



Campus Technology Strategic Plan:
Re-imagining LCCC for the 21st Century

2006 - 2011



“We need an infrastructure to allow us to do things we haven’t imagined”...Roy Tennant

“If you don’t know where you’re going, you might end up somewhere else.”...Yogi Berra

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College Mission, Vision and Goals

Mission: Responding to the community by providing affordable, accessible, and high quality education.

Vision for Excellence at LCCC: National prominence and academic excellence as a comprehensive community college.

Goals To advance the Mission and Vision of Lehigh Carbon Community College, four goals have been identified: Enrollment, Retention, Academic Excellence, Professional Development and Facilities. The specific objectives related to these goals change annually, however the college's emphasis on these four goals remains constant.

The Need for a Campus Technology Strategic Plan

The purpose of campus technology long range or strategic planning is to tie institutional priorities to technology trends in a two-way strategic alliance. Starting with institutional priorities, rather than with technology itself, represents a new approach to information technology strategic planning. It demands that the college look at strategic planning as a process that seeks to clarify what the organization is, what it wants to be and how, specifically, it can successfully make the transition. In this new approach to technology planning, the focus should be on the needs of the various stakeholders of the institution, particularly the students, rather than solely on the Information Technology Department. The plan must be aligned with the college's vision, mission and goals. It is important that the college as a whole "owns" and is committed to the technology plan. Finally, the focus of this plan should be on what the institution needs to "do," rather than on what the institution needs to "buy." The technology plan should provide technology directions and a management strategy, within the context of changing internal and external environments, while it sets the philosophy and direction for the use of information technology within the institution.

The college's 2020 Vision-Strategic Plan, under the heading "Technology", states the following: "While it is difficult to predict future technological advancements, the college is committed to remaining on the cutting edge with regard to each of these areas, (library, classroom instructional technology, distance learning, and administrative/student services systems)." We must exploit information technology wherever useful and appropriate according to the mission of the College and the mission of the Information Technology Department. We must keep abreast of new technologies and of technology convergence (computing/media, telephony/data networking, printing/copying/fax, vertical and horizontal portals, etc.) We must proceed in a fiscally responsible manner, but with the understanding that technology will eventually replace many traditional educational and business tools. It is anticipated that technology

will drive a stronger integration of the academic and administrative functions of the College. Portal and web-based instructional management systems link directly to administrative database systems. Normal services such as registration, degree audit, financial status checking, and query results from offices will be web-delivered. These systems must be reliable, accurate, and secure. They must provide appropriate confidentiality while promoting wide access. At the same time, the College must continue to support all other appropriate uses of technology.

A recent article in Community College Journal, August/September 2006 edition, identified predictions of trends that would impact strategic planning for all of higher education in the future. Some of these pertain to technology in some way and they are:

- Globalization will intrude into and shape most aspects of higher education
- There will be an ever-greater disparity in student abilities and a correspondingly wide differences in access to learning, faculty, and resources
- More and more students will insist on experiential learning as a way to improve their emotional, spiritual, and intellectual quotients
- Like other organizations, colleges and universities will be expected to deliver more education in less space – to increase their “learning per square foot”
- Technology will help shape every aspect of college and university life
- The average age of students will continue to rise (38 yrs. old by 2015); the mix of cultures, ages, and learning styles will become increasingly varied and rich.
- Competition for students and resources will force most colleges and universities to sharpen their brands and identities, and to distinguish themselves in new ways
- Colleges and universities will become increasingly important parts of regional economic development, both in creating growth and taking advantage of it.

Educause, a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology, also forecasts these evolving technologies as major players: cell phone evolution, wireless, podcasting, research portals, learning on demand (Internet delivery of media) and Web2.0 applications. Social forces may be causing a paradigm shift. With the immersion of iPods and Podcasting and uTube, users are easily creating their own multimedia and using the latest technology to share their results. We may now have to shift from our primary role of leading our learning communities in the intelligent use of technology to one of scouting, identifying, and intelligently sponsoring technologies that our learning communities may already have adopted.

The committee will need to keep abreast of these trends and forecasts as it proceeds. [<http://www.educause.edu/EvolvingTechnologiesReports>]

Planning Approach

The strategic planning process being used to develop the Campus Technology Strategic Plan involves four distinct phases and is designed to integrate ongoing planning efforts.

1. Conduct an environmental analysis – internal and external.
2. Develop, revise and align the strategic plan.
3. Develop tactics and measures.
4. Implement, evaluate, adjust and monitor the plan.

The planning process for information technology will be a continuous process.

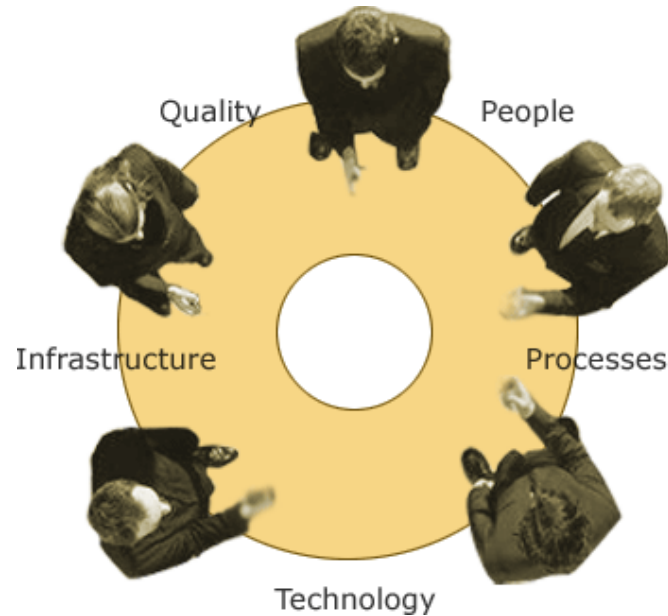
It is our recommendation that the college joins the Teaching Learning Technology Group (This non-profit TLT Group has helped over 900 educational institutions, associations, and corporations around the world to improve teaching and learning by making more appropriate and cost-effective use of information technology) and obtains site licenses for the comprehensive collection of manuals, articles, and web materials. The Comprehensive Collection includes the Flashlight Online web-based assessment system, including dozens of model surveys, templates, item bank with almost 500 validated questions for surveys and interviews, communications, work tools and analytic tools. We also recommend that the college join EDUCAUSE, which is a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology. These two organizations will provide us with resources and services to help guide our technology initiatives.

In order to better predict future needs, we need to acquire detailed input from academic divisions, administrative and staff areas on a regular basis. We can acquire this important input through the use of annual surveys (print and web-based) and through various department meetings. A technology survey instrument can be developed with the assistance of Institutional Research and conducted for all parties involved.

In addition, a survey of students is important so that we may measure their technology needs. We need to gauge their technical skill

levels; how, when, where and why they currently use technology in learning; and how they expect LCCC to meet their technology needs in the future. Therefore, a student technology survey and/or a pre-admission test of student's technical abilities should be conducted each semester. The Educational Testing Service (ETS) has produced an ICT Literacy Assessment. The ICT Literacy Assessment is a comprehensive test of Information and Communication Technology proficiency that uses scenario-based tasks to measure both cognitive and technical skills. The assessment provides support for institutional ICT literacy initiatives, guides curricula innovations, informs articulation and progress standings, and assesses individual student proficiency. ETS announced that students at more than 25 community colleges, four-year institutions and high schools nationwide are pilot testing a new version of its Information and Communication Technology (ICT) Literacy Assessment. Our college may want to pursue this test further as a required pre-enrollment test.

The data obtained from these surveys and meetings will provide LCCC with the detail necessary to quantify technology needs, translate those needs into dollars, and build a technology budget that effectively addresses these needs. As a result, the Campus Technology Strategic Plan is a dynamic document that will be updated on an annual basis.



Campus Technology Strategic Planning Advisory Committee:

Vision Statement: Through the use of technology, LCCC will strategically achieve excellence in instruction and learning, research and creative activity, personal growth and service to fulfill its mission.

Mission: The mission of the committee is to act in a leadership role in recommending policies, plans and prioritization of campus-wide technology initiatives that will develop and enhance the effective use of technology by faculty, students and staff at Lehigh Carbon Community College.

Committee Purpose: Campus Technology Strategic Planning Advisory Committee serves as an oversight committee on matters of Information and Instructional Technology and makes recommendations for setting the technology strategic direction of the college. The committee recommends college wide information technology policies, procedures and standards; reviews and recommends priorities for the development of applications and for capital requests;

and serves as an information-sharing forum. The Committee is advisory to the Dean of Learning Resources and Information Technology with policy recommendations and technology plans recommended to the President for consideration by the Executive and Leadership Teams.

Responsibilities:

- Provide guidance, direction and vision for information and instructional technology at LCCC.
- Work with the Dean of Learning Resources & Information Technology and the Associate Dean for Information Technology to prepare and annually update a long-range (3-5 year) technology plan including priorities regarding the overall technology environment at LCCC. The plan should include directional statements regarding the management and acquisition of technology at a departmental level.
- Establish annual Campus Technology Plan goals and objectives, including funding strategies and priorities for the acquisition, elimination, support and management of technology resources. The College can utilize these strategies and priorities in planning the next-cycle budget.
- Review and recommend best practices for both on-and off-campus user constituencies. Review and recommend standards for faculty/student teaching and research computing, classroom design, and technologies for administrative computing and the library.
- Assess the effectiveness of existing policies, procedures and designs in meeting the needs of the college community. Recommend new policies, procedures and designs as deemed appropriate.
- Review trends in both computing and communication technologies as they impact the college's long-term emerging technology need in order to maintain our competitive edge.
- Work with the Executive Team of the College to disseminate information to users throughout the LCCC Community regarding major technology initiatives and priorities.

In an advisory capacity, committee discussions will range from issues such as institutional priorities, security, the campus network, support for classroom technologies and research computing, a campus portal and enterprise system, to digital library requirements. All members of the Campus Technology Strategic Planning Advisory Committee are expected to submit agenda item and attend meetings. Additionally, should act as a two-way conduit for information to the rest of the campus. If the committee is working properly, it should enhance the college's ability to create educational environments that enhance learning outcomes while guiding efforts in designing learning environments with an appropriate view to the future.

The following steps are identified as key components necessary to the development of a strategic IT plan:

- Development of a "future state" vision of how the use of information technology, in its broadest definition, should add value in support of the college's vision, mission and goals.
- Development of planning assumptions that details the environment in which the college currently exists.
- Development of driving and restraining forces, which will impact the college's acquisition and use of information technology.
- Development of guiding principles that should govern the decisions and actions of the organization. (TBD)
- Development of processes and criteria for recommending technology initiatives to the President and Executive Team. (TBD)
- Development of goals and strategies to enable the college to move forward toward its desired "future state" in accordance with the guiding principles and in alignment with the college's overall vision, mission and goals.
- Development of a campus technology governance structure designed to oversee and direct the implementation of the strategic plan. (TBD)
- Development of an Implementation Timeline that charts the responsible parties and timelines for completion of the college's information technology goals and strategies.
- Development of a means of assessment of the plan and the needs of the college community. (TBD)



Planning Assumptions:

- Assumption:** Lehigh Carbon Community College will be on the cutting edge or just behind the innovators in the utilization of educational technology.
- Assumption:** The ever-increasing rate of change in information technology makes it ever more difficult to accurately predict future needs.
- Assumption:** All classrooms will be equipped with appropriate AV and computer equipment (podium, computer, cd/dvd/video, projection, interactive system, sound capability) to enhance the teaching and learning process.
- Assumption:** The College will lease new PCs each year as part of its computer refresh program so that faculty and staff have the necessary tools to perform their jobs.
- Assumption:** The College will lease and install new PCs each year as part of a planned refresh initiative, to equip computer classrooms and student accessible computers in open labs or other areas that require student use of computers (i.e., student services, library, educational support center).
- Assumption:** The College will continually refresh existing technology enhanced classrooms on campus and sites along with instructional development support areas such as the FIT, Library, and Educational Support Services.
- Assumption:** The College will refresh every 5 years its videoconferencing equipment in order to maintain quality and volume of future activities.
- Assumption:** Faculty and staff members use general office software tools on a regular basis, to improve efficiency and effectiveness and to communicate with each other and with students. All PCs will be equipped with the current versions or no more than one generation behind the current version of software. Virus software shall be the current version at all times.
- Assumption:** The College will ensure that instructional software shall be kept current and not more than one generation behind the current version.

- Assumption:** The College will continue to expand its wireless network to provide limited access to wireless network services in support of specific instruction or administrative requirements.
- Assumption:** The growing population of students with disabilities participating in college coursework will cause accommodations for these students to increase and include new assistive technology and training for staff in the use of equipment and software.
- Assumption:** Collaboration, including interdisciplinary collaboration, and project-based learning will continue to increase in emphasis with the learning process.
- Assumption:** Rapid advances in tutorial services technology and the increase in students taking advantage of these resources will require additional staff time to research and determine the potential use for LCCC.
- Assumption:** Central infrastructure upgrades (servers, routers, networks, disaster recovery plans) will need to be completed and reviewed on a timely basis.
- Assumption:** Distance Learning will continue to grow and develop with more online programs, courses, enhanced classes, hybrid classes and streaming media added to enhance all classes. Online support services will need to be increased and strengthened to support the Virtual College.
- Assumption:** The demand for technology training for all college employees and technical staff will continue to rise.
- Assumption:** Acquiring and retaining qualified IT staff will continue to remain an issue.
- Assumption:** Network bandwidth needs will continue to grow as streaming media applications are deployed and utilized.
- Assumption:** The College will pursue implementation of IP Telephony to the desktop on a selective basis, while continuing to retain our analog and digital telephony infrastructure investment. We will pursue use of IP Telephony on the Wide Area Network to connect our sites together, if the business case can be made to change from a circuit switched environment to native IP.

- Assumption:** The College will annually refresh copier / scanner / printer technology concurrent with the expiration of leases/contracts for those items.
- Assumption:** Voice Applications will continue to merge and blend with data applications for services such as voice mail / Email / fax/ and mobility cellular over the next 5 years resulting in more robust blended integrated applications. We will pursue development of these integrated applications as we refresh.
- Assumption:** Communication is increasingly mobile and instant with text messaging and mobile email access. NetGen (next generation) student expectations and preferences in a future of portable, hand-held wireless devices which offer voice, data, and video will cause the college to examine alternate ways of delivering instruction and information.
- Assumption:** **Web 2.0**, the second-generation of Internet-based services, incorporating social networking sites, wikis, communication tools, — that let people collaborate and share information online in previously unavailable ways will also change the way students will interact with the internet and our web-based services, resources and instruction.
- Assumption:** Obtaining financial resources for technology and new initiatives will continue to be difficult and therefore problematic for the college.





Key Initiatives:

This plan identifies the following key initiatives which will have the most impact on the college's capability to deliver quality education and support processes to its students:

1. Network Equipment and Capacity Upgrades pp. 13 - 15
2. Data Center Projects p. 14
3. Equipment Acquisition and Replacement Initiatives pp. 14, 20 - 23
4. Technology Room Installation and Instructional Support Activities pp. 17 - 20
5. Telecommunications Upgrades and Initiatives pp. 20 - 23
6. Application Support Activities pp. 15 - 17
7. Major Projects
 - Fowler Center Completion
 - Virtual College Implementation/Support Activities
 - Library Renovation & Move
 - Existing LRC Renovation
 - Residence Hall Support Activities
8. Staffing p. 28



Plan Narrative

Information technology must support the overall functions of the institution. A strong and reliable infrastructure is imperative to support current operations and facilitate future growth. The deployed infrastructure must correspond to the needs and requirements of campus users now and into the future. This plan will assist the campus in ensuring that the infrastructure is in place to carry us well into the future.

Network Related Infrastructure

Local Area Network Initiatives

Existing 3COM network switches that have gone out of warranty and are not capable of supporting newer distribution speeds and topologies will be replaced with new, supported technology as part of the annual lease refresh cycle (all locations). All of the Novell file/print servers will be retired and required functionality will be supplied via Windows 2003 or later servers. An institution-wide Active Directory domain will be installed for all administrative users/functions. A demilitarized zone (DMZ) will be configured to provide enhanced security for those servers that face the outside world (EMAIL, BannerWeb, SNAP, etc.) The LAN topology at the Schnecksville campus will be re-architected to provide redundant links among all of the buildings.

Wide Area Network Initiatives

The current ATM-based WAN supplied by PenTeleData will be reconfigured to utilize Gigabit Ethernet (GIGE) deployment technology. A suitable replacement transport mechanism will be identified to facilitate moving voice traffic between Schnecksville and other LCCC locations. Bandwidth management software/hardware will be acquired/installed to allow the LCCC IT staff to monitor and control protocols and data traffic running over the various

LAN/WAN segments. Bandwidth among the five major locations will continue to be increased as required and when budgets allow.

Internet Access

Internet bandwidth will be increased from time to time as valid demand warrants. Some type of monitoring/blocking system will be installed to prevent LCCC users from accessing frivolous or non-education related web sites. LCCC will continue to purchase Internet2 resources from the CLIU. The network connectivity required for Internet2 access from the CLIU will continue to provide a limited failover path for Internet1 access should the PTD primary link fail.

Wireless Network Access

Wireless access points will be added throughout the institution as funding becomes available.

Data Center Initiatives

A disk based data backup device will be installed in order to provide the capability to backup all user & institutional data on a regularly scheduled basis. The Active Directory environment will be expanded and rolled out to all major locations within the institution. This technology will provide the basis for remote computer management and will enable the creation of student logon IDs at some future point. Selected servers located in the computer room (LCCC Store and Amadeus) will be reconfigured to provide more reliable uptime and recovery capabilities.

The HP Openview software environment will be more widely deployed to allow all major servers to be monitored and capable of providing alerts when a server goes down or malfunctions. An equipment inventory and asset control system will be identified/installed that allows all IT equipment to be tracked relative to life cycle, location and disposition.

Personal Computing Initiatives

A portion of the institution's administrative, faculty and academic personal computers will be replaced on an annual basis. Specific quantities to be replaced will be dictated by funding sources for the new equipment. Specific model, type and configuration of PCs will be revised as new models and requirements become available. PCs will be acquired with

maintenance/warranty service provided for the fiscal life of the PC. LCCC IT/PC Support personnel will continue to be “PC Vendor Repair Certified” in order to effectively resolve issues and minimize down time.

New PC based software (IE7, Vista, etc.) will be evaluated on an annual basis and, when deemed stable, will be included in the standard image supported & deployed by the LCCC IT Organization. PCs will receive Microsoft updates via a Windows System Update Server (WSUS) on a regular basis. Virus protection updates will be provided to each administrative PC user on a daily basis.

Problem calls and service requests will be collected via the use of TrackIt and assigned to technicians via the same mechanism. Annual resolution time frame targets will be set. Specific target service levels will depend upon the number and qualifications of existing IT support staff.

Application Support Initiatives

Banner

The Banner System, LCCC’s primary business/educational support system will receive minor upgrades/patches on a monthly basis or as required. Major Banner system upgrades will take place annually – timing to some extent dictated by the SungardHE release date and the availability of LCCC personnel to participate in testing and implementation activities. Banner servers (primary and backup) will be replaced in the Spring/Summer 2006 time frame. These servers will be replaced every 4 to 5 years. The Application Support Group also supports the use of Microsoft Access and Oracle’s ODBC driver to facilitate reporting against the Banner data store.

LCCC Email (GroupWise & Messaging Architects)

The institution will stay on the GroupWise email system at least through the 2006/2007 academic year. We will freeze the GroupWise version at 6.5 until a decision is made whether to stay with GroupWise or move to another platform. Monthly/quarterly maintenance of users & logon IDs needs to be completed on a regular basis. Daily updates to the SPAM filtering software will continue. We will need to look at the SPAM filter settings to determine if we can eliminate additional SPAM message without adversely hindering the delivery of normal email.

TrackDat

TrackDat will continue to be utilized as the institution's primary planning system until the completion of the Middle States evaluation. We will most likely drop software maintenance on this product after the 2006/2007 academic year. There are no major upgrades anticipated with this product.

SNAP Survey Software

The SNAP environment is loosely supported by the IT and end user groups who deal with it on a regular basis. We will need to identify more than a part time support mechanism for this product if it is to be used by more than Academic Services and Institutional Research. This environment is upgraded on an "as needed" basis when the manufacturer releases software updates.

Compass Testing Software

This software is currently deployed individually (by license) on PCs within the institution and at external school district sites in the immediate three county area. New versions/releases are installed at the request of Student Services. The process currently requires an IT support person to visit each location that needs the software. IT would like to move to the web-based version of this product in order to eliminate the need to periodically dispatch an IT resource to an off-campus location.

Accutrack

This software is currently used by both Student Support Services and Advising & Counseling to schedule student appointments, track lab usage and inventory multimedia. It is upgraded on an "as needed" basis. The current version was implemented on a Windows server environment in order to move the Novell server retirement plan further along. Work needs to be done to provide the user areas with historical data access to information that resided on the Novell server. Additional installations of this product have been requested by Career Services.

Student Email

The college has entered into a five-year agreement (2006) with the CLIU to provide email account capability to all credit LCCC students. A mechanism needs to be developed for the various support areas to easily mass mail LCCC students who meet specific criteria. The mechanism to delete inactive email users needs to be created, tested and installed.

Educational/Academic Software

The IT Organization undertakes installation and software support activities on behalf of the LCCC faculty at three distinct times of the year: Prior to the Fall, Spring and Summer terms. Software is installed on PC classroom PCs and Open Labs in support of the curricula offered for that term. Ad hoc installs are performed at various times throughout the academic year as new or updated software is acquired.

TrackIT Help Desk Software

The IT Organization currently uses this product to manage Help Desk functionality and workload related requests. This product is updated on a regular basis as the manufacturer provides major releases.

LCCC.EDU Website

The IT Organization currently supports the transfer of data to the third-part hosted web site and will continue to do so as the need arises. There are no known plans at this point for a web site upgrade or re-architecture.

Faculty/Student Support

Videoconferencing Facilities

The institution's videoconferencing facilities will be upgraded on a periodic basis as dictated by the equipment's fiscal and technical age and the institution's capability to fund the replacement equipment. New videoconferencing equipment installed throughout the institution will be representative of the current state of the art with regard to

connectivity, resolution and supportability. The cost of the newly acquired videoconferencing equipment will include on-site warranty repair for the fiscal life of the equipment.

WebCT Environment

LCCC will continue with the use of WebCT as its Distance Learning course management system (CMS) for the foreseeable future. LCCC will monitor the health of the Blackboard/WebCT merger (2006) and determine if the new entity is capable of providing the level of support required to satisfy the institution's DL faculty and student expectations. LCCC will research viable alternatives to using WebCT and make an informed decision regarding its course management system in the 2007/2008 academic year. If LCCC decides to stay with WebCT, the college may need to move to the next major release in the 2007/2008 time frame. At that time a decision will be made as to where the physical server(s) that host the course management system will be located. Additional personnel will be required in 2007/2008 to support the explosive growth in the on line distance learning area.

Instructional Technology

The institution will continue to outfit classrooms with appropriate audio and video presentation devices until all of the rooms designated as teaching/learning spaces have been adequately configured to support the education process. Standard technology sets for these rooms will continue to evolve over time as newer, cost effective technology replaces older, outdated and expensive to support technology. The institution will replace existing audio/video presentation devices on an annual basis as its fiscal and technical life comes to an end. The pace at which new classrooms are outfitted with instructional technology and older classrooms equipment is replaced with newer technology will be dictated by the institution's available funding sources. All of the deployed instructional technology (where technically possible) will be network connected and centrally managed. The institution will acquire and install an instructional technology equipment management system that will be used by IT and AV support personnel to better manage the environment.

Open Lab Space

The institution will provide adequate space for open computer labs throughout its major locations. The open lab space will be used by students to perform education-related activities. Software in the open labs will be updated on an annual

basis. Minor updates may be performed on open lab computers as the need arises. PC hardware in the open labs will be refreshed relative to the need for the PCs to support state of the art software/courseware and may be accelerated ahead of the normal fiscal refresh schedule. All of the open lab and classroom computers will have DriveShield (or similar product) installed in order to prevent the accidental or malicious reconfiguration of the PC.

Website Space, Wikis & Blogs, etc.

The institution does not currently provide wiki and blog space for faculty, staff or students. In most cases these functions take place on other institution's sites or via commercial web space. The institution will provide a technical environment capable of supporting these functions within LCCC. The institution does not currently provide website space for adjuncts. Full time staff is able to publish materials on their department's LCCC.EDU sponsored web site. Adjunct faculty will need to have a space to publish their class notes, assignments and other course materials as well.

Student Logon IDs

Currently LCCC students do not require logon IDs in order to use open lab or PC classroom resources. As such, there are limited mechanisms that can be used to provide access control or accountability for resources used. A mechanism for assigning students logon IDs will be developed and resource utilization will be tracked on an ID-by-ID basis.

Lesson Capture and Deployment

Many institutions provide their students with audio, video, streaming media, etc. copies of lectures delivered by classroom instructors. LCCC desires to provide this capability to its students as well (once the necessary legal issues have been resolved between the faculty and administration). POD Casting may be a viable way of delivering education materials to LCCC students. Research needs to be completed in this area to identify how this would be accomplished within LCCC's infrastructure. LCCC has been "approved" to utilize Apple's iTunes University website to distribute educational materials to our students. We need to identify personnel to work on this initiative to test out its potential.

Instant Messaging

Several support areas have expressed an interest in using Instant Messaging technology to communicate with the students. LCCC will investigate what will be required to roll this capability out on an institution wide basis without adversely affecting bandwidth or network throughput.

Printing/Paper Management

LCCC will investigate what cost effective systems could be installed that would limit students' printed page amounts or charge for printing after a certain threshold had been reached. The desired solution set would need to fit into the student logon ID scheme and support the proposed "swipe card" system as well.

Auxiliary and Telephony Services

Telephone System Upgrades

Although our current environment for Telephony support consists of standalone voice application platforms supporting traditional Dial Tone Voice / Phone / Voice mail services, and standalone data systems for email, Voice Applications will continue to merge and blend with data applications for services such as voice mail / Email / fax / and mobility / cellular over the next 5 years resulting in more robust blended integrated applications. We will pursue development of these integrated applications as we refresh.

The College will pursue college wide implementation of IP Telephony to the desktop on a selective basis, while continuing to retain our analog and digital telephony infrastructure investment. We will pursue use of IP Telephony on the Wide Area Network to connect our sites together, if the business case can be made to change from a circuit switched environment to native IP.

As expansion continues, capacity issues will need to be addressed. More bandwidth between sites, and more network connections for voice, data, video, and wireless / cellular connectivity will require us to make additional investments in infrastructure and expand our dialing plan format and staff to support these emerging needs.

Expand Cellular services to the Leadership Team and others as necessary to include multimedia capabilities such as email, web browsing, calendaring and various other applications as technology advancements permit. Our current environment using Cell Phones for our Executive Group and others needs to grow as Technology advancements ultimately offer an all in one compact portable blackberry like device capable of tracking select emails, calendaring transactions, web browsing transactions, etc.

Voice Mail Upgrade - The life expectancy of the existing Meridian Voice Mail system, which operates as a 2-slot card within one of the 5 cabinets of our Nortel Succession 1000 Telephone System, is estimated to be at best another 2.5 years. Meridian Voice Mail is already a manufacturer-discontinued product and cannot be purchased any longer from Nortel. Eventually, both software support and maintenance repair will be withdrawn. At that point in time, we will have to upgrade to a stand alone Voice Mail Server from Nortel, the **Call Pilot** system.

Call Center -In order to improve customer service, measure call volume in order to better staff for peak periods, assign expert agents based on call prompts to meet the calling customer's needs on the first call, and gain some economies of scale by possibly combining some of the existing call answering functions together where synergies can be achieved, we would need to upgrade our existing Auto Attendant operations used for applications such as Enrollment, Financial Aid, and the Business Office with the more robust abilities of an Automated Call Distribution (ACD) Call Center Implementation using Nortel's fully Succession 1000 compatible **Symposium** system.

Dialing Plan / Capacity expansion - We will need to expand Extension number and direct in dial number capacity beyond existing capacities. As the College continues to grow and expand, the total capacity of the Telephone system will become stressed, both at the Main Campus and the satellite locations, and considerations for adding additional systems will have to be addressed.

At the Main Campus, a large increase in requirements will necessitate either another PBX tied into the existing system and configured either as a distributed communications software option that would allow calls within the Main Campus to continue to use uniform 4 digit dialing, while we would likely be forced to eliminate 4 digit universal dialing to the Satellite locations and Tie Line codes would have to be implemented for dialing from the Main Campus to Donley, such as dial 8 and then 2xx for Donley , dial 8 and then 4xx for Morgan , dial 8 and then 6xx for carbon , etc. For Donley to dial Morgan, they would dial 8 4xx plus the extension number. Main Campus could be accessed from any site by dialing 8 and then possibly a code such as 7xx plus the extension number.

Expansion activities that could max out the existing systems could include an LCCC requirement to provide dial tone to Student Housing, a new public safety building on Main Campus which includes various new telephone requirements or LCCC expands downtown and acquires another building that needs to be supported for telephones.

In addition to the internal requirements for LCCC telephony, we have approx 60 more direct inward dial numbers that can be assigned within the existing 610-799- xxxx dialing plan before we will be forced to use a different Ironton local exchange, such as the 769-xxxx exchange. Once we are forced to use 2 different numbers, we will have to engineer methods to avoid the confusion of how people from the public will dial us directly, or we may have to consider a more radical change where we change from the 799 exchange in its entirety.

Facsimile Systems

Establish low volume Facsimile Equipment recommended standard for departmental use as both a combination Fax and Printer. In an effort to standardize on one or two models that could be used universally by various departments with very small volumes, and eliminate the existing situation of every department buying any device with no ability to strategically source the product for price or repair parts standardization considerations, we will select 2 units going forward that would be the recommended and supported models to use.

Establish Technology Plan for higher volume Fax applications to either use their local Copier capabilities for Fax, Print, and scanning applications via the network or establish the use of a Centralized Fax Server for areas to use via the network on a Campus wide basis.

Centralized Word Processing Enhancements

Add Multimedia Capabilities to the Word processing Group's PC's. Enhancements would include acquisition of power plug-in software for MS Power Point for new service offerings to the WPC end users such as animations, 3d titles, music, and possible other graphics capabilities over time. These enhancements will improve the presentation capabilities of both Faculty and Staff and also benefit our student population.

Duplicating Center/ Word Processing Center Equipment Replacement Plan

Replace the existing Xerox 5690 analog Duplicating equipment located in AD132 Central Duplicating with digital Duplicating equipment. This equipment which is manufacturers discontinued, has been subject to various outages due to breakdowns, there is difficulty in obtaining spare parts, and is slow by today's standard in terms of scanning ability and pages per minute of output. Upgrade miscellaneous Duplicating Equipment not associated with the Technology plan. There are several other pieces of obsolete equipment located within duplicating that are not defined under categories within the Technology plan, but do require replacement in the next year. The equipment all falls into the area of being manufacturer discontinued and is required as direct support on the finishing side of many of the Duplication jobs. Replace Fax machine in Duplicating. The existing unit will need to be replaced with another unit under another lease or using capital, depending on business case.

Upgrade **Canon Color Copier** in Word Processing. The Canon copier lease will expire in December 2006. Although we will have options to buy it at fair market or continue to lease month to month, we will be looking at replacement color copiers with more functionality and speed.

Replace the Xerox WCP Pro 90 in Duplicating. The existing copier lease will expire in August 2009 and will need to be replaced with another unit under another lease or using capital, depending on business case. Replace the Xerox WCP Pro 65 in Duplicating. The existing copier lease will expire in August 2009 and will need to be replaced with another unit under another lease or using capital, depending on business case.

Strategic Initiative Chart

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Network					
	Network Bandwidth Increase (all locations)	Network Bandwidth Increase (all locations)	Network Bandwidth Increase (all locations)	Network Bandwidth Increase (all locations)	Network Bandwidth Increase (all locations)
	Continue to build out wireless network access points	Continue to build out wireless network access points	Continue to build out wireless network access points	Continue to build out wireless network access points	Continue to build out wireless network access points
	Wide Area Network conversion from ATM to Ethernet				
		Schnecksville LAN Network Redesign			
		Network bandwidth monitoring system			
Data Center					
	Data Center Initiatives	Data Center Initiatives	Data Center Initiatives	Data Center Initiatives	Data Center Initiatives
	Novell server retirements				
	Active Directory domain rollout (all major locations)				
	Implementation of demilitarized zone (DMZ) for selected servers				
		Instructional Technology equipment management system			
		Student Logon ID implementation			
		Printing/paper management system			

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
		Staff/faculty EMAIL system upgrade/migration			
		Library System Server Replacement			Library System Server Replacement
Equipment Acquisition	Annual PC, Server, Network HW, Copy machine & Fax machine Equipment Lease Refresh	Annual PC, Server, Network HW, Copy machine & Fax machine Equipment Lease Refresh	Annual PC, Server, Network HW, Copy machine & Fax machine Equipment Lease Refresh	Annual PC, Server, Network HW, Copy machine & Fax machine Equipment Lease Refresh	Annual PC, Server, Network HW, Copy machine & Fax machine Equipment Lease Refresh
	Duplication Center Equipment Replacement				
Technology Rooms & Instructional Support	New Tech Rooms installed	New Tech Rooms installed	New Tech Rooms installed	New Tech Rooms installed	New Tech Rooms installed
	Existing Tech Rooms upgraded/refurbished	Existing Tech Rooms upgraded/refurbished	Existing Tech Rooms upgraded/refurbished	Existing Tech Rooms upgraded/refurbished	Existing Tech Rooms upgraded/refurbished
	Lesson capture and deployment equipment implementation	Lesson capture and deployment equipment implementation	Lesson capture and deployment equipment implementation	Lesson capture and deployment equipment implementation	Lesson capture and deployment equipment implementation
	Fowler Center Technology implementation projects	Fowler Center Technology implementation projects			
	Allied Health Tech rooms configuration				
	Additional Videoconferencing Equipment Installation				
		Videoconferencing Equipment Refresh/Replacement			

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Telecommunications		Centralized Testing Center (Schnecksville)			
	Telephone System Expansion (VOIP deployment)	Telephone System Expansion (VOIP deployment)	Telephone System Expansion (VOIP deployment)		
		Call Center implementation for Enrollment and Admissions			
Application Support			Messaging Conversion		
	Major Banner System Upgrade	Major Banner System Upgrade	Major Banner System Upgrade	Major Banner System Upgrade	Major Banner System Upgrade
	Banner System Server Replacement				Banner System Server Replacement
Software Acquisition	New Software Acquisitions	New Software Acquisitions	New Software Acquisitions	New Software Acquisitions	New Software Acquisitions
Virtual College Support	Virtual College Support Activities	Virtual College Support Activities	Virtual College Support Activities	Virtual College Support Activities	Virtual College Support Activities
		Instant Messaging implementation for the institution			
			Distance Learning CMS (WebCT) migration to ??? LCCC.EDU Website refresh??		

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Miscellaneous	Student Kiosk implementation for all locations				
	Allied Health equipment refresh	Allied Health equipment refresh	Allied Health equipment refresh		
	Additional Record Scanning & Storage Capability				
		Universal student swipe card/ID card implementation			
		Front desk scanning system for Fitness Center			
Major Projects		New Residence Hall Support Activities			
	Library/IT Relocation to former IU building	Library/IT Relocation to former IU building			
		Existing LRC Renovations/Classroom/Office Conversion			
Personnel	Additional Staffing (Plan Required)	Additional Staffing (Plan Required)	Additional Staffing (Plan Required)	Additional Staffing (Plan Required)	Additional Staffing (Plan Required)



Personnel/Staffing/Training

It is recognized that increases in staffing and funding rarely parallel the increase in demand for services. Adjustments to service offerings, skill sets, and priorities need to be made as needs emerge. Is the IT organization flexible enough to anticipate and respond effectively? Is the IT organization structured properly to maximize the existing resources to accomplish institutional goals? While we realize that the college can never match or compete with industry or the university level, the need to appropriately fund required IT staff and provide competitive salaries and benefits will be critical to the success of the department.

This version of the plan includes the following new positions:

1. Associate Dean of Distance Learning – this position would be funded in 2007-2008 and be responsible for managing/growing the Distance Learning and Virtual College functions within LCCC.
2. Instructional Technology Support Person (2) – this position would be funded in 2006-2007 and would provide additional support capabilities for the faculty and Distance Learning staff. Projected growth in this area would require another support person be hired in the 2008-2009 time frame.
3. Help Desk Staff – Current workload requires the addition of a second full time Help Desk person for the afternoon and evening shifts. This position would be funded in 2006-2007 (optimal) or 2007-2008.
4. Northern Tier Technical Support person – this position would be responsible for carrying out all tech support functions at the LCCC Morgan and Carbon sites as well as assisting with projects at Donley and Schnecksville. This position would be funded in 2006-2007 (optimal) or 2007-2008.
5. Evening/Weekend Technical Support Person – this position would provide technical support in all areas on the Schnecksville campus for evening classes and weekend events. This position would be funded in 2007-2008.
6. Email Administrator – this position would manage the LCCC Administrative Email environment as well as the Student Email

environment. This individual would be primarily responsible for ensuring that directory information is accurate and also developing mass mailing techniques for departments within the institution. This position would be funded in 2006-2007 (optimal) or 2007-2008.

With the growth of technology used in the office and classroom, staff and faculty requirements for technology training are addressed through a number of different initiatives. LCCC employee policy allows staff and faculty to take credit and non –credit college offerings on a tuition-free basis. The departments of distance learning and instructional technology as well as the Teaching/Learning Center also provide many opportunities during the semester for all staff to partake in technology training sessions. The FIT is available for all to use with guidance provided and before each semester, we offer all faculty a chance to be trained on the latest technology in the classroom. Funds in divisional budgets for travel and conferences and the College-Wide development funds are available.

It is recommended that supplemental funding for initiative specific training be provided by the institution on a request and as required basis.

Contingency Planning and Disaster Recovery

Disaster planning is essential for any institution to provide the best possible protection for its assets. Disaster planning should not take place in a vacuum and involves more than just the areas covered in IT. To work effectively, it must be integrated into the routine procedures of the college. The plan needs to address all types of emergencies and disasters that the college is likely to face. It should include plans for both immediate response and long-term salvage and recovery efforts. The plan should also acknowledge that normal services may be disrupted. How will we proceed if there is no electrical power, no water, no telephone and no classrooms? A disaster plan must be considered a living document and periodically reviewed. It is highly recommended that the college convene a committee to examine its current state of disaster readiness and provide an updated checklist of assets and priorities to safeguard our future operations.

Plan Funding Methodology

How does the institution currently fund technology related initiatives?

Funding for Capital comes from borrowing of funds, State Mandated capital funding, State Non-Mandated capital funding, Sponsor School District capital funding, capital fees, technology fees, gifts, grants, non-credit surplus, operating funds designated for capital and deferred maintenance funding.

When funds are borrowed for a capital project the borrowed funds provide the funding for the project. The State mandated funding and the Sponsor school district funding helps pay for the debts service on the borrowing. The state and school district funding must be first approved by the entities in order to fund the debt service. Other sources of debt service funding when the State and Sponsor funds do not cover 100% fund the debt services are: the capital fee, technology fee, non-credit funds and operating funds designated for capital.

As mentioned above the State Non-Mandated funding and the Sponsor School District capital funding provide funding for the debt service on borrowed funds and also provide funding for space, technology and equipment leases. Generally, when approved, the state will fund 50% of a lease and the Sponsor 50%. The funding must be pre-approved. The Sponsor does not fund technology and equipment that is specifically utilized by students such as computer labs. Capital and technology fees fund these items.

Gifts, grants, State non-mandated funds, non-credit and operating funds designated as capital are all used to fund debt service and leases when funding gaps exist. These funds will also fund general capital projects and equipment purchases.

The deferred maintenance funding funds deferred maintenance projects identified annually by the college.

Cost projections and budget amounts depicted in the following “Plan Budget” are for planning purposes only. A more accurate cost level determination will be required prior to the implementation phase for each of the noted initiatives.

Plan Budget

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Network					
Network Bandwidth Increase	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Wireless Network Buildout	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500
Wide Area Network Equipment Conversion	\$75,000				
Schnecksville LAN Network Redesign		\$300,000			
Network Monitoring System		\$30,000			
Data Center					
Data Center Initiatives	\$15,000	\$50,000	\$15,000	\$15,000	\$15,000
Novell Server Retirements	\$5,000				
Active Directory Domain Rollout					
Enhanced Server Security (DMZ)	\$4,500				
Instructional Technology Equipment Mgmt. System		\$50,000		\$25,000	
Student Logon ID Implementation		\$25,000			
Printer/paper Management System		\$25,000		\$25,000	
Faculty/Staff EMAIL System upgrade/migration		\$25,000			
Library System Server Replacement		\$25,000			
Equipment Acquisition					
Equipment Lease Refresh					
Base Amount	\$1,150,500	\$1,150,500	\$1,150,500	\$1,150,500	\$1,150,500
Periodic Acquisitions					
Duplicating Center Equipment replacement	\$275,000				
Technology Rooms & Instructional Support					
New Tech Room Installations	\$260,000	\$260,000	\$260,000	\$200,000	\$200,000
Existing Tech Room Replacements/Upgrades	\$10,000	\$85,000	\$85,000	\$85,000	\$85,000
Lesson Capture and Deployment Implementation	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
Fowler Center Technology Implementation Projects	\$70,000	\$100,000	\$45,000		

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Allied Health Tech Room Configuration	\$60,000				
New VC Equipment Installation SH-143/144		\$175,000			
Existing LRC Renovations (Technology)		\$100,000			
Videoconferencing Equipment					
Refresh/Replacement		\$175,000			
Centralized Testing Center (Schnecksville)		\$30,000			
Telecommunications					
Telephone System Capacity Expansion/Upgrades	\$40,000	\$155,000	\$170,000		
Telephone Call Center Implementation			\$75,000		
Messaging Conversion (voice/email/pager/etc.)					
Application Support					
Annual Banner System Software Upgrade	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Banner Server Replacements	\$20,000	\$80,000			
Software Acquisition					
New Software/License Acquisitions	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Virtual College Support					
Virtual College Support Activities					
Instant Messaging Implementation		\$7,500			
Distance Learning CMS Upgrade			\$100,000		
LCCC.EDU Website Refresh/Upgrade					
Miscellaneous					
Student Kiosk Implementation	\$7,500				
Allied Health Area Equipment Replacements	\$7,500	\$30,000	\$30,000		
Additional Record Scanning & Storage Capability	\$12,000				
Universal Student ID/Swipe Card System		\$100,000			
Card Scanning System for Fitness Center		\$5,000			
Library System Software Upgrade		\$40,000			
Major Projects					
Library/IT Relocation to former IU Building	\$727,705	\$100,000			
New Residence Hall Support Activities		\$10,000			
Memberships					
TLT Group		\$2,265 yr.			
EDUCAUSE		\$1,730 yr.			

Strategic Initiative	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Personnel					
Additional Staffing (Plan Related)	\$225,000	\$210,000	\$60,000		
Yearly Total	\$3,067,205	\$3,449,495	\$2,093,000	\$1,603,000	\$1,553,000