INTRODUCTION

The Information Technology Tactical Plan derives from the Information Technology Strategic Plan Goals, the current technical environment, and the coming year budget appropriations.

The IT Strategic Plan 2003-2006 goals have largely been accomplished. A draft Information Technology Strategic Plan 2007-2011 is in the discovery and review process. The budget for the year is flat funded.

July, 2006 – June, 2007 Accomplishments

A review of the IT accomplishments for the previous year reveals major accomplishments in achieving strategic goals. In fact, the strategic goals of the 2003-2006 IT Strategic Plan have largely been met, offering further incentive to complete as soon as possible the IT Strategic Plan 2007-2011.

The major IT tactical goals and accomplishments of 2006-2007 were the following:

1. Expand and integrate the main campus network by successfully integrating the new Lyndon P. Lorusso Applied Technology building network operations center (NOC).
   The integration of the Lyndon P. Lorusso Applied Technology Building network operations center (NOC) was completed during the summer of 2006.
2. Migrate all IT personnel to the Lorusso building from the Library and improve organization cohesiveness.
   The migration of IT personnel from the library to new offices in the Lorusso building was completed in the summer of 2006. The reorganization to the Core Services, Client Services, and Information Services Teams has improved morale and increased team cohesion markedly from the previous year.
3. Expand campus Internet bandwidth for the short and long term.
   Internet bandwidth was increased significantly by adding two business class modems with 8mbps speeds to the network. The upgrade of the residential 3mbps modem to business class further expanded overall bandwidth available to the main campus. The addition of a Fatpipe WARP appliance added flexibility and failover capabilities. The main campus now has nearly 30mbps available versus 3mpbs in the previous year. This 10x improvement has had a great positive impact. Further bandwidth is needed, particularly for upstream.
4. Stabilize the Jenzabar student information system and raise user confidence levels to 95% range.
   The Jenzabar system has undergone a complete transformation in perception and performance over the past year. The system is responsive
and reliable. Issues of performance, such as freezing during critical operating periods have been eliminated with the transition to a more robust server and dogged determination to address each and every identified and described issue. The outstanding performance of the OPS Committee was critical to this effort. The College Systems Development Director is now viewed within the Jenzabar community as a leader, having formed a Regional Users Group and participated in Jenzabar 2.6 beta release. User perception of Jenzabar has been completely transformed. The system is now being used to exploit information for improved service and efficiencies. Major priorities that are now being implemented are Learning Communities, paired and hybrid courses in campus web, and general population immunization requirement holds. We are no longer complaining about Jenzabar – we are exploiting it!

5. Implement a web portal.
The Liferay web portal was implemented during FY 2006-2007. A web developer was hired in the summer of 2006. A Web Presence Policy was written and a Web Presence Committee was formed to establish policies and procedures for the web portal. The web portal was officially launched as the new college web site in May 2007. This change was an enormous undertaking. The coming year will offer great opportunity for implementing the full capabilities of the portal. The hosting contract for the old web site was cancelled, saving approximately $2000 per year.

6. Implement and optimize online functionality for student application, registration, and bill payment.
Online registration through Campus Web is now the norm. Ever increasing numbers of students are using FACTS for online payment of bills. Online Application will be a reality for the Fall Semester. Significant savings accrue to the Registrar, Business Office and Admissions as a result of these implementations.

7. Migrate away from legacy applications, reduce conflicting information, and move towards a single point of entry authoritative information system.
Major steps were taken to reduce confusion and conflict in the information the College disseminates. The consolidation of many disparate and uncontrolled web sites and domains under the web portal umbrella has made a significant impact in delivering a single message to the community. Taking down several web pages that reported incorrect and conflicting data was also accomplished. Implementation of the HR module in Jenzabar is underway. Eventually, this will completely obviate the need for 4Clink. An additional benefit of moving toward an authoritative information system is the impact on analysis and reporting by Institutional Research.

8. Expand the computer inventory and migrate toward a 100% lease model.
The computer inventory has expanded to over 859 desktop and laptop computers. Over 80% of the inventory is now leased. The extension of lease periods from 3 years to five years for desktops has permitted
expansion of the inventory without additional cost and equalized the number of exchanges that occur from year to year.

9. Modernize the campus network and complete wireless access implementation.
   The upgrade of the campus fiber network to 50 micron, the upgrade of the active component to all new CISCO equipment, and the expansion of the wireless network to all segments of the campus has made the campus LAN top rate.

10. Integrate the Hyannis location more fully with the main campus.
    The Hyannis campus was further integrated with the Main campus by the installation of a point-to-point T1 for data exchange. In addition, a business class cable modem was installed to provide 8Mbps service. These two changes have provided much better performance. The cost of these two components is approximately ½ the cost previously incurred for a single T1 procured through the state ITS system at $12,000 per year.

11. Implement streaming media (audio and video) technologies.
    Streaming video and audio were implemented through a leased service for the nursing Taylor video series. This implementation addressed the low up bandwidth issues faced by the college by using a php function to identify the IP of origin and direct the client to either an on campus stream or off campus stream. Implementation of the new web server permitted the migration of all video streaming to College controlled resources and the cancellation of the leased service, saving approximately $2000 per year.

12. Implement print management control.
    The College fully implemented a print management control system. The savings from this action are estimated at $50K per year.

13. Improve information security.
    Improvements in information security included hardware, software, policy, and procedure. Installed CISCO CAS and Bradford Campus. Isolated VLAN structure to prevent public wireless network access to college network. Improved automated implementation of MS security patches using WSUS server. The successful implementation of the McAfee anti-spam software on our McAfee SCM3300 network appliance greatly improved SPAM capture and client satisfaction.

14. Implement server and storage models to gain efficiencies.
    Implemented VmWare ESX server, reducing the number of physical servers while at the same time providing specialized servers and applications to run in their own dedicated virtual machine, allowing for better management and fault tolerance.

15. Transition from a mobile, cart based presentation model to a fixed model.
    The College continues to create fixed presentation capability in classrooms. In addition to the new Lorusso Building additions, nine rooms were renovated to include ceiling mounted LCD projectors, podiums, network/internet connected computers, DVD/VCR combination in other locations during the summer of 2006. Summer 2007 will see an additional 7 presentation systems added. This will bring the total
Presentation/SMART inventory to 36. Thirty-six classrooms with this capability will provide additional scheduling flexibility. In addition, these systems and a management system that will be installed summer 2007 will provide more efficient management of the systems.

16. Conduct a complete review of IT personnel and organization and make recommendations for changes.
   A complete review of IT personnel and organization was conducted and a recommendation made to the College leadership to consolidate part time positions, add two staggered schedule repair technicians, one security manager, and one developer.

17. Conduct a complete review of campus security issues and make recommendations for changes.
   A complete review of campus security issues was conducted and recommendations were made to College leadership to implement a new phone system with E911, a public address system, network access control, security gates, LED sign, and an emergency notification system.

18. Continue to expand community relationships and establish the college as a leading voice in regional technology issues.
   The CIO is a board member of the Cape Cod Technology Council and is the President of the OpenCape Corporation, an initiative of major regional significance initiated by the College. CIO is an active member of the CONNECT CIO group.

19. Improve Blackboard performance and reliability.
   Terminated movement toward Blackboard Community Service as the portal for the College, and reverted Blackboard from the Enterprise edition to the Basic edition – saving Distance Learning several thousand dollars per year. Blackboard was moved to a new server when it was reverted. The system has had an unprecedented up time this year.

**TACTICAL PLAN SUMMARY – 2007-2008**

- Improve Information Security
- Improve Physical Security
- Implement web portal and Jenzabar solutions to improve services
- Improve infrastructure and inventory
- Further integrate technology and instruction
- Fully Integrate Hyannis with the Main Campus
- IT Support Program improvements
- IT Policies and Procedures
Tactical Plan Details

Activity 1—Improve Information Security

The security of College data from external and internal malicious activity is vital. Attacks on institutions to steal data are increasing. Criminals are looking to soft targets such as Universities and Colleges as primary targets. Our system requires significant investment in securing data.

Current Status: The hardware and software is in place to markedly improve our security, but we lack an expert dedicated to implementing the necessary techniques and policies and procedures need to be reviewed and inculcated in the culture of the College.

Plan Activity:

1. The College will create a Non-Unit Information Security Officer position. The Security Officer will, under the direction of the Technical Director, be responsible for the development and implementation of security policies, procedures, and guidelines supporting the College’s security framework and architecture. The emphasis of work in the initial year will be on security and vulnerability assessment, implementation of information security techniques and technologies, intrusion detection, and incident response. The Security Officer will perform auditing, documentation, reporting, and review of threats and vulnerabilities, to include executing remote and on-site vulnerability scans of data networks and computing devices using commercial vulnerability scanners.

2. A comprehensive Information Security Policy will be written, approved, and implemented.

3. Bradford Campus and CISCO CAS will be fully implemented.
Activity 2—Improve Physical Security

Current Status: Cape Cod Community College (CCCC) has inadequate physical security systems. The Campus requires a comprehensive upgrade of its access control system to buildings and rooms, and installation of an announcing system to broadcast common interest information during emergencies, a crisis monitoring video system, and a modern voice communication and notification system.

Plan Activity:

1. Implement E911 telephone service.
2. Implement a public address system with ten zones
3. Implement an emergency notification system
4. Implement a network access control and badging system
5. Implement a crisis monitoring video system
6. Implement a campus entry security gate with remote control
7. Implement an LED sign system for campus announcements
Activity 3—Implement web portal and Jenzabar solutions to improve services

The College implemented a web portal (Liferay) in 2007. The new College web site is the front end of this portal. The portal is envisioned as the future for access to information with user login and pass through authentication. The system will interface with the Jenzabar system for data access. Ultimately, applications and tools that will change the way in which we provide services - from people intensive solutions to on-line self-help system solutions, and create data analysis and mining tools to assess and improve performance will result from exploitation and integration of these systems.

Current Status:

The Jenzabar system is now operating at an acceptable level of performance. The web portal is in place. Full exploitation of these systems is not yet possible, primarily because of up bandwidth issues. The web portal server is hosted through a lease arrangement with GoDaddy. As it is not co-located we cannot fully integrate these two systems.

Plan Activity:

1. Implement the HR Module of Jenzabar
2. Prepare for a the replacement of Campus Web
3. Prepare to implement a dynamic web based course registration process for students that is linked to live databases, verifies prerequisites, and checks time conflicts.
4. Prepare for a faculty/staff/student information portal.
5. Implement Violations and Sanctions
6. Implement online admissions forms.
Activity 4 – Improve infrastructure and inventory

The College IT infrastructure and computer inventory must always be renewed and refreshed. For the coming year the focus will be on continuing the conversion of older owned computers to leased status in an orderly and manageable fashion and implementing modern inventory control practices.

Current Status: Currently, the College has 859 computers in its inventory. Over 80% of the inventory is leased. The value of the leased inventory is approximately $1M.

The College currently uses FAS for fixed asset inventory, and spreadsheets for leased asset inventory.

Plan Activity:

1. The inventory is growing slightly each year and moving quickly toward 100% leased inventory. 100% of the inventory will be leased in 2009-2010. The inventory is expected to peak at approximately 900 in the summer of 2009.

Because the College has adopted a strategy to trade lifecycle for inventory there is no additional cost to the expanded inventory. Approximately 355 units leased for 36 months will be replaced with approximately 475 units leased for 60 months over the next three years. In Summer 2007 80 desktops will be replaced with 8 notebooks and 115 desktops.

Cycle lease end equipment according to contract requirements and continue the transition of owned equipment to leased contracts.

Alter the lease return schedule with Dell to make the cycle more manageable over the next two years. Currently nearly 275 units are scheduled for cycling in 2008. This should be divided so that a manageable amount are returned in 2008 and 2009.

2. Implement Jenzabar Fixed Assets to monitor owned equipment over $500 value.

3. Implement Altiris Inventory to monitor the active computer inventory.

4. Increase Internet Bandwidth both down and up to meet the needs of the campus by continuing involvement in the OpenCape project.

5. Prepare a data storage and backup program that assures the best balance of capabilities, sustainability, reliability and recovery from disasters.
Activity 5—Further integrate technology and instruction

Integrate technology and instruction to provide the most effective learning environments to include optimum instructional spaces, and learning environments that are not dependent on the classroom or schedules, thus permitting students to participate in on demand learning at any time of the day or night and in the place of their choice.

Current Status:

The College is making tremendous strides to improve the classroom environments. The addition of the Lorusso Applied Technology Center and the conversion of nine classrooms to Presentation capability in Summer 2006 improved the environment tremendously. Online learning continues to expand in number of available courses and in the types of technologies that are being used. For example, podcasting and streaming are becoming common place.

Plan Activity:

1. Continue to expand the number of technology-enabled classrooms of sufficient quantity and capability to meet the needs of faculty and provide flexibility of scheduling. Provide the proper mix of display, SMART, and automated audio/video capture systems. Create E-portfolio capability through portal system to include storage and presentation to specific viewer capabilities. Specific goals in 2007-2008 are to convert 7 classrooms in summer and one in winter.

2. Continue to expand streaming related services.
Activity 6—Fully Integrate Hyannis with the Main Campus

The Hyannis Office is an essential element of the College and must be fully integrated into the College service envelope.

Current Status:

In 2006-2007 the Hyannis Office underwent several upgrades. New switches and routers were installed. A Business Class Modem was installed for Internet access. A direct T1 to the Main Campus was installed for better data integration.

The Hyannis Office has an independent phone system.

Plan Activity:

1. Install a point-to-multipoint wireless Proxim Tsunami system to connect the two locations.

2. Integrate the phone and voice mail system at Hyannis with the Main Campus phone system using IP phone technology.

3. Further integrate the data network and provide Y drive user directories at Hyannis.
Activity 7—IT Support Program Improvements

An IT support program that is responsive to student, staff, and faculty needs is essential. It is dependent on proper staff organization, skill sets, and training, as well as a comprehensive knowledge base.

Plan Activity:

1. Implement changes in IT staffing numbers and skill sets that ensure the proper balance, to include skills needed, full-time/part-time, and union/non-union support staff numbers needed.

2. Provide ongoing professional development opportunities to IT staff.

3. Create a searchable knowledge base for use by Help Desk personnel.
Activity 8—IT Policies and Procedures

Creation, maintenance, and communication of information technology policies, standards, guidelines and plans is an important role in the IT Department.

Current Status:

Several policies and procedures have been written and updated by the IT Department.

Plan Activity:

1. Create a list of all necessary policies, guidelines, and plans.
2. Create any needed policies or plans in 2007-2008.
3. Conduct a formal review of all policies and plans annually.