
- Recommendation
  - Environmental Scan specific to academic and instructional technologies could promote faculty buy-in

7

Findings and Recommendations on the Process of Strategic IT Planning

- *Example of Environmental Scanning*
- Opportunities
  - Dramatic enrollment growth coming from 18 year old demographics
  - Students with BS degrees seeking training decreased from 16% to 10% of the total student population
  - Changing the learning process – how to use technology as a routine aid in the learning process
- Threats
  - State budget is in turmoil
  - IT Bond Funds have not been approved for next Fiscal Year
  - System is lacking IT resources

8

Findings and Recommendations on the Process of Strategic IT Planning

- *Internal Assessment and SWOT Analysis*
- Findings
  - An assessment of internal strengths and weaknesses specific to IT has not yet been recorded
  - A SWOT analysis inclusive of cruciform charts has not yet been examined
- Recommendations
  - Present IT committees, IT leadership, and other key faculty and staff should be tapped for a discussion and recording of key strengths and weaknesses within IT
  - A similar group should examine a SWOT analysis to draw key strategies from common themed cruciform charts

9

Findings and Recommendations on the Process of Strategic IT Planning

- *Example of Internal Assessment*
- Strengths
  - There is a common library system self-initiated 1.5 years back
  - Chancellor has a solid understanding of IT
  - Pride in accomplishment of administrative systems
  - The common data-set has no local disputes
  - Many senior faculty were pioneers on web instruction
  - Estimated 75% of faculty using Banner effectively for student advising – high number attributed use of Banner's web interface
  - Banner Implementation Team were dedicated 50% of their time to the project and were a selection of "best and most motivated staff"
- Weaknesses
  - Faculty issues on academic freedom for use of instructional technology standards

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Findings and Recommendations on the Process of Strategic IT Planning

- *Example of SWOT Analysis*

Strengths	Weaknesses
• Many senior faculty were pioneers on web instruction • Estimated 75% of faculty using Banner effectively for student advising – high number attributed use of Banner's web interface	• Faculty issues on academic freedom for use of instructional technology standards
Threats	**Opportunities**
• State budget is in turmoil • System is lacking IT resources	• Dramatic enrollment growth coming from 18 year old demographics • Changing the learning process – how to use technology as a routine aid in the learning process

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Findings and Recommendations on the Process of Strategic IT Planning

- *Gap Analysis*
- Finding
  - A gap analysis drawn from cruciform charts has not been examined
- Recommendation
  - Gap Analysis should be combined with SWOT Analysis as tools in developing faculty interest

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Findings and Recommendations on the Process of Strategic IT Planning

- *Qualitative Goals*
- Findings
  - High level goals identified and accepted
  - Strategic direction within "Chancellor Committee on Information Technology document" offer good qualitative goals
  - "System IT Goals and Objectives" document offers well-defined qualitative goals
  - "Strategic IT Goals" document offers solid details in qualitative sub-goals
- Recommendation
  - This activity should be considered as complete with possible minor changes in the near-term future.

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Findings and Recommendations on the Process of Strategic IT Planning

- *Quantitative Objectives*
- Finding
  - Current stated goals and sub-goals cannot be quantified in their present state
  - The need to quantify goals and sub-goals are recognized as the necessary prerequisite to breaking these areas down into planned projects with associated budgets
- Recommendations
  - Current stated goals and sub-goals must be broken down into objectives with measurable milestones
  - Migrate sub-goals into projects and prioritize

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Findings and Recommendations on the Process of Strategic IT Planning

- *Statements of Purpose, Mission and Vision*
- Findings
  - There is presently a well stated Information Technology mission
  - The present draft vision statement offers an effective long-term view for IT
- Recommendations
  - The statutory mission for CCC provides an excellent statement of purpose for the institution
  - The IT strategic plan should clarify and delineate between statements of purpose, mission and vision
  - Statement of purpose may define the department's purpose for existence – i.e. services provided to stakeholders
  - Statement of mission should define a shorter-term focus and be an outcome of the current strategic planning effort

15

Findings and Recommendations on the Process of Strategic IT Planning

- *Tactical Project Plans*
- Finding
  - The current IT strategic plan is not yet ready to be broken down into tactical project plans
- Recommendation
  - After sub-goals have been successfully broken down into quantifiable objectives, tactical project plans can then be developed

16

Findings and Recommendations on the Process of Strategic IT Planning

- *Staffing, Budget and Annual Work Plans*
- Findings
  - Every college staffed differently so functions do not match well
  - Current IT staff stretched with ongoing operations of recent technology implementations
  - No capacity for new projects
  - Significant variances on staffing among the colleges specific to the support training
  - Help Desk presently does not have a knowledge retention process in current operation
  - Colleges have teaching and learning consultants but no systemic coordination
  - No contractual issue on training of faculty, nine (9) hours potentially available for items of college benefit
- Recommendation
  - After tactical project plans have been identified, staffing, budget and annual work plans can then be developed

17

Findings and Recommendations on the Process of Strategic IT Planning

- *Governance*
- Findings
  - Present IT Governance structure well defined within the "Chancellors Committee Information Technology" document
  - ITPC, ASAC, Banner Project Steering Committee, and sub-set project implementation teams all enjoy recent successes
  - AITAC needs a visible success or potential revision
  - State does not drive CCC on IT initiatives
  - No academic IT leadership
  - Potential 12 college debate on how to integrate technology and to share best practices
  - Infrastructure support distributed to local colleges
  - Discussion on the fusion of technology with learning needs to happen at a systemic level
  - Academic counsels were successfully used on course numbering discussions – bottom up approach with local drivers has been a successful model

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Findings and Recommendations on the Process of Strategic IT Planning

- *Governance (cont.)*
- Findings
  - No desire to be prescriptive at the system office level
  - Team work is regarded as a key success factor in decisions
  - AITAC is not believed to represent use of other faculty, presently make recommendations to academic deans for approval
  - Distant Learning Council reports to Chief Academic Officer and Academic Deans
  - ITPC may revisit governance structure in the fall
- Recommendations
  - ITPC, ASAC work well as is and should not be changed
  - AITAC requires a new charter and possible membership
  - Adoption of best practice mediums and methods must be used to begin "bottom up" discussion on AITAC issues
  - Promote the use of an IT strategic plan for resource planning

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Findings and Recommendations on the Process of Strategic IT Planning

- *Identification of Critical Success Indicators*
- Finding
  - Critical Success Indicators (CSI's) have not been identified this early in the IT strategic planning process
- Recommendations
  - Identify measurable baseline conditions for quantitative objectives
  - Forecast milestones that would indicate success for each CSI
  - Identify owners for each CSI for accountability

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Findings and Recommendations on the Process of Strategic IT Planning

- *Monitoring and Control Policies*
- Findings
  - Policies merged recently to a common standard
  - Plans for the monitoring and controlling the IT strategic plan have not been identified this early in the process
- Recommendations
  - CSI's and owners must be identified to develop a plan to monitor and control the success of the IT strategic plan
  - Develop a plan for collecting data and computing changes from baseline in the CSI's

21

Findings and Recommendations on the Process of Strategic IT Planning

- *Coordination with Institutional Strategic Plan*
- Findings
  - There is presently no direct linkage between the institutional plan and the IT strategic plan
  - The institutional strategic plan appears to be slightly ahead in development than the IT strategic plan specific to quantitative objectives and the identification of CSI's
  - System plan is being reinvigorated
  - Mission and core values approved but not disseminated beyond presidents
  - Operations Committee driven by IR department will track CSI's
  - October 25, 2002 strategic planning day with outside facilitator is viewed as a success
  - Presidents are the planning committee
  - Four goals have been established but not released
  - Banner used to collect baseline data for quantitative objectives

22

Findings and Recommendations on the Process of Strategic IT Planning

- *Coordination with Institutional Strategic Plan (cont.)*
- Findings
  - A SWOT Analysis was facilitated with the Presidents
  - Strategic plan maintained on web site to keep it paperless and well communicated
  - Structure, content and process is the focus
  - Process delayed by lay-offs and budget issues
  - The present elements of the draft institutional strategic plan offers multiple opportunities to tie in IT strategic plans
- Recommendations
  - The IT strategic planning process should adopt the successful best practices of the institutional planning process including the use of web site for paperless dissemination
  - Where possible similar planned components and processes should be used among the two efforts to improve recognition, acceptance and understanding of these planning processes

23

Findings and Recommendations on the Process of Strategic IT Planning

- *Dissemination and Publication*
- Findings
  - Faculty survey was a successful communication tool on the goals of the strategic IT plan with a 45% readership and a 33% response
  - Faculty survey comments offers a multitude of tactics for success
- Recommendation
  - A focus group of selected comment providers, possible opinion leaders on academic technologies, should be formed to continue this successful start of a bottom-up communication thread

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Situation ~ IT Goals

Exogenous Issues

- College IT system compares favorably to peers
- ERP well positioned
- Need more strategic planning for academic technology
- Need a scan of IT possibilities and trends of peers

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Situation ~ IT Goals

Internal Issues

- Teaching and learning stable, but governance not
- Institution needs to the entrepreneurial, competitive
- IT initiatives driven locally, bottom-up
- System plans need local buy-in
- Faculty technology experience limited
- Need academic faculty on planning committees

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Situation ~ IT Goals

Strategic Planning

- IT planning conducted throughout system, colleges
- IT Policy Committee, Administrative Systems Advisory Committee, Academic Information Technology Advisory Committee, Deans Councils, IT Directors, etc.)
- Budget and Finance Committee
- Lower- level focus
- Infrastructure planning not the problem
- Need new vision for instructional technology, emerging technologies

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Situation ~ IT Goals

Strategic Planning- continued

- Business and industry workforce training
- Changes in teaching and learning process
- Technology to aid teaching process, delivery of academic content
- Academic freedom
- Faculty training for all disciplines
- Student skills and use
- Integration with student records
- Need accepted plan as a system- wide working guideline
- Banner Steering Committee good model

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Situation ~ IT Goals

Students Outcomes Assessment

- Need to relate to accreditation
- Value of technology, measurements of progress
- Link teaching and learning technology progress to SOA

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Situation ~ IT Goals

Administrative Systems

- Proud of accomplishments
- Integration of systems, more efficiencies
- Integration with instructional technology
- Retrieval of data for decisions, unable to know what's there, or get data out
- Manual entry versus systems, dated information
- Library system well positioned, planned separately; self driven; monitored by IT and planning committee

30

Situation ~ IT Goals

IT Operations

- Infrastructure, networks, servers, data centers, DBA, security, backup, etc.
- Infrastructure under central planning
- No business continuity plan
- WAN is ATM, supported by semi-retired staff

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Situation ~ IT Goals

IT Technical Resources

- Current resources meet current demand; can only support current technology
- Problem with supporting new initiatives
- Problem with developing and supporting new student services
- Problems adding staff - for example in Human Resources
- Serious problem regarding depth of staff
- Need cross-training and staff backup

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Situation ~ IT Goals

IT Applications Development

- Current resources meet current demand; can only support current technology
- Problem with supporting new initiatives
- Problem with developing and supporting new student services
- Problems adding staff - for example in Human Resources
- Serious problem regarding depth of staff
- Need cross-training and staff backup

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Situation ~ IT Goals

Academic Technologies

- Limited, local progress
- System-wide Win 2000 operating system upgrade, compliance, compatibility
- Information regarding academic software for Academic Technology Plan
- Luminis recent purchase, impact on resource needs, can't start until 2004, no implementation plan

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Situation ~ IT Goals

Academic Technologies - continued

- Some colleges advanced some very poor, some progress with faculty today
- Limited distance learning, WebCT
- Some colleges using teaching laboratories
- Central systems services provide training on contractor basis, some local trainers
- Open local training to system, create one stop source via a web site
- Teaching and learning consultants
- Balance pedagogy with delivery
- Difficult to track local initiatives and services

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Situation ~ IT Goals

Instructional Technology Resources

- No instructional technology centers for faculty training
- Only limited technology located in classrooms
- Training primarily through documentation, locally sponsored classes
- Need resources to support training at local level
- Training for each college; training the trainers
- Disparity in communication of available training and resources, system-wide visibility
- Issue of web-based access control
- Need help desk call center for support

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Situation ~ IT Goals

Motivating Faculty for Technology Adoption

- Get interests, motivation, actions
- Release time used for selected, train the train
- Student driven; course shells, compared to other courses, asking for same access
- 84% on four or five a schedule, typical faculty limits
- 20% of time for other College use; nine hours per week -- not currently use my College

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Situation ~ IT Goals

Motivating Faculty for Technology Adoption - Continued

- No faculty training units required
- Release time limits
- Some colleges using faculty service for evaluation and promotion
- Professional development funds are available: retraining, core competencies, not consistent, IT training funds available
- Funding sources, Connecticut learning grants

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Recommended Next Steps

- Current IT strategic planning process is effective and has produced substantial content to date. Some missing initial of the planning process may still be introduced to facilitate bottom-up buy-in and academic IT focus prior to the logical follow-through phases.
- A project plan should be developed to identify and schedule all follow-through activities in the IT strategic planning process
- Recommendations for each of the process areas should be considered and adopted where possible
- Breaking goals and sub-goals down into quantifiable objectives is the immediate next step in the planning process – many follow-through activities depend upon it

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Recommended Next Steps

- The IT strategic planning process should adopt the successful best practices of the institutional planning process -- particularly the use of web site for paperless dissemination and a continuance of the discussion thread begun with the faculty survey
- Conduct a lessons learned/best practice session with select college staff on the effectiveness of the Exchange upgrade specific to materials, training and support
- A focus group of selected comment providers, possible opinion leaders on academic technologies, should be formed to continue this successful start of a bottom-up communication thread
- The governance structure should be revised and reinvigorated specific to AITAC with a new charter and changed membership

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ATTACHMENT 2: IT STRATEGIC PLAN SWOT ANALYSIS

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Executive Summary

The facilitation of a Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis, conducted by SCT consultants, was held with key members of Connecticut Community College's (CCC's) faculty, staff and management. The general purpose of the meeting was to begin discussions on the need for developing a strategic plan for information technology at CCC. Each of the key stakeholders within the institution shared their opinions on strategic planning elements of significant consideration to the institution. The discussions on institutional reputation, state financing, and excellence within the classroom were all noted as keystones for the current strategic position of the organization.

The work session developed a key step in the IT strategic planning process, which is to analyze the strengths, weaknesses, opportunities, and threats -- the SWOT analysis. Taking each of the four categories, discussion ensued specific to the ways in which technology could be employed to enhance the internal strengths and overcome weaknesses, and better position CCC to take advantage of external opportunities and to blunt possible threats.

SCT recommends that the CCC continue to develop its strategic plan for information technology. While the institution's current mission statement comprises a key reference for building such a plan, the further development of strategies from the SWOT analysis must continue. The elements of the SWOT analysis should be communicated and disseminated widely. Key opinion leaders should be gathered along with existing IT committees to draw additional strategies from cruciform charts derived from subsets of the significant components of the SWOT analysis.

Additionally, a project plan should be developed to identify and schedule all follow-through activities in the IT strategic planning process. Finally, the IT strategic planning process should adopt the successful best practices of the institutional planning process -- particularly the use of web site for paperless dissemination and a continuance of the discussion thread begun with the faculty survey.

Methodology and Background

In July 2003, the Connecticut Community Colleges (CCC) engaged SCT to conduct a high-level review of current information technology strategic plans and planning practices to allow:

Alignment of information technology and strategies with institutional strategies. Leveraging of technology for internal improvement as well as competitive advantage.

During this assessment, it was recognized that the current IT strategic planning process is effective and has produced substantial content to-date. Some missing initial components of the planning process were suggested to be introduced so as to facilitate bottom-up buy-in and academic IT focus prior to the logical follow-through phases.

A key item suggested to be addressed was a SWOT Analysis which would outline the information technology strengths and weaknesses of the CCC as well as to identify the opportunities and threats that exist in its competitive environment. It was suggested that the present IT committees, IT leadership, and other key faculty and staff should be tapped for a discussion and recording of key components of a SWOT analysis.

Approach

SCT's SWOT Workshop Facilitation is a strategic management consulting service that guides the client through a high level process to review their current information technology strategic plans and planning practices. This review process is the first step required for the client to eventually synchronize their information technology strategies with their institutional strategies, allowing them to leverage technology for internal improvement as well as competitive advantage.

The process reviews the needs, goals, target environment, strategies, and schedule for the institution's information technology initiatives. Where these plans do not exist, high-level outlines of the value of these items and the practices necessary to establish them are discussed. The scope of plans to be reviewed encompasses all aspects of information technology—including applications, computing and networking infrastructure, and staffing.

Its primary purpose is to ensure that the client is positioned to take maximum advantage of the capabilities of information technology to achieve their organizational objectives. Additionally, it provides a starting point to establish (or validate) a clear long-term direction for all technology projects and expenditures.

Advance Material Review

The following materials provided by CCC were reviewed by the facilitators in advance of the SWOT workshop:

- Chancellor's Committee on Information Technology
- DRAFT Vision Statement
- Core-CT - System Office of Information Technology
- System IT Strategic Plan Goals & Objectives
- Strategic IT Goals
- Mission & Core Values
- CCC Mission Statement
- CCC Mission and Core Values
- Environmental Scan
- Strategic Planning: Making Dreams Come True
- Connecticut Community College Statutory Mission
- Summary of Faculty Survey for ITPC Meeting

Session Logistics

The SWOT Workshop was arranged by the System IT Strategic Plan Committee that includes:

- Ken Elterich, System Office - kelterich@commnet.edu
- Paul McNamara, Dean of Administration Housatonic CC - Pmcnamara@hcc.commnet.edu
- Stephen Goetchius, IT Dean Three Rivers CC - Sgoetchius@trcc.commnet.edu
- Gerry Papazian, Chief Information Officer System Office - Gpapazian@commnet.edu

It was conducted at the CCC System Office on 61 Woodland Street in Hartford. The sessions were as follows:

- Morning: 2nd Floor Degnan Hall - Room 256
- Afternoon: Room 323 -the Large Conference Room (not DHE) on the 3rd floor.

In preparation for the on-site work sessions to review CCC strategic planning process for technology, the invited participants were asked to begin thinking about where they see technology supporting the mission and goals of CCC, how CCC can utilize technology strategically to advance the goals of this institution, and their vision of the role of technology in the system for the next five years.

Several documents were provided by the SCT consultants to the confirmed attendees in advance of the SWOT Workshop including:

- An overview of the elements of the SWOT exercise
- An outline of stakeholders whose perspectives must be considered in a SWOT exercise
- A brief article which offers a summary of emerging 21st century strategies affecting higher education. While each of these have obvious impacts on the IT strategic plan, each of these areas may or may not be on the radar for Connecticut Community Colleges. It is obviously not an exhaustive list but should generate some ideas for the environmental scanning portion of the exercise. This appears in Appendix A of this report.

An additional SWOT Analysis Worksheet was handed out during the workshop for attendees to use to record ideas and notes.

Participants

The following CCC faculty and staff attended the SWOT Workshop:

- Tobi Krutt (System Office, Manager of Technology Training)
- Barbara Thompson (System Office, Dir. Of Info Systems)
- Daria Santerre (NCC Computer Faculty, AITAC, TLC)
- Bruce Miller (Director of Televised Instruction, AITAC)
- Steve Goetchius (Three Rivers CC, IT Dean, System IT Planning Committee)
- Bob Zabek (System Office, Director, Banner Student / Academic Project)
- Ken Elterich (System Office, System IT Planning Committee)
- Gerry Papazian (System Office, System IT Planning Committee)
- Jack Needham (System Office, Consultant Banner Implementation)
- Cathy Manly (Manchester CC, Director of Education Technology and Distance Learning)
- Paul McNamara (Housatonic CC, Administrative Dean, System IT Planning Committee)
- Lynn Gregor (Asnuntuck CC, Dir. of IT, Admin. Systems Advisory Comm.)
- Jenny Beetz (Naugatuck Valley CC, Dir. Of IT, Council of IT Directors)
- Kevin Anderson (Quinebaug Valley, Dir. Of IT, Council of IT Directors)
- Rose Ellis (Norwalk CC, Director of IT and Library, Admin. Systems Advisory Comm.)

Also invited:

- Tim Hilbie (System Office, Dir. Of Tech, Services)
- Tobi Krutt (System Office, Manager of Technology Training)
- Jack Needham (System Office, Consultant Banner Implementation)

- Kathy Cercone (Housatonic CC, Instructor, Academic Information Technology Advisory Committee)
- Learning and WebCT Councils

Agenda

The following agenda was used during the SWOT Workshop

- Welcome
- Roles of the facilitators
- Review of advance materials provided to participants, including:
    - SWOT document
    - Key emerging strategies
    - A review of stakeholders
- A review of possible internal strengths and weaknesses
- Break
- Group identification of strengths and weaknesses
- Break
- A review of possible external opportunities and threats
- Break
- Group identification of external opportunities and threats
- Lunch
- An introduction to the use of cruciform charting for identifying strategies

What is a SWOT Analysis?

Strategic planning must include an assessment of the organization's environment because no organization operates in a vacuum. The very definition of strategic planning stresses the importance of focusing on the future within the context of an ever-changing environment - the myriad of political, economic, social, technological, demographic, and legal forces that change our world daily. Skill at assessing the environment and then being proactive in responding to that environment (i.e.-- strategic planning, thinking, and management) determines who is effective in using their resources and, ultimately, who survives.
At the conclusion of a SWOT analysis, a strategic planner will have a database of quality information that can be used to make decisions and a list of critical issues which demand a response from the organization -- the most important issues the organization needs to deal with in the strategic planning process.
Part of getting a clear view of the environment and dynamics of an organization is to look at it through others' eyes; both internal and external stakeholders' perceptions of the organization will add valuable information to the situation assessment. The SWOT technique, a simple and effective vehicle for collecting this information, helps focus the process by breaking it down into four broad categories:
S - What are the organization's internal Strengths?
W - What are the organization's internal Weaknesses?
O - What external Opportunities might move the organization forward?
T - What external Threats might hold the organization back?

Evaluating an organization's general strengths and weaknesses, as well as the strengths and weaknesses specific to each of its programs, typically includes assessments of:

- IT staff capabilities
- Quality of IT services
- Reputation of both the organization and individual services
- Administrative IT
- Desktop and networking infrastructure
- Academic IT
- Library and research systems

Successful organizations exploit strengths rather than just focus on weaknesses. In other words, this process isn't just about fixing the things that are wrong, but also nurturing what is right.

The same kind of thinking should apply to how an organization approaches its opportunities and threats -- the external trends that influence the organization. These are usually categorized into political, economic, social, technological, demographic and legal (PESTDL) forces. These external forces include such circumstances as changing client needs, increased competition, changing regulations, and so on. They can either help an organization move forward (opportunities) or hold an organization back (threats) -- but opportunities that are ignored can become threats, and threats that are dealt with appropriately can be turned into opportunities.

Stakeholder Identification

A successful SWOT analysis keeps in mind all key stakeholders of an institution. Which of these stakeholders are the primary beneficiaries of a successful IT strategic plan? Which stakeholders have been previously excluded from many benefits in the past who may now be included in future benefits? Key, primary stakeholders may include:

- Academic lab computer users
- Administrative computer users
- All Students
- Faculty teaching computer disciplines
- Other Faculty and staff
- Taxpayers
- Member Community Colleges
- Alumni

Additional, more specific examples of stakeholders who could be considered within an IT strategic plan include:

- Parents
- Legislators
- Community
- Public schools
- Accrediting bodies
- Foreign governments
- Vendors
- Employers
- Prospective students
- Media
- Businesses

- Unions
- Board of Regents
- Professional organizations
- Competitors
- Local city representatives
    - Donors
- Grant sponsors
- Foundations

Gathering Board and Staff Perceptions of the Organization

Since the SWOT analysis is a primary means of receiving input from a broad and representative constituency, it is important to include as many staff and board (your internal stakeholders) as possible in this process. Their ideas and opinions might be collected through questionnaires, telephone or in-person interviews, facilitated organization-wide or small-group meetings, or a combination of these methods. Some organizations have board and staff meetings together to discuss their ideas and opinions, while others have them meet separately. A common and useful approach used during meetings is to brainstorm ideas onto flipcharts.

After the lists of strengths, weaknesses, opportunities, and threats have been recorded, the listed ideas can be grouped into logical topic or issue groups (e.g. -- all the ideas related to staffing or program development should be grouped together) to make the data easier to present and analyze.

Gathering External Stakeholders' Perceptions

Just as a SWOT assessment allows an organization to collect a wide variety of perceptions from internal stakeholders, a SWOT assessment of those outside the organization can also add a great deal to the SWOT analysis. External stakeholders (such as clients, funders, community leaders, and potential collaborators) can give the planning committee insight into community opinions of what the organization does well, where it can improve, unmet community needs it might address, and other potential opportunities or threats.

Again, this information might be gathered through telephone or in-person interviews (preferably), questionnaires, or focus groups. In addition to their general perceptions of the organization's strengths, weaknesses, opportunities, and threats, external stakeholders might also be asked some questions specific to their outsider perspective. For example:

- What are the organization's strengths and weaknesses? What opportunities and threats does the organization face?

- What does the stakeholder need or expect (criteria for performance) from the organization?
- How well does the organization perform against those criteria (excellent, good, fair, or poor) and why?
- How well does the organization perform relative to its competitors?

SWOT Analysis

This chapter outlines the specific contributions from CCC's participants in the SWOT Workshop.

Internal Assessment

The discussion on the internal assessment of strengths and weaknesses developed the following initial outline which appears in the order mentioned by participants.

Strengths

- IT staff in general (1 significant)
- Communication systems and platform in place (1 extraordinary and 1 significant)
- Good cooperation between IT and functional (1 extraordinary and 9 significant)
- IT staff attitude to support (1 significant)
- Willingness to take on challenging projects -- system and local (5 significant)
- Good project management (2 significant)
- Power users on local – lead, support and train (1 significant)
- Excellent data center service, performance and uptime (3 significant)
- Good infrastructure to support service – well funded (2 significant)
- Easily pool resources
- Locals can be entrepreneurial and innovative (1 significant)
- Extensive committees with well-defined structure (1 significant)
- Formal communication processes and channels
- All 12 colleges represented on committees
- Web access for faculty with solid standards (1 significant)
- High percent of faculty have strong interests and capability in IT (2 extraordinary and 1 significant)
- Opportunities for training
- Strong library access (1 significant)
- Strong, good partnerships
- Good distributed systems for external stakeholders, etc. at local cc level statewide
- CEO is strong with good IT skills
- Good college communication systems for faculty and staff
- Good web site
- Training is excellent in basic IT skills for college staff, teaching & learning, Banner and Web
- Good culture, attitude in IT (1 significant)
- Banner system is perceived as success
- IT scalability of infrastructure
- IT, faculty and staff can use advanced IT

In a follow-on session, participants were allowed to "vote" on the most significant of strengths and weaknesses. Each participant was allowed one "extraordinary" vote and five "significant" votes that enabled a group sense of the most significant issues.

Weaknesses

- Insufficient staff resources – level (ten extraordinary and 3 significant)
- Heavy work load in hours
- Across system, local, functional
- Causes delays
- Lack of funds for personnel (3 significant)
- Replacements and vacancies
- Causes frustration and goes to community
- Burn out (2 significant)
- Limited funding for IT specific to hardware and software replacements, acquisitions and upgrades (4 significant)
- Funding – accounting has limits
- No FY 2004 capital funding
- Paper forms rather than online transactions
- Heavy focus on administrative instead of academic technology with limited funds (9 significant)
- Perceptions by faculty of lack of resources
- Balance of Banner implementation (e.g. Luminis) for colleges
- Capability to retain good staff as the future will require support of a different environment (7 significant)
- Problem derived from 35 hour limitation (1 significant)
- Contractual limits of hours available for faculty (1 significant)
- Multiple union contracts
- Problems from coordination of support for specialized functional application – e.g. Banner
- Training at local on many applications to maintain to support faculty and standards (4 significant)
- Separation of training of staff versus faculty
- Communication of training resources to colleges (1 significant)
- Support of technology for teaching and learning including timing
- 24 X 7 not available – 8 to 6 is available but not consistent
- Help desk contact process (1 significant)
- Inconsistent help desk support in colleges (1 significant)
- Help desk knowledge on application systems
- Grant writing only at local rather than system
- Revision of vision and mission of IT (1 extraordinary and 2 significant)
- Updates of Wide Area Network and access to external networks including Con Ed Net
- Outreach to local schools
- Connecting all local colleges
- State-wide coordination (1 significant)
- Data integrity; power users too disinterested (1 significant)
- College campuses still weak in IT (1 significant)
- Hiring process still doesn't select IT skills (1 significant)
- Selected weakness in Banner needed to be addressed by continuing education
- Too many IT committees
- Unbalanced IT usage across campuses and capability (1 significant)
- No business continuity or disaster recovery plan as well as security concerns
- Lack of email standards

External Assessment of Competitive Environment

The discussion on external assessment of opportunities and threats within the competitive environment developed the following initial outline:

Opportunities

- State funding for re-training for digital workforce skills (2 significant)
- World-wide demand for education and training if it can be delivered
- Funding for training facilitates high-end IT, certification, etc. (3 significant)
- New instructional and administrative technologies (2 extraordinary and 1 significant)
- Opportunities for partnerships with sister organizations (5 significant)
- Local schools and businesses looking for leadership in IT (2 significant)
- Distributed learning to retain standards and expand reach (1 significant)
- Grants – e.g. Title III, security, etc. (1 significant)
- Partner with business to re-sell services
- Faculty retraining funding
- Professional development funding
- Staffing using students
- Use of online training (1 significant)
- Chance to re-engineer processes (1 extraordinary and 3 significant)
- Comfort level of community colleges
- Enhance self-service capabilities of Banner for differentiation (1 significant)
- Faculty to become multimedia capable (5 significant)
- Better use of technology to enhance service (1 extraordinary)
- Leadership in technology and usage for new standards
- Education for a lifetime – inform public of its "best kept secret" (1 significant)
- Personal guidance on learning about technology
- Organizational marketing of technology services and cooperative training
- Collaboration and sharing of teaching and learning content (1 extraordinary and 2 significant)
- Modularization of content
- Common course numbering for efficiency and image
- Providing course "packets" as a technology bridge
- Shared programs college-wide, on campuses and between colleges
- More effective marketing; informing public of distance learning courses and all courses/programs offered by college (1 extraordinary and 6 significant)
- "For good of college" campus cooperation (1 significant)

Threats

- Local college flexibility and innovation restricted by central system to provide services to local community (1 extraordinary and 1 significant)
- Threat going forward
- Trends in external security threats slows infrastructure development, adds expense and requires more planning which diverts resources (3 significant)
- Competition from non-higher education organizations
- Legislative reorganization (1 significant)
- Vendors plans for upgrades and new versions (3 significant)
- Competitors in the distance learning environment doing programs globally (1 significant)
- Keeping up competitive IT image to public (1 significant)
- Diversity of IT skills of applicants as standards vary by age
- Ability to recruit IT staff (1 significant)
- Rapid technology change (10 significant)
- Changing reporting requirements
- Federal and state legislation, compliance and information requirements
- No way to apply for positions online
- Lack of sustained or diminishing funding from state (8 extraordinary and 4 significant)
- Disasters (3 significant)
- Terrorism
- Better funded competitors
- Demand for flexibility of teaching and learning experience
- Demand for availability of courses and scheduling (1 significant)
- Must have competitively attractive web site that is user friendly (3 significant)
- Rising standards for world-class systems (2 significant)
- Knowing market-defining position
- Changing image and position of immediate competitors
- Increasing availability of education and training
- Financial aid programs for private, non-profit institutions
- Traditional academic term limits on scheduling (3 significant)
- Geographic limitations of marketing locally

Possible Strategies Derived from the SWOT Cruciform Chart

The difficulty assimilating the typically lengthy items contained within a SWOT analysis can be contained by two techniques:

1. Begin consideration of only the items receiving the most "votes" – e.g. at least one extraordinary vote or at least three significant votes.
2. Use a cruciform chart to present these most popular items in a single geometric instance.

There are two different approaches for the development of strategy from the cruciform chart. The first approach attempts to match strengths to pursue opportunities, defend against threats, or to help rectify weaknesses across the SWOT cruciform chart. The second approach develops strategies for the collection of items within each of the four categories. Both approaches should be considered in the CCC's next stages of strategic plan development. While the workshop conducted on-site stopped short of discussion possibilities within either approach, examples for each area can be offered to continue deliberations.

Within the second approach please consider the following SWOT analysis within the cruciform chart on the next page. Items of emphasis appear in bold.

Figure 5.0
Cruciform Chart for SWOT Analysis

Strengths	Weaknesses
• Communication systems and platform in place (1 extraordinary and 1 significant) • Good cooperation between IT and functional (1 extraordinary and 9 significant) • **Willingness to take on challenging projects -- system and local (5 significant)** • Excellent data center service, performance and uptime (3 significant) • **High percent of faculty have strong interests and capability in IT (2 extraordinary and 1 significant)**	• Insufficient staff resources and levels (ten extraordinary and 3 significant) • Lack of funds for personnel (3 significant) • Limited funding for IT specific to hardware and software replacements, acquisitions and upgrades (4 significant) • **Heavy focus on administrative instead of academic technology with limited funds (9 significant)** • Capability to retain good staff as the future will require support of a different environment (7 significant) • Training at local on many applications to maintain to support faculty and standards (4 significant) • **Revision of vision and mission of IT (1 extraordinary and 2 significant)**
Threats	**Opportunities**
• Local college flexibility and innovation restricted by central system to provide services to local community (1 extraordinary and 1 significant) • Trends in external security threats slows infrastructure development, adds expense and requires more planning which diverts resources (3 significant) • Vendors plans for upgrades and new versions (3 significant) • Must have competitively attractive web site that is user friendly (3 significant) • Traditional academic term limits on scheduling (3 significant) • **Rapid technology change (10 significant)** • Lack of sustained or diminishing funding from state (8 extraordinary and 4 significant) Disasters (3 significant)	• **Funding for training facilitates high-end IT, certification, etc. (3 significant)** • New administrative technologies (2 extraordinary and 1 significant) • Opportunities for partnerships with sister organizations (5 significant) • Chance to re-engineer processes (1 extraordinary and 3 significant) • **Faculty to become multimedia capable (5 significant)** • Better use of technology to enhance service (1 extraordinary) • **Collaboration and sharing of teaching and learning content (1 extraordinary and 2 significant)** • More effective marketing; informing public of distance learning courses and all courses/programs offered by college (1 extraordinary and 6 significant)

Possible conclusions from the review of this chart include the following.

A focus on the weakness specific to the heavy focus on administrative instead of academic technology can be readily associated with the weakness on the need to revise the vision and mission of IT. Two key internal strengths give CCC a reasonable arsenal to attack these weaknesses including the willingness to take on challenging projects and the high percent of faculty that have strong interests and capability in IT. As such, it appears this weakness could possibly be overcome by refocusing known strengths.

The key environmental threat of rapid technology change can exacerbate this weakness if no action is taken by CCC; however, several opportunities exist that may provide external resources to CCC in addressing such a weakness including available funding for training as well as collaboration potential for teaching and learning content. One possible long-term *strategy* to draw from this cruciform chart is for CCC to train interested faculty on emerging academic technology that lead to collaboration and sharing of teaching and learning content.

Michael Porter's publications on strategic planning focus on two generic areas: low cost or differentiation. Clearly, the CCC's strengths offer a possible differentiation strategy in planning academic technology initiatives. While competitive institutions have possibly made inroads in early recognition of these opportunities, CCC offers compelling advantages given their current IT strengths over such competition.

Similar themed breakouts of components within a fully developed cruciform chart should offer strategic consideration of overall IT strategies, specific IT areas – e.g. academic technologies, distance learning delivery, training and professional development, infrastructure, etc.

Next Steps

SCT recommends that the Connecticut Community Colleges continue to develop its strategic plan for information technology. While the institution's current mission statement comprises a key reference for building such a plan, the further development of strategies from the SWOT analysis must continue. The elements of the SWOT analysis should be communicated and disseminated widely. Key opinion leaders should be gathered along with existing IT committees to draw additional strategies from cruciform charts derived from subsets of the significant components of the SWOT analysis.

Additionally, a project plan should be developed to identify and schedule all follow-through activities in the IT strategic planning process. Finally, the IT strategic planning process should adopt the successful best practices of the institutional planning process -- particularly the use of web site for paperless dissemination and a continuance of the discussion thread begun with the faculty survey.

Emerging 21st Century Strategies for Higher Education

A summative review of emerging 21st Century Strategies for Higher Education makes an excellent kick off a SWOT exercise with a particular focus on the scan of environmental opportunities and threats. While many of these strategies focus on the institution each have a potential impact on information technology. There is constant evolution in such a list and it cannot be considered comprehensive; however, it may help to generate ideas as to specific strategies that have current relevance to your institution's IT strategic plan. The current emerging strategies may include:

Learner Centered Environments

This approach requires that we build the curriculum around the learner. This presentation includes an introduction to a formal model for developing a learner-centered curriculum. The model is a practical means to fulfill the promise of the "Learning College." Through the model we will explore how technology enables the revision of curricula to identify and incorporate multiple learner objectives into the design, development, and implementation of a course or module. We will also explore how technology will enable course design to facilitate learning at a wide variety of venues. The technology enable learner centered curriculum will enable courses to incorporate material supporting a wide variety of learning styles thereby creating a learning environment where students can select methods that work best for them. The Internet and supporting technologies will be used to expand the interconnectedness of the curriculum to the emerging vast knowledge base and experts that are available in today's network society. Technology will also significantly enhance individual learner services including advising, counseling, tutoring, and assessment.

Modularized Curriculum

Examine the why and how to modularize the curriculum. Provides the means to disaggregate modules from courses and integrate credit and non-credit offerings. We have long known that individualized instructional approaches or systems that emphasize small, modularized units of content, provide the learner with an opportunity to master one unit before moving to the next, while giving immediate and frequent feedback, and engaging the learner actively in the learning process are consistently effective in enhancing subject matter learning over more traditional instructional formats such as lecture and recitation. Evidence suggests that using this approach improves a learners performance 19-percentile points regardless of learner ability or subject matter.

Strategic Enrollment Management (SEM)

The concept of SEM has evolved significantly over the past twenty years. This presentation shows how the principles and practices of SEM are being integrated with the principles and practices of the Learner Centered Curriculum to drive strategic planning. A detailed operational SEM model will be provided. The classic SEM funnel will be explained and the process of developing institutional strategies using the funnel will be outlined.

Virtual Learning Environments

There are more than 17,000 courses indexed on the World Wide Web today. This presentation will introduce the concept that Internet based learning environments are not an either/or proposition but an opportunity to expand effective learning both on and off campus. A host of resources will be provided including the top three course indexes, and a number of model online learning examples.

Competency Based Curriculum

A focus on competencies is not new to higher education. However, new providers are using dramatically different strategies to build curricula around competencies and offer a more nimble learning environment to a time bound marketplace. A host of examples and resources will be provided in this presentation.

Vertical Markets

Learning markets are considered vertical when one provider can enroll or serve a large market share through one or more strategic affiliation or alliance and thereby deny access to those learners by other providers. There is now rush on by nimble providers to occupy strategic positions with professional associations, corporations, and agencies to become vertical market players. Vertical market examples will be provided as well as a checklist on assessing your vertical market potential.

Global/National Certification

Certification has emerged as important as accreditation. It is well known that certain professional certifications can add significantly to a learners' job readiness and compensation. Further, these certifications tend to be global in scope and universal in acceptance. Strategies on how we capitalize on this factor are explored in this presentation.

Strategic Even Predatory Pricing

Higher education institutions have throughout their history attempted to amortize their investments in curriculum and infrastructure over relatively small class sizes. New providers are building curriculum for mass consumption, at low per unit price, based on sizeable investments in the curriculum design, development, and deployment processes. Examples will be provided. One such example provides open access to more than 350 courses for a monthly subscription fee of $7.95.

Fusion

Just as in the emergence of vertical markets a rush is on in this area also. Fusion is the process by which a providers learning infrastructure (including digital courseware) is given exclusive or preferred status on a consuming organizations intranet. This preferred or exclusive status provides access to the consuming organizations learners. Examples will be provided.

Innovation Centers

Higher education has long sought and developed economic development alliances with the regions they serve. A new wave of expertise driven opportunities are being explored using the theme of Innovation Centers.

Credit Banking

The ability to deposit credit earned from more than one institution into a credit bank for synthesis and credentialing has begun take root. There are some very strong players in this marketplace and once firmly established from an operational standpoint their infrastructure will dramatically affect learner options. This presentation identifies the key players and their approaches.

Prior Learning Assessment

The assessment of prior learning experiences has also been utilized by higher education for many years. Emerging strategies are using these same techniques to certify and synthesize various learning experiences into a recognized outcome. Several key providers are players in this market and their potential for future growth is enormous.

College of the Community

The College of the Community serves to provide comprehensive educational opportunities at virtually all levels required by the regions they serve. The concept derives a new mission for the traditional community college. The concept recognizes that communities often need focused targeted programs at the baccalaureate, masters and even doctoral level that are beyond the interest and expertise of local colleges and universities. The pressure to provide through cooperative degree programs and/or online delivery coupled with local mentor and service is driving the move toward a reinvented College of the Community.

Reference:

http://www.mgdolence.com/services/emerging.htm

Appendix B: References

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Bowersox, D.J. et al 1989, *Leading Edge Logistics--Competitive Positioning for the 1990s*, Harvard Business Review, Boston.

Howe, W.S. 1986, *Corporate Strategy*, MacMillan Press, London.

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ATTACHMENT 3: SUMMARY ANALYSIS OF FACULTY SURVEY

Summary of Faculty Survey
for ITPC Meeting May 30, 2003

Faculty Survey: Information for IT System Plan
Date survey released on Web: 4/28/2003
Responses as of 6/1/2003 – survey closed.

Number of faculty that have accessed the survey:	314
Number completing survey and submitting:	223
Number still incomplete:	62
Number that dismissed the survey:	29

Question 1 - Vision/Emerging Technologies
Encourage and recognize the creative use of information technology in support of the System's mission and goals.
Is this an appropriate System IT goal?

Yes	**223**
No	**12**
Don't Know	**34**

Number providing written comments: 39

Summary of Comments:

Each college in the System should provide students with access to the latest technology in the classroom and in open labs (distance learning, smart boards, video conferencing, wireless access). Training in the new technologies was mentioned by quite a few respondents. Such as, give Faculty access to training and an open faculty lab for assistance in creating online course materials, web sites, etc.

Some specific objectives are:

a. provide funding to encourage innovation and research
b. provide vehicles for system-wide communication
c. provide incentive grants to faculty/staff willing to pioneer the use of new technology or the use of existing technology in new ways.

Another group of comments favored the smooth running of the functions already in place and it would be foolish to add anything at this time.

Several wondered how this goal would be measured.

Question 2 - Instructional Support
Provide the IT hardware, software, network access, human resources and training required to support and extend the teaching and learning process within the classroom and via alternate instructional methods (e.g., distance learning).
Is this an appropriate System IT goal?
Yes 232
No 9
Don't Know 15
Number providing written comments: 55

Summary of Comments:

Faculty need to be trained in the pedagogy of online instruction and the associated use of the technology. Some feel this is not the responsibility of IT but of educators – provide a holistic approach, including general pedagogical professional development and technology where appropriate. Enable instructors to use technology available in their field of study to enrich the classroom, not replace instructor-student contact. If technology is provided then faculty require appropriate support and training.

Provide a knowledge management system whereby all 12 colleges can collaborate with their collective knowledge via a discussion board and a database of information.

There is a definite concern among a number of faculty that 'remote' technology will replace the teacher in the classroom and diminish the students' learning experience of the classroom.

Question 3 Student Support
Provide access to curricular materials, software, electronic communication, computer labs, electronic classrooms, library resources, media collections, and presentation technologies to maximize the benefit of students' educational experience.
Is this an appropriate System IT goal?
Yes: 224
No: 7
Don't Know: 15
Number providing written comments: 51

Summary of Comments:

Expand use of computers and Internet access within the libraries and extend library hours so that it is more available to students and community. Improve technology skills of all library personnel so they can better assist students.

Provide a help-desk support system or a knowledge management system for students. Provide sufficient IT personnel and resources to support the goal. Encourage the use of online orientation, counseling, financial aid and other on-line services and training for faculty should be an integral part of the plan. The recommendations made by faculty for students suggest the implementation of a Web portal.

Question 4 – Faculty/Staff Support
Create and support ongoing opportunities for technology-related professional development and training for current and new technologies.
Is this an appropriate System IT goal?
Yes: 220
No: 6
Don't Know: 9
Number providing written comments: 47

Summary of Comments:

Training needs to be provided so that faculty members, including adjuncts, feel comfortable using the latest teaching techniques. Since training is such a critical component it should be a coordinated effort among all 12 community colleges.

Provide faculty with dedicated technology professional development training funds

Online courses must not supplant effective face-to-face teaching and be careful not to pressure teachers to change their teaching to fit the available technology. Technology should be made to fit best practices in teaching but technology should be only part of the emphasis – there needs to be an increase in professional development in a more general manner.

Find ways to encourage faculty to take advantage of the training and to make it convenient. Provide on-line courses for faculty so they can better utilize their time. Provide training in particular disciplines in addition to the basic training in MS/Office, etc.

There were a number of complaints regarding the implementation of WebCT and access problems.

Question 5 Technical Services
Provide consistent high quality technical services at the System Data Center and across all college locations. Major areas include: hardware, software, staff, training, infrastructure, communications, and security.
Is this an appropriate System IT goal:
Yes: 203
No: 5
Don't Know: 22
Number providing written comments: 41

Summary of Comments:

Technical support brought out the most negative responses. A major concern was the inadequate technical support that is being provided to faculty and students, including distance learning students. Adjuncts seem to have the most complaints – particularly those teaching in the evening.

One respondent says, "Responsive customer service and support must be a high priority for the effective implementation of technology into our everyday work. It is very important that faculty and staff can obtain timely resolution to technology problems as they occur, otherwise they will not use the IT resources even if they are available."

However, all was not negative – several responses indicated that IT service was good and also recognized that the IT is understaffed.

One suggested that there be a newsletter to keep everyone informed of what's happening. Again, it gets to proper communication.

Question 6 Administrative Applications
Develop, maintain and improve computer applications that meet System and campus needs for administrative processes and planning.
Is this an appropriate System IT goal?
Yes: 196
No: 5
Don't Know: 28
Number providing written comments: 32

Summary of Comments:

It is clear from reading the comments in this section that communication to/from faculty regarding administrative systems is lacking. There is a clear misunderstanding of what is available and how certain things work. Taking that into account here are some general ideas voiced by faculty:

- Develop a migration schedule based on faculty and student needs and publicize it with explanations of how software and OS migrations or upgrades will impact these users.
- The IT system should meet the needs of the College and be subject to cost effective (Return of Investment) criteria. Make major investments in proven products with a track record of successful operation that can be properly implemented with the available staff and resources of the college.
- There is a potential for opening up various student-centered possibilities, such as tools for self-advising and registration.
- Develop and maintain up-to-date documentation that is readily available to all users. Current Banner documentation is not updated and is very difficult to use.
- Provide Mail accounts for all instructors (adjuncts included) so that students do not need to have home email addresses of instructors.
- Develop standards for document sharing as new technologies become available.

Question 7: Business Continuity Planning
Develop arrangements and procedures that will enable the System and colleges to respond to a disaster event in such a manner that critical business IT functions continue with planned levels of interruption or essential change.
Is this an appropriate IT System goal?
Yes: 159
No: 11
Don't Know: 57
Number providing written comments: 31

Summary of Comments:

It is clearly recognized by faculty that business continuity planning (BCP) and protecting (securing) academic/student data is essential and colleges must be able to maintain IT functions during interruptions and essential changes. Several indicated that BCP has to be a System initiative under System Office control.

Several felt that we were getting 'carried away' with this Goal as it may be prohibitively expensive.

Question 8 System Support for Research
Provide support for System and institutional efforts to provide management information for policy making decisions (e.g., institutional assessment and effectiveness).
Is this an appropriate System IT Goal?
Yes: 160

No: 14
Don't Know: 49
Number providing written comments: 31

Summary of Comments:

Of the 9 stated Goals, System Support for Research received the most questionable 'mission critical' comments, i.e., Is this mission critical? Is it mandated? Does it make sense economically? A theme running through some of the comments indicate the Goals are 'nice to haves' but the CCCs should focus on the basics of high quality support.

On the flip side, there were respondents that understood the importance of information in times of limited resources.

Question 9 IT Fiscal Resources
Enable the System Data Center and the colleges to sustain and enhance their IT capabilities by identifying and allocating adequate levels of fiscal resources.
Is this an appropriate System IT goal?
Yes: 180
No: 11
Don't Know: 28
Number providing written comments: 40

Summary of Comments:

Respondents were split on providing resources at the System level or decentralizing to the local college level and even further decentralizing to the departmental level but it was clear that the IT staff must work with instructional staff to develop a plan for enhanced IT services. The need to hire appropriate staff and provide continuous training opportunities was emphasized. Resources need to be available to staff these (IT and Library) critical departments-otherwise none of these goals will be achieved. However, some cautioned that IT support should not at the expense of student support in other ways -- with current budget cuts, perhaps survival is more important than innovation.

Several indicated that resources should be allocated fairly amongst the colleges and there should be a minimal threshold for each institution to achieve and maintain.

Question 10 Are there Other additional goals?
Number providing written comments: 48

Summary of Comments:

More than a few faculty indicated that the IT goals were great but may be ambitious given financial constraints. There is concern that funding at a level that would permit accomplishing these goals would drain resources away from other functions of the college that may be just as important. How do we allocate resources amongst the goals, i.e., what are their relative importance? Perhaps IT should be developing a five year infrastructure vision, strategy and plan related to the goals of the college (Hmmm, nice idea. ☺)

Again there is a split between expanding the number of courses offered through Distance Learning and those faculty that feel there is already too much technology in the classroom.

There were a good number of faculty that felt they were receiving less than adequate support from their local IT Department. For example, "It is extremely difficult to interact and support the IT department given we do not hear from them. It appears that there are silos built up in the political structure of the college. IT does not want to have anything to do with the internal customers - they see their role in the typical technical perspective, 'we are experts with the technology, let the registrar's office deal with the student and faculty requests, issues, concerns, etc. The IT department needs an effective customer service and satisfaction training program for each and every member of the team.

Equipment resources was a concern in several responses particularly faculty office equipment. All classrooms should have educational technology for teaching. All faculty should have up-to-date computers and resources for teaching. Many of the student computer labs have programs and computers that are newer then faculty computers making it difficult to teach our students the latest advances.

Finally, one faculty member stated "Our mission is educating students. We are not really focusing on that mission. For example: 1) There is little or no help in the computer labs. Students learn best when confronted with a need and problem; 2) We all need laptops as teachers that interface with the net, these are lacking; 3) the system is rigid and little help exists to discuss ideas; 4) the rule that we cannot even check our e-mail at the college is foolish and makes for a lack of working together, and it is way different than any other institution that I know of -- all allow incidental privileges.