

# EICCD Technology Master Plan



## Eastern Iowa Community College District

11-28-2007

## **2007 EICCD Technology Master Plan Table of Contents**

1. Executive Summary.....	3
2. Introduction.....	5
3. History of IT Services at EICCD.....	7
4. The NCHEMS Information Technology Review .....	9
5. Technology Council .....	10
6. Interactive Technologies Group (ITG) Analysis.....	17
7. Implementing Plans for Technology Initiatives at EICCD .....	20
8. <i>Appendices</i>	
a. Dictionary of Technical Terms	
b. Committee memberships	
c. Compilation – Emerging Technology Trends	
d. Infrastructure Sub Committee Detail	
e. End User Sub Committee Detail	
f. District Mission and Functional Areas	
g. IT Infrastructure Library (ITIL): Overview and Benefits	
9. <i>Listing of Tables</i>	
a. Table 1 – EICCD Technology Transformation Timeline.....	8
b. Table 2 – NCHEMS Information Technology Review Recommendations .....	10
c. Table 3 – Categories of Technology Planning .....	12
d. Table 4 – Recommended Technology-based Initiatives ..	21

## EXECUTIVE SUMMARY

During the past few years, the usage of instructional and information technologies has increased throughout the Eastern Iowa Community College District (EICCD) and globally. The emergence of the Internet, data, voice and video networks, enhanced enterprise resource planning (ERP) applications, more powerful PCs and databases and the use of social networking tools have allowed people to change their expectations of education. Higher education institutions, including EICCD, need to meet this change using technology as an enabler to enhance the product provided.

In order to effectively acquire, use, and maintain technology it must be aligned with the overall strategic planning efforts of the District. To help the District achieve its vision and to accomplish its mission, goals and objectives, the role of its information technology (IT) must be clearly defined and monitored. The organization, management security and support of technology also require a concise and comprehensive strategy that provides the necessary tools to meet the District's strategic vision in a fiscally balanced and secure progression.

The Technology Council was formed under the leadership of Dr. Tom Coley in 2006 and among its tasks this group had a primary assignment to develop a Technology Master Plan as the cornerstone of future technology enhancements, budgeting and operational planning for EICCD. The Council separated into two subgroups focused on: (1) infrastructure of the network and (2) end user tools and support. Throughout 2006 and into 2007 these groups worked many hours developing a comprehensive, living document that should speak to the technology needs for many years to come. An annual review of this document will be incorporated into the Council's tasks as it contains many wonderful ideas that will need to be masterfully coordinated to maximize the potential of District monetary investment and maximize the enhancement of the tools available for faculty as they seek to enhance their instructional delivery.

The findings of this study are focused in the following components:

- **Table 3 Categories of Technology Planning**
  - This table contains the specific Council Recommendations for possible future technology needs and the recommended acquisitions or corrections that might provide the appropriate technology tools for students and faculty.
  - Tools and processes are highlighted which could maximize the instructional benefits for students and faculty and efficiencies in District business functions
  - Recommendations to improve security, stability and dependability in the access and use of these technology tools
  - It is not imperative that each and every recommendation in this table be implemented but the focus should be placed on those items that will reach the most needs for students, faculty and staff providing the greatest enhancements to the delivered educational products.
  
- **Section: Interactive Technologies Group (ITG) Analysis**
  - ITG completed research and analysis with staff in all functional areas of the District which generally revealed a significant level of satisfaction with Datatel R17.

- This study also indicated that the EICCD team is progressing as expected from the initial stages of implementation into the managed stages shown in Figure 4.
  - Steps have been identified and included in the report to continue this progressive movement further into stages 3 and 4, Defined and Quantitatively Managed respectively.
- **Section: *Implementing Plans for Technology Initiatives at EICCD***
- Table 4 – Recommended Technology-based Initiatives identifies the current status of each item or area of use as estimated by the Technology Council – this table should be helpful as we prioritize the project progressions to accomplish technology improvements.
- **Conclusion:** There are a number of needs outlined in this document for specific technology enhancements. All of these enhancements must be capable of running stably and securely on the EICCD network. The network must also have the capacity to service these enhancements. The first steps recommended for realizing the goals and objectives outlined in this document are:
- Move forward with a network and infrastructure evaluation which would be followed by the prioritization of additional enhancements
  - Finalization of the implementation of Datatel R18
  - Finalization of the implementation of Campus Cruiser as well as its interface with Datatel R18.
- **Additional Recommendation:** ITS should develop a 5 Year Information Technology Operational Plan and Budget in conjunction with the strategic needs of the District to allow for better prioritization of projects to meet the strategic needs of the District and to provide improved fiscal analysis of the planned investments and improvements.

### Mission Statement

Eastern Iowa Community College District strives to provide accessible quality educational programs and services which anticipate and respond to personal and community needs and expectations. These efforts will reflect an active commitment to excellence, to lifelong learning and to cooperation with all segments of the community.

## Introduction

The Eastern Iowa Community College District consists of Clinton, Jackson, Muscatine and Scott Counties, and parts of Cedar and Louisa Counties. The district stretches along the Iowa side of the Mississippi River with Clinton Community College to the north, Muscatine Community College to the south, and Scott Community College in Bettendorf in the middle. The district boasted a fall enrollment of more than 7,000 students with approximately 4,000 enrolled in Associate in Arts / College Transfer programs and 3,000 enrolled in one of more than 40 career technology programs. The district registers more than 30,000 students each year in its business and industry, continuing education and adult education classes. These short-term classes are specifically designed to help individuals improve a job skill, upgrade general educational skills or pursue a topic of interest.

Chancellor Patricia Keir has noted that:

“Our community college district provides learning opportunities at a wide variety of sites and through a wide variety of programs. Whether you are seeking to enroll in college to transfer to a four-year college or university, to prepare for a new job or upgrade your skills in the job you hold, or to learn for the sake of learning, you will find a course or program that meets your needs. The Eastern Iowa Community College District with its three colleges (Clinton, Muscatine, and Scott,) its extensive adult education and non-credit programs, and its many workforce development programs for local business & industry is known for the exceptional quality of its teaching, its student-focused mission, and its exceptional service. Our mission is your success, and we go the extra mile to help you meet your goals.”

- *Dr. Pat Keir, Chancellor*

<http://www.eicc.edu/business/whoswho/chancellor/index.html> 6/20/07

To help accomplish the mission of the District, technology will be used to improve the students' comprehensive learning experience that is both student and learning-focused and is based on client-server and Internet technologies. The District's strategic plan supports and recognizes the need for additional focus and support of academic and administrative support technologies, including distance education and the incorporation of its needed administrative support infrastructures and applications

During the past few years, the usage of instructional and information technologies has increased throughout the Eastern Iowa Community College District. The emergence of the Internet, data, voice and video networks, enhanced enterprise resource planning (ERP) applications, more powerful PCs and databases have allowed people to change their expectations of education. Higher education institutions, including EICCD, need to meet this change using technology as an enabler to enhance the product provided.

In order to effectively acquire, use, and maintain technology it must be aligned with the overall strategic planning efforts of the district. To help the District to achieve its vision and to accomplish its mission, goals and objectives, the role of its information technology (IT) must be clearly defined and monitored. The organization, management and support of technology also require a concise and comprehensive strategy that provides the necessary tools to meet the District's strategic vision.

The Eastern Iowa Community College District (EICCD) Technology Master Plan is part of an ongoing and evolutionary process concurrently linking technology objectives and the evaluation of emerging technologies to the District strategic plan. Begun in 1990, The Campus Computing Survey, which cites annual participation from over 500 higher education institutions identifies the 2006 results "the continuing challenge of IT planning in American colleges and universities...73.4 percent report a campus strategic plan for information technology up from ...48.0 percent in 1998." (Green 2006, pg 11) The substantial increase in strategic technology plans reflects a consensus among higher education institutions on aligning technology with their broader educational missions. Likewise, the need for the IT plan to compliment the District strategic plan is paramount. This close relationship between IT and the non-IT organizational components and staff requires continuous attention for an institution to be "technology enabled."

The alignment of strategic planning, IT planning and budget planning is very important to ensure that the total outcome of products provided to students and faculty is both comprehensive and adequate in depth to successfully accomplish prescribed learning outcomes. Preparing EICCD students for the future is of primary importance to ensure the continuing marketability and success of not only EICCD but more importantly its students and the business community who will employ them. Judith Pirani noted in the July 2004 ECAR Roadmap article, Information Technology Alignment in Higher Education, the following:

- 76% of respondents identified IT alignment as a top reason to engage in strategic planning;
- 78% of respondents with IT plans said they explicitly link these plans to their institutional budget process; and
- institutions that produce an IT plan are more likely to include measures with their IT initiatives as well as publish performance expectations for existing IT services.

As noted above, the intent of this plan is to define a strategic direction for technology and a series of standards upon which the District and its Colleges will design, develop, and implement future information and instructional technology services in support of its teaching, administrative and community service activities. The written plan should contain recommendations for the most effective use of information and instructional technology to support the goals and needs of the entire institution.

## **History of IT Services at EICCD**

EICCD has had a computerized system for managing student data for over 30 years. The genesis of IT Services at Eastern Iowa Community College District, EICCD began in the mid 1970's when EICCD became a partner with Kirkwood Community College District to implement the Kirkwood Enterprise software for all of the EICCD Business, Human Resources and Student Systems functions within the district. At that point in time EICCD maintained a Data Processing Department that ran reports and wrote custom codes to modify the Kirkwood product to best meet the needs of the District. The EICCD Data Processing Department was housed on the Scott Community College and provided all data processing support services until the mid 1990's when they were relocated to the Kahl Educational Center.

In 1995 the EICCD IT Services underwent two strategic changes. The first change was the award of a five year Title III Grant to implement technology District-wide. This award allowed the District to build a district-wide network infrastructure with the intent of getting networked computing services on every employee's desktop as well as to enhance instructional services with the infusion of technology into the classroom. Secondly, EICCD made the decision to implement the Kirkwood Enterprise software in its newly formatted structure with all programming being handled by the Kirkwood Community College District programming staff. An intensive data conversion took place, moving all data warehousing and data management from EICCD to Kirkwood. The decision to move fully to the Kirkwood product was the foundation for the EICCD to join with six other community colleges in Iowa to form Alliance of Community Colleges for Electronic Sharing (ACCES) which is a consortium of community colleges directing computing services from the Kirkwood Campus.

In 2003 ACCES, now numbering nine community colleges in Illinois and Iowa made the decision to abandon the old Kirkwood Legacy enterprise software and implement the new Datatel Colleague enterprise software for all computing services. The Datatel implementation process began in the fall of 2003 with 99 percent of the baseline implementation being completed in the spring of 2006 -- approximately a thirty month implementation schedule. In 2003 EICCD made the decision to bring all data warehousing and data management back in house and to not depend upon Kirkwood Community College for further custom programming and data management. All existing data warehoused at Kirkwood Community College was converted back to be housed at EICCD as well as implementing the Datatel Colleague product for support of all key business functions.

Process analysis, workflow management and procedural improvements have long been the framework utilized in manufacturing and other profit agencies to ensure efficient and effective operations. Higher education has not been an environment with anything resembling these types of structural components except in some basic functions of the business and financial aid areas. These departmental functions were often the reason that an organization had a mainframe computer system in the 1970's and 1980's. In the 1990's higher education organizations of all sizes began to realize that there were too many federal and state regulations, and too many students. Also competition was beginning to loom and there was just too much paperwork to work manually with only

limited aid from a small mainframe system. The migration to the client-server environment and larger, more capable enterprise resource systems like Datatel became more widely adopted in higher education. EICCD has begun to mature the Datatel implementation and has identified a need to develop a more complete understanding of the system, its structure and the procedures needed to utilize it to its fullest.

**Table 1 - EICCD Technology Transformation Timeline**

<b>Year</b>	<b>Event</b>
1975	Joined Kirkwood Enterprise Consortium Version I
1985	EICCD Libraries joined Quad City Libraries Cooperation (QuadLINC)
1986	TIE (Microwave) Rooms Online for Distance Education
1993	First ICN Classroom Online at Scott CC
1994	Libraries Receive 3 Apple Computers for Students through Hardin Health Network – University of Iowa with cd-rom databases
1995	Awarded 5 Year Title III Grant for Technology
1995	Joined Kirkwood Enterprise Consortium Version II
1996	Internet introduced for first time in Kahl classroom
1997	EICCD Libraries Begin Using Digital Databases
1997	All Buildings Networked with CAT5 cable & Windows installed
1999	Scott CC Library Ceases Use of Paper Card Catalog
1999	ICCOC Online Consortium Created
2000	First Technology Enhanced Classroom – Clinton CC
2003	Joined ACCES and implemented Datatel Colleague
2005	Web Site Redesign
2006	First wireless installations
2007	Wireless available at all locations
2007	Libraries move to 3 <sup>rd</sup> Generation Catalog/Federated Searching with PrairieCat (former QuadLINC) and ICCOC
2007	Portal (Campus Cruiser) Implementation

Datatel, as the ERP system, is in its infancy and, following that metaphor, has just begun to crawl. It will require attention and intentional planned improvements if it is to mature into the powerhouse it is capable of becoming. A trained and effective staff for Datatel in all District offices will be able to provide good system management; comprehensive, accurate data; and a solid decision support system. This maturity needs to be achieved quickly. Training, procedures and processes need to be developed, written down, maintained and reviewed on a scheduled basis. This will ensure maximum working efficiencies and minimal frustration for students, faculty, and staff. In addition, the Datatel (ERP) systems require many other types of software, hardware and peripherals.

Today, with the pervasive nature of the Internet, and the various other streaming media resources, teaching can be greatly enhanced by wise use of readily available technology products. Real-time news events, video tours of famous locations, lectures by leaders in their fields of research, immediate access to source documents in digital formats are a few of the riches easily accessed. Previously, what scholars traveled the world to view, can now be provided to higher education students and faculty members – giving them nearly unlimited teaching resources. This wide array of materials and access points brings with it a variety of new skill requirements:

- 1) ability to understand the access methods,

- 2) scholarly evaluation of accuracy and relevancy of the materials,
- 3) management of legal use and minimizing plagiarism,
- 4) provision of support and training to encourage successful integration of these resources by faculty and students,
- 5) planning for resources to ensure access to the most needed and critical materials, and
- 6) maintain the required level of security to ensure the safety of both data and identities.

All these require attention and need to be fostered in an environment of “continuous learning.”

Many support staff and faculty are already taking the lead in the utilization of the newest technologies and show great energy in developing their expertise and knowledge of technology and its utilization in instruction. On the other hand, it is apparent that many members of the faculty are not able to take advantage of the latest technologies because it cannot be distributed widely enough or there is little formal training available for them. In an effort to begin to identify the needs of EICCD in this area, a three-prong approach was begun starting with an analysis by the National Center for Higher Education Management Systems (NCHEMS).

### ***The NCHEMS Information Technology Review***

In an effort to begin to develop the type of IT structure needed for the future in an informed and efficient manner, the National Center for Higher Education Management Systems (NCHEMS) was asked to review the systems at EICCD and provide a report and recommendations for the future. The January, 2006, NCHEMS Information Technology Review final analysis and report indicated that there was a need to pay attention to the following District-wide areas for future IT plans and operations in order to support a District-wide mission and strategic plan.

- 1) communication and information at all levels
- 2) training for clients and for technical staff
- 3) technology leadership and planning
- 4) information technology resources, including staff
- 5) technology support and customer services
- 6) instructional technology

The network infrastructure, while solid, is small when compared to other institutions in the State of Iowa and across the country. Additional capacity and redundant capabilities need to be integrated to improve an effective but sometimes overtaxed system. Redundancy and attention to a disaster recovery plan need to be priorities to insure that the District could continue to function in a crisis of man made origins or a natural disaster. The NCHEMS recommendations are noted in Table 2 which follows:

**Table 2 – NCHEMS Information Technology Review Recommendations  
January 27, 2006**

<b>Item</b>	<b>Description</b>	<b>Response</b>
1	Establishment of the Technology Council	Council established and actively meeting since March 2006
2	Enhancement of Help Desk	Help Desk staffed; added student intern in Spring 2007; problem tracking software and audit processes enhanced
3	Establishment of an IT intranet page – with status updates for various IT functionalities, identification of staff and their responsibilities and a collection of FAQs to assist staff in finding their own answers within this knowledgebase	Help Desk has established the IT Web Site (March 2007) and continues to improve information available.
4	Development of a Technology Master Plan	In progress by Technology Council (Spring 2007)
5	Enhancement of web communication capabilities with implementation of Campus Cruiser	Implementation in-progress for Fall 2007
6	Continued enhancement of familiarity with Datatel	Training, consultation and ITG Project are moving this objective forward
7	The network infrastructure is adequate but you need to consider splitting academic and administrative networks, replace aging servers, create “hot spare” equipment inventory; standardize; train – single points of failure avoidance	Hot spare equipment is in inventory; critical server replacements are in progress as warranted. Network evaluation and improvement planning process start is planned for Spring 2008
8	Demand for increased server capacity will continue, creation of retention policies and server lifecycle are important	Review in progress; some aging servers have been and are being replaced.
9	Review of staff training and human resources capacity should be reviewed	Adjustments are currently being made in both areas and an annual review is planned
10	Professional Development Centers need maintenance	New equipment has been purchased and installed
11	The Datatel administrative systems implementation appears to be going as well as could be expected	The maturation of the user teams and the technical staff continues to move forward; completion of the R18 conversion is slated for Sept. 2007
12	The current internal organizational structure for technology at EICCD is appropriate but there appear to be too many “single points of failure” throughout the organization	This is under review and some cross training and additional staff is underway
13	The increasing use of web technology is another infrastructure issue that will require additional attention in the near future. The report suggests differentiating between the web infrastructure tools and web content, and suggests come structuring for advisory committees in this area.	Recent hiring of Assistant Director of Web Services in IT will help to bring together the web presence supported by the partnership of Marketing and ITS
14	Develop table of lifecycles... “technology upgrades should be viewed as an operating expense rather than a capital item...”	This work is in progress today.
15	Develop a Taxonomy of Activities and Data Dictionary	A District team from all user areas is currently at work developing a Data Dictionary for the ERP system Datatel. This is also a component of the ITG project.

***Technology Council***

The EICCD Technology Council was reestablished in February of 2006. The Council membership includes campus-elected faculty representatives and selected functional area representatives from across the district, including the IT Department Director (see Appendix B for Membership List). The purpose of the Technology Council is to provide an advisory process and a collaborative framework related to the assessment,

prioritization, implementation, and resource allocation associated with technology at EICCD.

The Council combines efforts of faculty, staff, and administrators in order to identify goals and objectives that will allow the District to make efficient and effective use of technology in all areas of its operation. The role of the Council is to advise and recommend technology initiatives, resource needs and timelines for the use of technology in the teaching and learning process. Also, the Council will provide policy direction and monitoring for improved and increased access to information, as well as for enhanced and new services for students, faculty, and staff. The Council will also address the need for technology training for users and for adequate technical support service and resources. Educational or information technology is defined in the broadest possible terms (current and future) to include all voice, data, video, graphics/image or network technology that is used either for academic or administrative purposes.

### ***Technology Council Planning Process and Recommendations***

The first step in developing the strategic plan was to have the Technology Council brainstorm topics, issues, and opportunities for improvement for Information Technology Services district-wide. The Council utilized the NCHEMS recommendations as a basis for initial deliberations. The Council spent several meetings and many weeks compiling an all-encompassing list of topics, issues, and opportunities for improvement that would be the backbone of a strategic master plan.

The Council employed many different Continuous Quality Improvement (CQI) tools and processes to compile the list and then to begin to synthesize the list. The Council began the task of gleaning the best information gathered from the list for implementation into the Technology Master Plan. Upon completion of the gleaning process, it was determined that the items gathered fell into two distinct categories, (1) end user support and (2) infrastructure support. As such, the EICCD Technology Council membership broke into two functional teams, charged with the task of focusing on the topics listed in each of the two areas and for providing recommendations for strategies that will be included in the now named *EICCD Technology Master Plan*.

Once work had been completed by the individual teams, the studies and recommendations were combined into a "Draft" Technology Master Plan document for revision and editing, with the final "Draft" to be submitted to the EICCD Chancellor's Cabinet for review and approval. The Council's recommendations are summarized in Table 3. This table provides a broad, comprehensive list from which to begin systematically prioritizing the project areas that will begin to provide maximum benefits to the entire District. The prioritization goals would be:

- (1) increase efficiency and effectiveness of student support functions
- (2) increase the data/information readily available to assist in making informed and effective decisions to aid in enrollment, retention and graduation improvements
- (3) across all these projects to look for cost savings and fiscal efficiencies.

The Technology Council will be responsible for reviewing and evaluating the progress in implementing the plan, including recommending policy directions related to the use of technology, infrastructure investments and IT training and operational support.

**Table 3 – Categories of Technology Planning  
Technology Council, Spring 2007**

<b>Category</b>	<b>Title</b>	<b>Description</b>	<b>Council Recommendations</b>
1	<b><i>Business Processes and Technology Procedures (See Appendix D.)</i></b>	The process by which transactional business is accomplished in an organization is critical to the success of an organization. It is extremely important that transactions are completed accurately, consistently and efficiently across the organization to ensure good customer support, accurate data reporting and compliance with all appropriate legislation. In support of that the IT staff and infrastructure need to utilize consistent, efficient and effective procedures in an effort to establish a stable and predictable work environment for these business processes to be acted upon.	<ul style="list-style-type: none"> <li>a. Complete system migration from Datatel R-17 to R-18 with SQL database.</li> <li>b. Review, redesign and implement a new IT Disaster Recovery Plan to include data recovery, business and communication systems backup.</li> <li>c. Implement Workflow Management for selected automated Datatel business processes.</li> <li>d. Develop and implement ITIL procedures for selected IT services.</li> <li>e. Review, develop and implement Campus Cruiser as the primary student/campus portal for communication and course instructional support</li> <li>f. Review, refine and further integrate Wireless capabilities.</li> <li>g. Review, refine and further implement additional eBridge support service modules.</li> <li>h. Investigate eAdvising as a student retention tool and make recommendation for implementation.</li> <li>i. Investigate VOIP and make recommendations for implementation opportunities.</li> <li>j. Review, identify, and document key IT services processes and procedures.</li> </ul>
2	<b><i>Training and Support (See Appendix E. Initiatives A through E.)</i></b>	Improvement in technology training and support has been identified as a priority internally through formal group conversations with the Chancellor and the Vice-Chancellor for Information Technology Services and in the framework of consultant recommendations. Through the Technology Master Plan this milestone will address the ongoing attention to this identified need.	<ul style="list-style-type: none"> <li>a. At least 90% of employees will maintain records of their training at web site (longer term goal is all employees have all training records at web site)</li> <li>b. All new hires required to use web site to record training received</li> <li>c. At least 70% of EICCD training provided via asynchronous online training via the web site</li> <li>d. Web site includes policies and forms for departments/colleges to request unique training for their area for their employees</li> <li>e. At least 80% of departments have unique training available for their employees via this web site.</li> <li>f. IT Department provide comprehensive online orientation to technology for new employees</li> <li>g. All employee orientation is documented at Professional Development Council web site as part of employee's training record</li> <li>h. At least 70% of orientation is provided via asynchronous online training via the web site</li> <li>i. All employees are required to go through those general orientation materials available via web site</li> <li>j. At least 80% of departments have additional online orientation materials</li> </ul>

			<p>unique for their area.</p> <ul style="list-style-type: none"> <li>k. Increase hours of Help Desk to match normal work hours of faculty, staff, and students.</li> <li>l. Merge Help Desk and Technicians to better coordinate work flows and incident management<sup>1</sup></li> <li>m. Increase to at least 70% the reporting of incidents<sup>2</sup></li> <li>n. Reduce resolution time for incidents by at least 50%.</li> <li>o. Increase effective problem management<sup>3</sup> and thereby reducing the number of repeating incidents by at least 50%</li> <li>p. Status of incidents and problems made available to employees</li> <li>q. Provide on-going training to all Technicians and Help Desk staff so that each has requisite certifications for their work</li> <li>r. A Help Desk located on each campus.</li> <li>s. A three-tiered response system at the Help Desk with tiers being basic, intermediate, and advanced depending on the question</li> <li>t. Provide District-wide training for Campus Cruiser or equivalent campus portal system</li> <li>u. Development and posting of Datatel training standards and documentation</li> <li>v. Require Datatel training prior to receiving a Datatel login with at least 50% of the training available online</li> <li>w. Development of training courses for Datatel reporting tools with at least 50% of the training available online</li> <li>x. Training and orientation provided to employees for Microsoft Office, available network services, and Outlook</li> <li>y. Training and orientation for Datatel, portal system, Microsoft Office products, etc. recorded in employee's training record in Professional Development web site</li> <li>z. Online resources for Datatel, Microsoft Office, and the portal system</li> <li>aa. Expanded electronic storage capacity for staff and faculty</li> <li>bb. Policies, forms, and procedures of IT department made available at web site</li> <li>cc. FAQs for District technology issues made available to District employees</li> <li>dd. District supported hardware and software outlined at web site</li> <li>ee. Network and server status provided to employees at IT web site</li> <li>ff. Multimedia and instructional</li> </ul>
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<sup>1</sup> The definition of incident management is that used by ITIL – “to restore normal service operation as quickly as possible and to minimize the impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained.”

<sup>2</sup> The definition of incidents is that used by ITIL – “anything that disrupts normal service operations and impacts business operations.”

<sup>3</sup> The definition of problem management is that used by ITIL – “to resolve the root cause of incidents and thus to minimize the adverse impact of incidents and problems on business that are caused by errors within the IT infrastructure and to prevent recurrence of incidents related to these errors.”

			<p>technology resources available to District employees listed at site</p> <p>gg. Information to help employees avoid spyware, spam, and viruses on their computers</p> <p>hh. Explanation of basic computing "best practices" for District employees</p> <p>ii. Listing of IT support policies, hours of support, staff, and staff functions</p> <p>jj. Volunteer support groups and a skills catalog</p>
3	<b>ERP/Business Technology Initiatives</b>	<p>This stage of the project consists of managing our business data and the continued development of our ERP system, Datatel, into an all encompassing repository for student, financial, human resource and transactional data needed to complete business as an institution of higher education in Iowa and the United States. EICCD is currently in the second year of implementation and begun to master the basic Datatel system but it has become apparent that the implementation of some additional modules would be useful to improving the transactional and reporting processed of EICCD and its member Colleges.</p>	<p>a. Better management of the system</p> <p>b. The development of the beginnings of a dashboard system for quick views of data</p> <p>c. The implementation of ITIL practices into key IT services.</p> <p>d. The implementation of Datatel Colleague Advancement module.</p> <p>e. The implementation of the ITG data reporting solutions for improved data accessibility by end users.</p> <p>f. The continued development, integration and implementation Campus Cruiser/eBridge modules and products.</p> <p>g. The development and implementation of a strong ECommerce student and vendor platform which utilizes applications such as: (I.D., printing services, bookstore function, financial aid, payments on line)</p>
4	<b>Network Infrastructure, Security Telecommunications and Wireless</b>	<p>The technology infrastructure of EICCD consists of millions of miles of cabling, hundreds of phone devices, hundreds of internet/network ports through which millions of packets of data travel each day. This very busy informational network also contains devices needed for wireless connections, security, traffic management and protection from outside threats such as spam and virus transmissions. The goal of the Technology Master Plan will be to monitor this integrated, complex system of devices to ensure that EICCD manages an ongoing practice of reviewing all components on an established timetable and making replacements as needed.</p>	<p>a. Review, redesign and implement a new IT Disaster Recovery Plan to include data recovery, business and communication systems backup/redundancy (mirror hardware, software and data).</p> <p>b. Investigate and make recommendation for the amount of additional data storage capacity required to meet the EICCD growing needs.</p> <p>c. Investigate the need for and make a recommendation on a new SAN System.</p> <p>d. Investigate our current and continual server status and make recommendations regarding upgrades to support system.</p> <p>e. Investigate the need to upgrade/replace the RAID / Net on SANS</p> <p>f. Should EICCD choose to implement a VOIP system, it will require the replacement of the entire network to accommodate its implementation.</p> <p>g. Investigate the need for an automated desktop backup protocol and make a recommendation for its implementation.</p> <p>h. Investigate the need for Laptops with aircards and make recommendation</p>

			<ul style="list-style-type: none"> <li>i. Investigate the need for NAC-Network Access Control.</li> <li>j. Investigate the need for more secure login systems (Biometric login) and make recommendations regarding implementation.</li> <li>k. Investigate the need for new UPS systems supporting the network and make recommendations regarding implementation.</li> </ul>
5	<b>Student Access to Latest Technology</b> (See Appendix E, Initiatives A through B.)	Students expect that they will be able to manage their communications digitally through email and discussion capabilities. This generation is a “connected generation” utilizing web sites, cell phones and email as just a normal minute-to-minute tool and rarely are they separated from one another. The Technology Master Plan will seek to manage the balance between the student’s expectations to be connected and the capabilities of the various student systems to be connected through careful planning. This planning will need to take into consideration new technologies and the rates at which they are being adopted, security of district data and the identities that it contains and ensuring efficient use of funds available for this project.	<ul style="list-style-type: none"> <li>a. Adopt Campus Cruiser or similar portal system</li> <li>b. Provide students with web and storage space for class work</li> <li>c. Provide students with email address (including text messaging and other appropriate forms of communication) for improved faculty/staff communication with students.</li> <li>d. Extend the current student computer labs to match library hour</li> <li>e. Create student study centers that include this technology</li> <li>f. Provide or rent to students current handheld wireless devices</li> <li>g. Campus-wide wireless</li> <li>h. Make available digital cameras, audio equipment, video, etc. for student use</li> <li>i. Provide student support for the hardware and wireless technologies</li> <li>j. Online training materials for students to use hardware and software</li> <li>k. Web site for students to inform them about technology availability and resources as well as policies and procedures</li> </ul>
6	<b>Instructional Technology</b> (See Appendix E, Initiatives A through C.)	Instruction in today’s higher education institution has a variety of uses for technology including various forms of delivery, various types of documents and teaching materials and the continued expansion of these innovations into simulations and social computing products. Available and accessible support for faculty and a structured approach to professional development for faculty and support staff to ensure the maximized utilization of these developing tools to enhance instruction and bring forward measurable improvements in student learning is a well defined national imperative. The AQIP process and Higher Learning Commission as well as all	<ul style="list-style-type: none"> <li>a. Provide basic, intermediate, and advanced standards for technology in classrooms</li> <li>b. Establish clear guidelines for determining which classrooms and how many classrooms have either basic, intermediate, or advanced technology</li> <li>c. Deploy basic standardized instructional technology in all classrooms and intermediate and advanced based upon established guidelines</li> <li>d. Adjunct instructors be given full access to complete range of technology available for classrooms</li> <li>e. Full time and adjunct instructors receive or have available necessary information, training, and support for use of technology in classrooms</li> <li>f. Provide ongoing updating of this technology and the standards in and for the classrooms</li> <li>g. Integration of portal system with the various instructional technologies for classrooms, hybrids, and online</li> </ul>

		<p>higher education professional societies and organizations are clearly focused on the transitions that technology can bring to higher education and a desire to see measurable improvements.</p>	<p>classes.</p> <p>h. Availability for fulltime and adjunct faculty of their computer materials at anytime from any location</p> <p>i. Increase electronic storage capacity for instructors</p> <p>j. Provide electronic storage for students for their online class materials</p> <p>k. Implement wireless access to the entire district</p> <p>l. Provide (through the District Technology Development Center) instructional design services for faculty for online courses</p> <p>m. Full time and adjunct instructors receive or have available necessary information, training, and support for use of online technology for their teaching through the Development Center</p> <p>n. Creation of a District instructional technology development team and center</p> <p>o. EICCD will provide and rejuvenate, under the District Instructional Technology Development Center umbrella, individual campus instructional technology development centers (currently called the Professional Development Centers) to assist faculty, staff, and students.</p> <p>p. Provide research and development on new and existing technology; present them to faculty, staff and/or students for evaluation and/or implementation.</p> <p>q. Connect the newly created District Technology Development Center with the Campus Centers via IP videoconferencing, or other video, technology as well as other new communication technologies</p> <p>r. Provide live interactive training and information exchange among the centers.</p>
<p>7</p>	<p><b>Financial Planning and Considerations</b></p>	<p>The Technology Master Plan will be designed as a tool that can assist with identifying anticipated financial expenditures for technology a year or more in advance. In that manner, the schedules included will allow strategic IT decisions to be made more effectively, responsibly and be more sustainable upon implementation. One of the key pieces this planning process should assist with is identifying the appropriate placement in the technology adoption curve for devices and systems to ensure that EICCD is neither placed at risk by being too far in front or by being too slow to adopt or provide services. Placement is critical to</p>	<p>a. Develop proposed Technology Budget based upon strategic goals.</p> <p>b. Implementation of R-18.</p> <p>c. Implementation of reasonable hardware lifecycle plan.</p> <p>d. Implementation of a strong end user and IT Support Staff Training plan.</p> <p>e. Implementation of eCommerce related technology.</p> <ul style="list-style-type: none"> <li>• Campus Cruiser</li> <li>• eBridge/eAdvisor</li> <li>• Student ID's/Business Cards</li> <li>• On-Line Payments</li> <li>• On-line student application/registration.</li> </ul> <p>f. Implementation of Workflow Management.</p> <p>g. Implementation of reporting solution from ITG.</p> <p>h. Redesign and implementation of a Disaster Recovery Plan</p>

		<p>ensure that technology is a "value added" investment for EICCD. The implementation of a new ERP system has begun the process of refinement of reporting and budgetary processes. A continued focus and effort needs to be made by all constituent groups to ensure effective fund management and appropriate planning to ensure business continuity and disaster readiness.</p>	
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***Interactive Technologies Group (ITG) Analysis***

In January, 2007 an analysis was undertaken by a team from Interactive Technologies Group, Inc. (ITG). Their first objective was to review the district data reporting protocol for the Datatel ERP. ITG based its review on user satisfaction of the integration of the Datatel ERP system within the district's business processes and functional areas. The second objective was determining the degree of Datatel integration into the operational and reporting structure of EICCD. Through the progression of this project, several improvements were recommended and made.

1. Existing reporting was cataloged and analyzed for duplication and retirement
2. New web based reporting tool was developed and implemented which will aid in access to data, reports and provide a more easily managed repository.
3. Satisfaction with the new Datatel system was found to be higher than expected
4. Several single points of failure were completed as was identified in the NCHEMS report.

ITG also provided analysis of the development of the Datatel implementation and development of the team to support this system both in departmental (user) areas and in Information Technology Systems (administrative areas).

The "Tuckman Hypothesis" and Capability Maturity Model of team development from the formation of the team through the storming stage where a lot of brainstorming, process development and learning are completed is displayed in Figures 2-4. From the figures, ITG observed that district's experiences up to this point are equivalent to the period experienced following the implementation of a sizeable system. This churning and chaos eventually gives way to the identification of the appropriate processes and procedures which are implemented and utilized consistently. These steps bring with them a steady progression toward stability and normalization. Once these "normalized consistencies" are in use, the functional areas and groups, including the Technology Council, can begin to perform consistently and with greater efficiency and accuracy, which can lead to the development of performance enhancements. At this time, EICCD is beginning to move from the "storming" to the "norming" phase in an appropriate advancement for the installation of a new system and policy practices.



## Recommendations

- Development Sequence in Small Groups

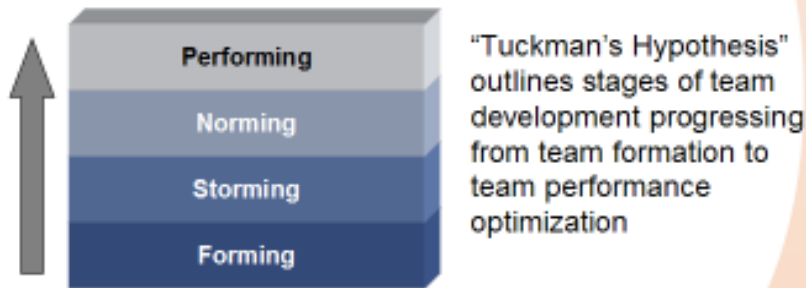


Figure 2 – ITG Presentation 5/30/07 – “Tuckman’s Hypothesis”

While this model begins to provide a picture of the progress and positioning that is currently being experienced by the District, to enhance the understanding of the current situation and the future, a second model was utilized. The “Capability Maturity Model (CMM)” was provided to understand the needed steps required to mature the management of the system as it moves from “forming to performing”.

So following the same stepping process from bottom to top, Figure 3 displays the steps involved in the Capability Maturity Model.



## Recommendations

- Capability Maturity Model (CMM)

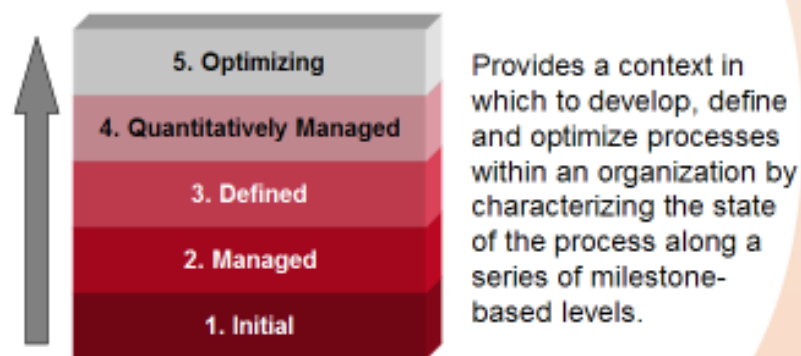


Figure 3 – ITG Presentation 5/30/07 – “Capability Maturity Model (CMM)”

At the lowest (1.) or initial stages, processes and procedures are virtually non-existent. If the implementation is attended to with consistency and management, continued refinement of procedures and processes develop, and these procedures are integrated into the day-to-day activities of the District and member Colleges and Departments.

With both of these concepts side-by-side the representation shown in Figure 4 presents itself visually:

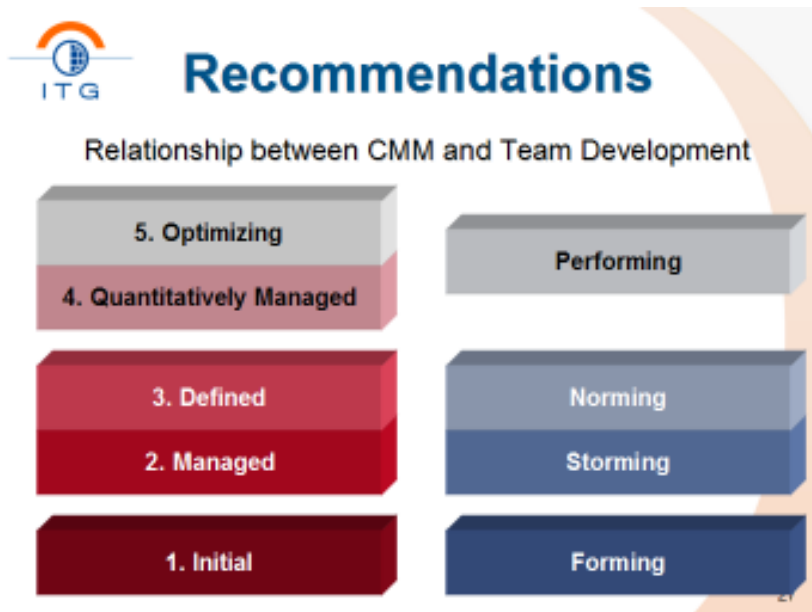


Figure 4 – ITG Presentation 5/30/07 – “Tuckman’s Hypothesis Enhanced with CMM Model”

The development of the District’s first technology master plan has brought a rich blend of local, national and District talent and knowledge to bear on the systems the District utilizes everyday. The hard work of these three teams has amassed a great deal of information that will be utilized to inform the operational plans for the Information Technology Services department and all of the District functional areas. Using the Tuckman Model analysis from the ITG report, EICCD is moving from “storming” to “norming” levels of IT development, planning and implementation. Although ITG focused on Datatel, their conclusion that District’s focus needs to be on consistent, comprehensive management of processes and procedures is applicable to all areas and phases of IT. Our immediate next steps must lead from a time of churning and chaos and gives way to consistency and stability. For example, ITG made the following recommendations for the District to stabilize their position at level 2 – Managed (Storming):

- **Internal Focus- IT Department**
  - **Systems Enhancement**
  - **Procedural Documentation**
  - **Enterprise Report Catalog (Level 2)**
    - **IT Department**
    - **All District Reports in one location**
    - **Reduces research on available reports**
    - **Regularly updated**
- **Organizational Focus- District**
  - **Communication Enhancement**
  - **Training (Procedural Definition)**
  - **Performance Measurement**

- **Optimization**

To continue the forward movement into level 3 – Defined, level 4 – Quantitatively Managed and level 5 – Optimizing, several activities will need to be attended to:

- **Table to Screen Data Mapping (Level 3)**
  - IT Department
  - All currently used fields mapped to data sources
  - Reduces research for developing new reports
  - Common terminology
- **District Communication Plan (Level 3)**
  - IT Council
  - Relative to Enterprise Management Systems
  - Identifies roles and responsibilities
  - Regularly updated
  - Electronically available
- **Training Programs (Levels 3-5)**
  - IT and Administrative Councils
  - Formal training for new employees
  - Ongoing training for existing employees
  - Incorporated into Individual Development Plans
- **Quality Control (Levels 4-5)**
  - IT and Administrative Councils and Institutional Effectiveness
  - Quality begins with the individual
  - Work measurement
  - Cost-benefit analysis for custom solutions
  - Establishment of Quality Metrics
- **Department Consolidation (Levels 4-5)**
  - Chancellor’s Cabinet and IT Council
  - Combine Report Development function with Institutional Effectiveness
  - Emphasizes relationship of reporting metrics to District Objectives
  - Streamlines communication-related indirect activity
  - Combines report development and report delivery responsibilities
- **Emphasizes distinction between MIS and IT**

## **Implementing Plans for Technology Initiatives at EICCD**

The District has a firm foundation upon which to build: strong leadership, good physical facilities, talented and dedicated employees, a strong reputation, and a good location.

Student accessibility to digital resources and the ability of faculty and staff to communicate with students in the digital social networks in which they reside and multi-task is critical for EICCD to be an effective developer of the millennial generation. Today there are few support resources or available digital tools for students. The implementation of a web-based portal and the addition of knowledgeable web-capable staff will be critical to efficient and effective use of this fast paced environment to provide communication and safety to the district’s students.

The District faces obstacles in strategic technology implementation if it continues to work within its current maturity levels. The District would be well served to attend to the current obstacles of technology implementation:

- (a) technology resources and support requirements, including client training are not considered early enough in District planning processes
- (b) the development of a “technology toolbox” that will effectively meet the diverse needs of the community college environment requires a dedicated team development approach to ensure that the toolbox meets as many district wide needs with as few tools as possible
- (c) an infusion of money and training will be required to replace the aging network infrastructure, while quite capable several years ago, today it is being overrun with required uses and based on the identified trends this need will continue to grow exponentially
- (d) there are not enough trained technical staff to keep up with the escalating demands for maintaining, documenting and upgrading existing technology, researching and integrating new initiatives and supporting infrastructure, applications and users effectively and efficiently.

The ultimate goal of the technology planning process is to reach a quantitatively managed optimal performance at all levels on the Council, the IT Department, and functional areas. In achieving this goal targeted initiatives must be achieved relative to the strategic plan of the District and the need for end-user, infrastructural changes and service delivery expectations. As a result of the NCHEMS, ITG and Technology Council observations and recommendations, the following initiatives are recommended for setting priorities for district policy direction, resource commitments and IT operations in order to move forward with technology as an effective administrative, instructional and service tool.

**Table 4 - Recommended Technology-based Initiatives**

<b>Training &amp; Support for End-Users</b>						
Initiatives below are not in ranked order.						
<b>NOTE: [Notation 1-2.a-i = Table 1, Category 2, items a-i]</b>	<b>O</b>	<b>O/P</b>	<b>I</b>	<b>P</b>	<b>P/F</b>	<b>F</b>
O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning						
<b>Support Users at their point of needs, wherever they may be physically located.</b>						
<b>Locations to which support will be delivered include:</b>						
A. The Library		<b>X</b>				
B. Student laboratories				<b>X</b>		
C. Classrooms				<b>X</b>		
D. Faculty and Staff Offices	<b>X</b>					
Make the Professional Development Council web site the focal point for employee development.						
A. At least 90% of employees will maintain records of their training at web site (longer term goal is all employees have all training records at web site)						<b>X</b>
B. All new hires required to use web site to record						

training received		X				
C. At least 70% of EICCD training provided via asynchronous online training via the web site		X				
D. Web site includes policies and forms for departments/colleges to request unique training for their area for their employees				X		
E. At least 80% of departments have unique training available for their employees via this web site.			X			
<b>Make the District Orientation web site, with a position-specific technology orientation component, the focal point for employee orientation and integrate orientation into the Professional Development web site.</b>						
F. IT Department provide comprehensive online orientation to technology for new employees						X
G. All employee orientation is documented at Professional Development Council web site as part of employee's training record						X
H. At least 70% of orientation is provided via asynchronous online training via the web site				X		
I. All employees are required to go through those general orientation materials available via web site		X				
J. At least 80% of departments have additional online orientation materials unique for their area.						X
<b>Added availability and increases in the responsiveness, timeliness, knowledge, and transparency of the Help Desk and the PC Technicians.</b>						
K. Increase hours of Help Desk to match normal work hours of faculty, staff, and students.			X			
L. Merge Help Desk and Technicians to better coordinate work flows and incident management <sup>4</sup>			X			
M. Increase to at least 70% the reporting of incidents <sup>5</sup>					X	
N. Reduce resolution time for incidents by at least 50%.					X	
O. Increase effective problem management <sup>6</sup> and thereby reducing the number of repeating incidents by at least 50%						X
P. Status of incidents and problems made available to employees						X
Q. Provide on-going training to all Technicians and Help Desk staff so that each has requisite certifications for their work						X
R. A Help Desk located on each campus.						X
S. A three-tiered response system at the Help Desk with tiers being basic, intermediate, and advanced depending on the question			X			
<b>District-wide technology training and orientation for employees</b>						
T. Provide District-wide training for Campus Cruiser or equivalent campus portal system					X	
U. Development and posting of Datatel training				X		

<sup>4</sup> The definition of incident management is that used by ITIL – “to restore normal service operation as quickly as possible and to minimize the impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained.”

<sup>5</sup> The definition of incidents is that used by ITIL – “anything that disrupts normal service operations and impacts business operations.”

<sup>6</sup> The definition of problem management is that used by ITIL – “to resolve the root cause of incidents and thus to minimize the adverse impact of incidents and problems on business that are caused by errors within the IT infrastructure and to prevent recurrence of incidents related to these errors.”

standards and documentation						
V. Require Datatel training prior to receiving a Datatel login with at least 50% of the training available online						X
W. Development of training courses for Datatel reporting tools with at least 50% of the training available online						X
X. Training and orientation provided to employees for Microsoft Office, available network services, and Outlook			X			
Y. Training and orientation for Datatel, portal system, Microsoft Office products, etc. recorded in employee's training record in Professional Development web site						X
Z. Online resources for Datatel, Microsoft Office, and the portal system					X	
AA. Expanded electronic storage capacity for staff and faculty						X
<b>IT web site</b>						
BB. Policies, forms, and procedures of IT department made available at web site			X			
CC. FAQs for District technology issues made available to District employees		X				
DD. District supported hardware and software outlined at web site		X				
EE. Network and server status provided to employees at IT web site			X			
FF. Multimedia and instructional technology resources available to District employees listed at site			X			
GG. Information to help employees avoid spyware, spam, and viruses on their computers		X				
HH. Explanation of basic computing "best practices" for District employees			X			
II. Listing of IT support policies, hours of support, staff, and staff functions	X					
JJ. Volunteer support groups and a skills catalog						X
<b>NOTE: [Notation 1-2.a-i = Table 1, Category 2, items a-i]</b>	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						
A. A description of the technology services available to each district constituency. [3-2.z-hh]			X			
<b>Field a support organization that responds quickly and effectively to problems at desktop, application and network levels. Provide extended and after-hours support to ensure that systems are available to users at all times and locations. Tools should include:</b>						
A. Feedback about user satisfaction		X				
B. Support resources that are shared among several academic departments [3-3.a]	X					
C. Support resources that are shared among the campus locations	X					
D. Support team meets regularly to share information/knowledge and work as a consistent, cohesive team in tackling all large projects	X					

<b>Student Access to Latest Technology</b>						
	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						
<b>Adopt Campus Cruiser or similar portal system</b>						
A. Adopt Campus Cruiser or similar portal system			X			
B. Provide students with web and storage space for class work			X			
C. Provide students with email address (including text messaging and other appropriate forms of communication) for improved faculty/staff communication with students.			X			
<b>Add wireless capability so students can access it and provide access to other low cost technologies for students.</b>						
D. Extend the current student computer labs to match library hours			X			
E. Create student study centers that includes wireless technology			X			
F. Provide or rent to students current handheld wireless devices						X
G. Campus-wide wireless					X	
H. Make available digital cameras, audio equipment, video, etc. for student use						X
I. Provide student support for the hardware and wireless technologies						X
J. Online training materials for students to use hardware and software						X
K. Web site for students to inform them about technology availability and resources as well as policies and procedures						X
L. Convene a representative group to develop a set of student technology competencies and implement a program for achieving them. These competencies will include: hardware, software and information-related skills. Special attention will be paid to the needs of students for whom English is not the first language						X
M. Expand the use of online learning to enrich gateway courses in a variety of majors, improving student success.						X
N. Enable students to create electronic portfolios, selective and purposeful collections of their work made available on the WWW. Electronic portfolios include varied media such as text, graphics, video, and sound, moving beyond the limits of paper. They will be used to document students' abilities and accomplishments, provide samples of their work, serve as a basis for discussions with faculty and advisors and assist in career-building. [3-5b-c]						X
O. Encourage the use of chat or communications software, remote control and video-conferencing tools to improve the accessibility of support resources delivered via the Internet. These tools will facilitate on-line student access to librarians, a variety of service staff and members of the faculty. [3-5.b-c]						X
P. Implement a campus-wide computing reservation and tracking system.		X				

	O	O/P	I	P	P/F	F
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<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						
A. Providing ready access to institutional data for external funding proposal and outcomes assessment purposes				X		
B. Providing high-speed network connectivity among local campus resources and external resources.						X
C. Providing pre-application planning and advisement for technology						X
D. Providing technical support for research and grant activities		X				
E. Work creatively with Human Resources, Information Technology Services and Academic IT environments to attract and retain highly qualified technical staff.		X				
F. Enhance and increase access to technology for all members of the College community.			X			
<b>Instructional Technology</b>						
	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						
<b>Deploy appropriate instructional technology in all classrooms throughout the district.</b>						
A. Provide basic, intermediate, and advanced standards for technology in classrooms		X				
B. Establish clear guidelines for determining which classrooms and how many classrooms have either basic, intermediate, or advanced technology						X
C. Deploy basic standardized instructional technology in all classrooms and intermediate and advanced based upon established guidelines						X
D. Adjunct instructors be given full access to complete range of technology available for classrooms			X			
E. Full time and adjunct instructors receive or have available necessary information, training, and support for use of technology in classrooms			X			
F. Provide ongoing updating of this technology and the standards in and for the classrooms			X			
G. EICCD will incorporate technology into the overall design, planning, and construction of new classrooms and facilities.						X
<b>Full time and many adjunct faculty are capable of conducting an online, hybrid and/or web-enhanced course and can utilize the available instructional technologies for teaching.</b>						
H. Integration of portal system with the various instructional technologies for classrooms, hybrids, and online classes.					X	
I. Availability for fulltime and adjunct faculty of their computer materials at anytime from any location						X
J. Increase electronic storage capacity for instructors						X
K. Provide electronic storage for students for their online class materials						X
L. Implement wireless access to the entire district					X	
M. Provide (through the District Technology Development Center) instructional design services for faculty for online courses						X
N. Full time and adjunct instructors receive or have available necessary information, training, and support for use of online technology for their teaching through the Development Center						X

Establishment of an instructional technology development team.						
O.	Creation of a District instructional technology development team and center					X
P.	EICCD will provide and rejuvenate, under the District Instructional Technology Development Center umbrella, individual campus instructional technology development centers (currently called the Professional Development Centers) to assist faculty, staff, and students.					X
Q.	Provide research and development on new and existing technology; present them to faculty, staff and/or students for evaluation and/or implementation.					X
R.	Connect the newly created District Technology Development Center with the Campus Centers via IP videoconferencing, or other video, technology as well as other new communication technologies					X
S.	Provide live interactive training and information exchange among the centers.					X
<b>Technology Infrastructure, Tools, &amp; Access</b>						
<b>Provide students, faculty, and staff with the technology tools they need to carry out their work effectively. We will accomplish this goal by:</b>						
A.	Providing users with a standard suite of desktop software products, including a working MS-Windows environment, anti-virus protection, MS-Office or equivalent word processing tools, e-mail clients, and Web browsers [3-6]		X			
B.	Implement an equipment and infrastructure replacement plan, ensuring that computer equipment and software are replaced or upgraded on a rolling basis, following an affordable and practical multi-year plan. [3-4]				X	
C.	Employ technology tools and architectures that are reliable, improve cross-platform accessibility, facilitate Web access, reduce development cycles, and use a client-server paradigm. Examples include SQL back-end databases (client-server paradigm), Web accessibility for off campus access, and data collection, reporting and analytical tools			X		

	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						

**Implement a state-of-the-art network communications system that provides high-speed, ubiquitous, and secure access to shared resources from all campus locations, as well as appropriate off-campus sites.**

A. Installing a fiber-optic multi-gigabit district-wide backbone [3-4.f]						<b>X</b>
B. Providing Fast Ethernet desktop network access	<b>X</b>					
C. Upgrading wide-area Internet connectivity						<b>X</b>
D. Providing digital voice services via an on-campus PBX	<b>X</b>					
E. Implementing campus-wide digital media distribution		<b>X</b>				
F. Building redundancy and fault-tolerance into all aspects of campus-wide access facilities						<b>X</b>
G. Providing ubiquitous network access in all classrooms, labs, and offices with port level security to prevent unauthorized access [3-1.f]		<b>X</b>				
H. Implementing wireless networking in labs and public assembly spaces. [3-1.f]		<b>X</b>				
I. Evaluating IP telephony to enhance telephone access and service [3-1.i, 3-4.f]						<b>X</b>
J. Providing for alternate Internet access paths in case of primary line failure						<b>X</b>
K. Maintaining upgraded firewall and intruder detection systems to protect network resources from attack [3-4.i]		<b>X</b>				
L. Maintaining intelligent bandwidth control to assure baseline access paths for various types of Internet access	<b>X</b>					

**Consider disaster recovery, high-availability, and fault-tolerance factors when designing & implementing critical information technology resources.**

A. Evaluate and enhance security protocols in use on network [3-4.i-j]						<b>X</b>
B. Implementing redundant servers with load-balancing front-ends [3-4.e]						<b>X</b>
C. Investigate the feasibility of an information technology backup-recovery site [3-1.b, 3-4.a-e,g]						<b>X</b>

	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						

**Enhance and increase access to technology for all members of the College community**

A. Develop and implement a lifecycle planning process for hardware				<b>X</b>		
--	--	--	--	----------	--	--



and providing tools that can be used to test sites' accessibility		X				
<b>Administrative Systems</b>						
<b>Implement state-of-the-art administrative support systems that improve access to information for faculty, staff, and students. Similarly, leverage automation to improve service to the College's customers and to reduce costs</b>						
A. Datatel Migration R-18 [3-1.a, 3-7.b]]			X			
B. Improve Datatel processes [3-1.c]		X				
C. E-college Improvements	X					
D. Federal, State and Institutional Reporting	X					
E. IFAS Accounting (electronic purchasing and budgeting)						X
F. Wi-Max and Wireless Systems			X			
G. WebGrade (online grade collection system)						X
H. Admissions tracking [3-3.d]						X
I. Enhance e-commerce capabilities [3-3.g, 3-7.e]				X		
J. Alumni/fund-raising software						X
K. Archival image storage and retrieval		X				
L. Implement ITIL processes [3-1.c, 3-3.c]				X		

	O	O/P	I	P	P/F	F
<b>O=ongoing, service or project; O/P=ongoing, but needs planned improvement; I=in-progress; P=planned, active in near future; P/F=multiphase project; F=project is desired but not in detailed planning</b>						
<b>Implement information technology applications that facilitate and encourage students and staff to transact routine academic and administrative tasks online. This initiative is designed to improve services, reduce overhead, and cater to a time-constrained and mobile user population. Applications will or should include:</b>						
A. E-bridge (web interface to Datatel) [3.1-g]	X					
B. Campus Cruiser (portal) [3-1.e, 3-3.f,3-5.a]			X			
C. Web registration [3-7.e]	X					
D. Web transcripts/grades [3-7.e]				X		
E. Course scheduling system and room utilization reporting		X				
F. Faculty workload reporting online						X
G. Schedule of classes online	X					
H. Scholarship applications online						X
I. Admissions applications online [3-7.e]						X
J. Transcript Available Online (credit & noncredit)						X
K. Instructor's online roll book						X
L. Web credit card payments [3-7.e]		X				
M. Web degree progress checking [3-7.e]		X				
N. Online Counseling & Advising [3-1.h, 3-7.e]						X
O. Online Tutoring [3-7.e]						X
P. Implement electronic purchase orders system					X	
Q. Implement electronic budget system					X	
R. Implement electronic timecard and time management					X	

<b>Maintain databases or data warehouses of institutional data for planning, reporting, and analysis. Provide easy access to these resources for users through commonly manipulated data formats. Our tools include:</b>						
A. Complete Dashboard Manual Build & Maintenance [3-3.b]	X					
B. Develop Automated Information Dashboard						X
C. Datatel System Interface to Portal				X		
D. Datatel System to Financial Aid Databases				X		
E. Integrate Datatel System and Document Imaging System		X				

In terms of strategic policy development and planning relative to implementing the technology based initiatives, the Technology Council will seek to achieve three goals:

- (1) promote policy and practices for effective and efficient technology related usage in functional areas
- (2) use ITIL standards to support end user training for integrative application and service delivery improvements
- (3) meet the expectations of District constituent groups (i.e., students, faculty, staff, employers of students, transfer institutions and their program areas).

Information Technology Services, in consultation with the Technology Council and in support of implementing the master plan, will take the lead in applying ITIL practices at EICCD as they themselves begin to organize their processes and procedures to match ITIL standards. The continued development of the measurements that will allow us to answer the question: “How do we know when we get there?” can now be systematically approached. The ITG demonstration of a systematic move toward maturity and the NCHEMS report which focused on identifying service or capability gaps and closing them have provided a great foundation for the development of these baseline measures. This process will need to be attended to in the operational plans of the Information Technology Services group and functional area end users in the District. EICCD will need to continue to proactively focus on the allocation of resources for the continued maintenance and improvement of its use of technology by faculty, staff and students.

# Appendix A

## Definition of Terms

### **ERP**

An Information Technology term referring to a hardware or software system that serves all departments within an enterprise as a business data repository (Example: Datatel)

### **Hybrid Course**

This course format utilizes components of the Online Course and On-ground Course in a prescribed combination developed by the institution.

### **Internet**

The **Internet** is a worldwide, publicly accessible network of interconnected computer networks that transmit data by packet switching using the standard Internet Protocol (IP). It is a "network of networks" that consists of millions of smaller domestic, academic, business, and government networks, which together carry various information and services, such as electronic mail, online chat, file transfer, and the interlinked web pages and other documents of the world wide web.

### **Network**

is multiple computers connected together using a [telecommunication](#) system for the purpose of communicating and sharing resources.

### **Online Course**

This course utilizes the web for all classroom components. In an identified virtual space conversations develop, materials and grades are exchanged, group work is accomplished and class meetings take place.

### **On-ground course**

Course which meets in a classroom on a regular schedule and all work is presented and returned in this environment.

### **Portal**

A framework for integrating information, applications, and processes across organizational boundaries

### **Technology**

Any device utilized which has a computerized circuit board(s) within its components (examples: printers, copies, faxes, scanners, phones, digital medical readers, simulators, cameras, etc)

### **Web Enhanced Course**

Refers to an on-ground course which meets in a classroom, receiving most of the course materials via a web page download or link. This format may also involve digital delivery of documents or return of grades digitally.

## APPENDIX B

### COMMITTEE MEMBERSHIP

#### Technology Council

Jeff Armstrong	Muscatine Community College
Kirk Barkdoll	District
Alan Campbell	District
Patrick Cheak	Clinton Community College
Jim Clark	District
Thomas Coley (Chair)	Scott Community College President/District Vice Chancellor for Technology
Barb Cook	District
Roma Egger	(recording secretary – District)
Carol Hall	District
Sharon Hafner	Muscatine Community College
Cindy Hoogheem	Clinton Community College
Doug Kutzli	Scott Community College
Jim Liljequist	Muscatine Community College
Gary Olson	District
Kathy Paasch	Clinton Community College
Jeremy Pickard	Muscatine Community College
Curt Putman	Blong Technology Center
Alan Shaw	Scott Community College

## APPENDIX C

### Compilation – Emerging Technology Trends

#### *Emerging technology trends within Higher Education (Gartner Group, Zastrosky Sept 1, 2005)*

1. Converged personal device and campus network access, surge in use of mobile computing devices
2. Google Library Digitalization project
3. ID and access management systems
4. Web services for administrative applications
5. Learning Content Management
6. CRM (Customer Relationship Management) for higher education
7. E-portfolios
8. Internet2/Next-Generation Internet
9. Next generation library management systems
10. Sophisticated, integrated classroom technologies

#### *Current technology trends within Higher education (Gartner Group, Zastrosky Sept 1, 2005)*

1. 24 hour per day, 7 days per week service expectations
2. Ubiquitous web presence
3. E-learning repositories
4. IP Video for E-learning
5. Enterprise web portals
6. Course/Learning management systems capability

#### *EDUCAUSE Top 10 Information Technology issues for Higher Education (Dewey & Dubois, 15, 2005)*

1. Security and identity management
2. Funding IT
3. Administrative/ERP/Information systems
4. Disaster recovery and business continuity
5. Faculty development, support and training
6. Infrastructure (communications, networking and system support)
7. Strategic planning
8. Governance, organization and leadership
9. E-learning, distributed teaching and learning
10. Web systems and services

These trends are not as specific as the trends that Gartner supplied, however, the list clearly identifies the top 10 areas that technology needs to efficiently and effectively apply to provide stabilized business functionalities in higher education. All ten of these areas are being review and actively worked on by staff at EICCD.

*EDUCAUSE Top 10 Information Technology issues for Higher Education (EDUCAUSE Review May/June 2007)*

1. Funding IT
2. Security
3. Administrative/ERP/Information systems
4. Identity/Access Management
5. Disaster recovery and business continuity
6. Faculty development, support and training
7. Infrastructure
8. Strategic planning
9. Course/Learning Management Systems
10. Governance, Organization and Leadership for IT

*The Campus Computing Project (October 2007)*

Single Most Important IT Issues (percentages 2000-2007)

<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Instructional Integration of IT (40.5%)	Instructional Integration of IT (31.5%)	Instructional Integration of IT (24.1%)	Instructional Integration of IT (21.4%)	Network & Data Security (21.2%)	Network & Data Security (30.4%)	Network & Data Security (29.5%)	Network & Data Security (25.5%)
IT User Support (22.3%)	IT User Support (15.4%)	Upgrade or Replace ERP (18.8%)	Upgrade or Replace ERP (17.6%)	Instructional Integration of IT (18.5%)	Instructional Integration of IT (18.1%)	Instructional Integration of IT (17.3%)	Upgrade or Replace ERP (13.0%)
Financing IT (14.6%)	Upgrade or Replace ERP (12.6%)	Financing IT (15.1%)	Financing IT (16.1%)	Upgrade or Replace ERP (17.2%)	Upgrade or Replace ERP (15.9%)	Upgrade or Replace ERP (16.1%)	Hiring and/or Retaining IT Staff (12.3%)

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# APPENDIX D

## Infrastructure Sub Committee Detail

### Category 1 – Assessing Business Processes and Technology Procedures (INFRASTRUCTURE 4/15/07)

#### Overview

There are many different initiatives underway that has and is allowing the EICCD to assess its business processes and technology procedures, the first being the switch from the old Kirkwood mainframe computing system to the new Datatel enterprise system. As the Datatel product encompasses the key business areas of Student Systems, General Financials, and Human Resources all areas business processes were assessed and taken into consideration during the implementation and set up of the system.

Other such opportunities of assessing business processes and technology procedures include our current Technology Council initiative of developing an Technology Strategic Plan, the work that ITG is doing to identify key processes and data sets that will be needed to support those processes, and the numerous Chancellor's Initiatives regarding technology.

From a technology standpoint, some of the key opportunities to assess the different procedures include the work of the Infrastructure subcommittee to identify all of the different infrastructure components and establish procedures to maintain those components. The work of the different campus-based technology teams should assess individual college needs and establish procedures to assist them. The work of the District Technician Team is to establish set-up protocols and procedures as well as establish standard technology classroom setups.

#### Focus – Next Five Years (Milestones)

- Complete system migration from Datatel R-17 to R-18 with SQL database.  
(3,4,5,8)
- Review, redesign and implement a new IT Disaster Recovery Plan to include data recovery, business and communication systems backup.  
(2,4,7,8)
- Implement Workflow Management for selected automated Datatel business processes.  
(1,3,6,8)
- Develop and implement ITIL procedures for selected IT services.  
(1,3,6,8)
- Review, develop and implement Campus Cruiser as the primary student/campus portal for communication and course instructional support.  
(1,3,4,5,6,8)
- Review, refine and further integrate Wireless capabilities.  
(1,2,3,4,5,6,8)
- Review, refine and further implement additional eBridge support service modules.  
(1,2,3,4,5,6,8)

- Investigate eAdvising as a student retention tool and make recommendation for implementation.  
(1,2,3,4,5,6,8)
- Investigate VOIP and make recommendations for implementation opportunities.  
(1,6,8)
- Review, identify, and document key IT services processes and procedures.  
(2,4,7,8)

### Resource Requirements

- Fiscal resources for continued development
- End user training.
- Consulting services to assist in implementation and module development.
- Investment in hardware to keep pace with growing user needs.
- Additional human resources to meet end user and systems support and needs.

### Status - Policies, Procedures, Technical Standards, Documentation

EICCD currently has policies, procedures, technical standards and documentation for the following areas:

- Wireless Wi-Max Technology
- Laptop computer use.
- EICCD Internet Use.
- EICCD Computer use.
- WCD Use Policies.
- VPN use.
- Vendor Technology standards.
- Equipment purchase standards.
- Software standards
- Monitoring systems standards

### Potential Improvements, Expectations & Outcomes

- 1 Better communications throughout the organization. (Campus Cruiser)
- 2 Safe and secure network and available services.
- 3 More readily accessible data for end users.
- 4 Increased technology accessibility.
- 5 Increased student enrollment with better services.
- 6 Increased paperless processes.
- 7 Disaster recovery speed and effectiveness.
- 8 Streamlined more efficient processes.

## **Category 3 – ERP/Business Technology Initiatives (INFRASTRUCTURE 4/15/07)**

### Overview

EICCD is currently in the third year of the Datatel system implementation. This system is a comprehensive higher education focused ERP system. According to Gartner, “The strength of Datatel Colleague is in having one of the largest higher education customer bases and a long history of successful implementations in midsize institutions and

community college systems..” (Gartner, Magic Quadrant for Higher Education Administrative Suites)

Datatel is a user driven system whose success relies on the involvement of the users in all facets of its operation. This year will require the user management teams to mature their leadership from that of an implementation team focused on operational tasks into a management team. This natural step will allow the users to continue to enhance the ERP system with their native knowledge of processes and procedures in their specific areas of responsibilities. This should allow the system data to become more effective and informative for utilization in the District strategic planning and day-to-day operational decisions.

Some other technology initiatives that will help the EICCD become a more effective business include the implementation of the Campus Cruiser package, the work being done by ITG and the beginning stages of Workflow Management implementation. All of these initiatives will improve our ability to communicate with our clients either on-line or through data retrieval or automated business processes.

#### Focus – Next Five Years (Milestones)

Much of the reporting related to ERP systems and perhaps their greatest selling feature in the early years of 2000 and 2001 pointed to the increased capabilities to manage data more quickly and efficiently and to glean expert analysis at the push of a button.

“ERP products often cannot generate the reports the institutions needs. Many institutions have created data warehouses to solve their reporting and data query needs. ...This finding was important because it is also clear that many institutions invested in new enterprise systems believing that these major investments would not only enhance the processing of student, financial and HR transactions but would also vastly improve the quality and timeliness of information in these areas and render information in forms that would facilitate decision making. This disconnect between expectations and actualities colored much of the journalistic reporting on the ERP phenomenon...”  
(Kvavik and Katz, 2002, pg 5)

Initially, EICCD struggled with the use of the reporting tools available with Datatel and the new data structure they were unfamiliar with. Now beginning the third year of use, the structure of the data is becoming more solid and understood. This has allowed the movement of the Datatel User Teams to move toward:

1. better management of the system  
(1,2,3,4,5,6,7,8,9)
2. the development of the beginnings of a dashboard system for quick views of data  
(1,2,4,5,9)

Some additional milestone activities might include:

- The implementation of ITIL practices into key IT services.  
(2,7,9)
- The implementation of Datatel Colleague Advancement module.  
(2,4,5,7,9)
- The implementation of the ITG data reporting solutions for improved data accessibility by end users.

- (1,2,4,5,7,9)
- The continued development, integration and implementation Campus Cruiser/eBridge modules and products.  
(1,2,3,4,5,6,7,9)
- The development and implementation of a strong ECommerce student and vendor platform which utilizes applications such as: (I.D., printing services, bookstore function, financial aid, payments on line)  
(1,2,3,4,5,6,7,9)

### Resource Requirements

Datatel will require ongoing care and support. The IT staff has developed a core group of staff which support the various aspects of Datatel: reporting, security, programming, and database management. The installation of Datatel is currently a non-customized standard installation, in the future there will be enhancements needed to move forward with the use of digital documents in a variety of functionalities related to student records, Human Resources and Purchasing. As each of these additional or enhanced modules are added there will be costs incurred for support and consultation to ensure that EICCD realizes the total value of their investments.

Additional requirements might include:

- New hardware to support initiatives.
- End user/Student training.
- Additional system security measures for eCommerce.
- Equipment for student ID cards and card readers.
- Additional consulting to implement the different components.
- Purchase of the Colleague Advancement module.

### Status - Policies, Procedures, Technical Standards, Documentation

Datatel is a user driven system and to that end the Core Team and the various user teams will be encouraged to develop the following the next two years: (1) consistent data definitions, (2) shared/re-useable reporting, (3) documented and uniquely identified training materials and schedules and (4) security standards. The IT staff will assist with these processes as needed.

### Potential Improvements & Expectations

- 1 Automated processes will mean less double data entry.
- 2 Better communications throughout the organization. (Campus Cruiser)
- 3 Safe and secure network and available services.
- 4 More readily accessible data for end users.
- 5 Increased technology accessibility.
- 6 Increased student enrollment with better services.
- 7 Increased paperless processes.
- 8 Disaster recovery speed and effectiveness.
- 9 Streamlined more efficient processes

## **Category 4 – Network Infrastructure, Security Telecommunications and Wireless (INFRASTRUCTURE 4/15/07)**

### Overview

#### **Network Physical Infrastructure-**

The Network physical infrastructure has been in place at the various District sites for approximately 10 years. Over time it has been upgraded from 10Mbps hubs with 100Mbps uplinks to 100Mbps switches with 1Gbps uplinks and again with layer 3 switches at each LAN core. The LAN cable is mostly CAT5 UTP copper to the desktop. The uplinks from the IDFs to the MDF are multi-mode fiber optic cable. The edge switches are Nortel/BayStack 450, switches or switch stacks for the most part; there are a couple stacks of the newer Nortel 470 switches. At the LAN core, depending on the site, is a Nortel 8600 layer 3, switch or a Nortel 1424 layer 3, switch. The core switches also make up the WAN link with layer 3 Ethernet (VLANs) via the ICN, which is a fairly recent upgrade from routers and frame relay, which were also via the ICN. There is one site (CAC) linked with BayStack ASN routers and Qwest frame relay.

#### **Network Logical Infrastructure-**

Each Site consists of a class B private IP subnet. The class B is not subnetted, but the IPs are assigned into IP blocks depending on the class of user, i.e. staff, faculty, student. They are also assigned by type of equipment, i.e. network, servers, printers. This makes for easier host management, monitoring and control. Each site has a Domain Controller and backup for network functions of DHCP, DNS, WINS, and local login. DHCP is set up for static leasing and the IP's are assigned by the on-site tech.

#### **Internet Access-**

The data path to the Internet from the EICCD network is first through a WEB filter. The path then leads into a Cisco PIX firewall with another configured for fail-over. The PIX provides normal firewall security while also providing IP NAT services to the District's public IPs. There are two Cisco routers to the Internet, one is configured to the ICN as the main link and the other is to TNCII as a back up only. They are configured for BGP on the Internet with the District leased Autonomous System Number (ASN). DNS domain names for the District are leased from two different outside entities. SMTP traffic is re-directed from the Internet to a SPAM firewall before being sent to the Exchange server. Finally the District has a Cisco VPN concentrator for remote network access. Note- this is the only Cisco equipment on the EICCD network.

#### **Wireless Network-**

A wireless network has recently been installed providing access to the Internet for employees, students, and the public. It is a thin AP, central controller system from Aruba Networks. It is set up to provide hot spots only on the campuses. The APs along with the controller create tunnels through the existing wired network without giving access the wired network, but providing a data path directly to the Internet. The wireless system, via the controller, provides it own security and DHCP, DNS services separate from the District network. The data path to the Internet is past the web filter, so it is not filtered, but it is behind the firewall providing some protection.

#### **Future Plans-**

There are plans to re-engineer portions of the network, mainly at the District core. The District needs to divide the Class B subnet into smaller subnets and possibly create

VLANs to limit broadcasts and improve security. As it stands now the LANs are flat and the network is stable with good traffic flow with plenty of bandwidth. The District is looking into packet shaping and/or compression to make better use of the exiting bandwidth and also looking into additional security options, such as Intrusion Prevention. As stated before the majority of the cabling is CAT 5 and it may require an upgrade to be compatible with newer technologies, such as VOIP and possibly streaming video and audio. As technology changes and the requirements of the network change there will always be a need to upgrade.

#### **Misc. Network points of interest-**

SCC and KEC have an intercom system installed that uses Ethernet and PoE.

SCC has a security camera system of 44 cameras that uses Ethernet and PoE and the KEC Having one quoted.

State of Iowa Vocation Rehabilitation is using in-house copper and fiber at both SCC and MCC. They have their own ISP, routers, and firewalls.

The University of Iowa has a wireless system at the KEC. There two APs, one located in the 3<sup>rd</sup> floor closet and one in the 10<sup>th</sup> floor closet. They have their own ISP and router. On occasion they also require a patch to the Internet for one of the classrooms.

Work Force Development is located on the 7<sup>th</sup> and 9<sup>th</sup> floor of the KEC. Their network was installed and occasionally get calls for MACs. They are also on EICCD's phone system and depend on District support for that.

The insurance man in the store front is also on our network and phone system.

The ACT center, located at the BTC is on our network and is a major firewall configuration issue.

We have two users across the street at the New Ventures Building so we also have network and phone services located in that building.

#### **Network Management and Monitoring-**

HP OpenView Network Node Manager

Nortel Network's Optivity NMS

Optivity Switch Manager

Fluke's OptiVeiw Console

Fluke's Protocol Expert

PRTG Traffic Grapher

There are some District purchased networking tools, but the hand tools are privately owned.

#### **Focus – Next Five Years (Milestones)**

- Review, redesign and implement a new IT Disaster Recovery Plan to include data recovery, business and communication systems backup/redundancy (mirror hardware, software and data).  
(1,2,3,4)

- Investigate and make recommendation for the amount of additional data storage capacity required to meet the EICCD growing needs.  
(1,2,3,4)
- Investigate the need for and make a recommendation on a new SAN System.  
(1,2,3,4)
- Investigate our current and continual server status and make recommendations regarding upgrades to support system.  
(1,2,3,4)
- Investigate the need to upgrade/replace the RAID / Net on SANS  
(1,2,3,4)
- Should EICCD choose to implement a VOIP system, it will require the replacement of the entire network to accommodate its implementation.  
(1,2,3,4)
- Investigate the need for an automated desktop backup protocol and make a recommendation for its implementation.  
(2,3,4)
- Investigate the need for Laptops with aircards and make recommendation for their implementation.  
(1,2,3,4)
- Investigate the need for NAC-Network Access Control.  
(1,2,3,4)
- Investigate the need for more secure login systems (Biometric login) and make recommendations regarding implementation.  
(3,4)
- Investigate the need for new UPS systems supporting the network and make recommendations regarding implementation.  
(3,4)

Beyond the need for technology in the classroom and establishing fundamental competencies, information security is a high priority for the College. For the sixth year in a row, the *EDUCAUSE Current IT Issues Report* rates information system security as one of the top ten issues within Higher Education, moving from number three in 2005 to the number one issue in 2006 (Dewey & Dubois), Macomb College methodically addressing the security of the college's information systems and authentication management practices to protect the privacy of our students and staff. The college is also closely following federal information security legislation (such as CALEA) that may have a significant impact on security policy and require additional technology expenditures to fulfill law enforcement requirements.

### Resource Requirements

- End user training opportunities.
- File management training for end users.
- Additional HR to support improvements.
- IT Support personnel training.
- New equipment.
- New network cabling if VOIP becomes reality.
- New test equipment and protocols

## Status - Policies, Procedures, Technical Standards, Documentation

The EICCD network infrastructure has been very well documented with well developed policies and procedures. Documentation and policies includes:

- Vendor standards.
- Testing protocols.
- Network infrastructure documentation. (Inventories, network design, configuration documents, password documentation, District/College-wide maps and diagrams.)

## Potential Improvements & Expectations

- 1 Outside users/customers will be able to come on to our network.
- 2 True end user mobility and access.
- 3 Improved ability to maintain systems status (dependability, duplicity, redundancy, data recovery).
- 4 Improved security system.

## **Category 7 – Financial Planning and Considerations (INFRASTRUCTURE 4/15/07)**

### Overview

The EICCD Technology Services has maintained an operational budget for more than 25 years. The budget contains not only operational monies, but plant fund monies as well. Through the years the budget has been increased to help keep pace with the growth of the technology services offered. Unfortunately, with the increased support need brought about through the implementation of the Datatel product and the increased need to invest in the technology staff required to support the system and the end users, the budget demand need to improve our financial planning is evident.

Through the work of the District Technology Council, and the different end user and infrastructure strategic plans currently being refined, the IT Services should be better positioned to prepare a financial plan appropriate to allow the District to achieve its technology related strategic initiatives.

### Focus – Next Five Years (Milestones)

- Develop proposed Technology Budget based upon strategic goals.
- Implementation of R-18.
- Implementation of reasonable hardware lifecycle plan.
- Implementation of a strong end user and IT Support Staff Training plan.
- Implementation of eCommerce related technology.
  - Campus Cruiser
  - eBridge/eAdvisor
  - Student ID's/Business Cards
  - On-Line Payments
  - On-line student application/registration.
- Implementation of Workflow Management.
- Implementation of reporting solution from ITG.
- Redesign and implementation of a Disaster Recovery Plan

### Resource Requirements

- Training for end users and IT Support staff.
- Fiscal Resources.
- New hardware and software.
- Consulting services to implement modules.

### Status - Policies, Procedures, Technical Standards, Documentation

Other than existing District budget/business policies, procedures, technical standards and documentation, this area will have to be developed.

### Potential Improvements & Expectations

- Fiscal support to keep current with technology.
- Technology planning that will forecast needs.
- Better trained end users and IT Support staff.
- More productive staff.
- More efficient processes.

# APPENDIX E

## End User Sub Committee Detail

### Category 2 – Training and Support

When the current Chancellor, Dr. Pat Keir, joined EICCD she heard concerns which led her to design and complete “40 Days of Conversation” and in addition, Dr. Tom Coley, President of Scott Campus and Vice-Chancellor of Information Technology Services, implemented follow-up discussions when he joined the EICCD administrative team. Support and training were repeatedly noted as areas requiring improvement from attending faculty, staff and students. Based on these findings, the Technology Council made the following recommendations regarding training:

- 1) EICCD will assign the responsibility for monitoring and tracking technology training to the Human Resources Department
- 2) EICCD will implement a program of required, regular technical training for IT staff to maintain currency and effectiveness.
- 3) Any users of the multimedia classrooms or other enhanced technology classrooms will be required to receive appropriate training. EICCD will standardize these classrooms and develop detailed instructions for their operations.
- 4) Appropriate training for users of technology equipment is required before use.
- 5) EICCD will provide a District Development Center to assist faculty and staff... bring employees up-to-date on new and existing technologies ... and provide a facility to train-the-trainer.
- 6) EICCD will facilitate volunteer support groups and a skills catalog to help each other and the District Information Technology support staff.

While training is an important first step, accessibility to consistent, ongoing support is a pivotal requirement to ongoing success. EICCD has applied resources to the ongoing development of a Help Desk to assist faculty, students and staff with technology related needs. This support is provided Monday through Friday during the day by two District IT staff members.

- INITIATIVE A: Make the Professional Development Council web site the focal point for employee development.
  - 5 Year Goals:**
    - \* At least 90% of employees will maintain records of their training at web site (longer term goal is all employees have all training records at web site)
    - \* All new hires required to use web site to record training received
    - \* At least 70% of EICCD training provided via asynchronous online training via the web site
    - \* Web site includes policies and forms for departments/colleges to request unique training for their area for their employees
    - \* At least 80% of departments have unique training available for their employees via this web site
  - Current Resources:**
    - \* Current web site has gathered much of the needed information and policies for training

- \* Training materials are available for conversion to electronic form for online training
- \* Technology resources for creating online training (MediaSite, multimedia rooms, etc.) are readily available
- \* Administrative structure is in place for building and maintenance of web site

**Projected Resource Requirements:**

- \* Create database and web interface for employee training and orientation records
- \* Conversion of training materials to online delivery will require staff time and additional technology resources (server space, network bandwidth, etc.)
- \* Necessary equipment and software for screen and video capture and structuring of online course materials
- \* Policies and forms for colleges/departments to request or to provide unique online training for their area and make it part of the requirements
- \* Individual colleges/departments will need to provide materials for training for their unique needs

**Measurable Outcomes:**

- \* Employee training will be documented and verifiable (percent of individual training records available via web site)
- \* Information for employees will be readily accessible to them via the web site (reports for individuals available from database at the web site)
- \* Training will be transparent and expectations for employees clearly set (policy statements and requirements for training available at web site)
- \* Training will be customized to needs of individual departments (percent of individual departments contributing training materials for the web site)
- \* Statistical data on Professional Development Council web site usage

**Summary:**

The result of this initiative is a “one-stop shop” (i.e. web site) for training information and policies, for the training itself, and for tracking that information for individual employees and for the District as a whole.

- INITIATIVE B: Make the District Orientation web site, with a position-specific technology orientation component, the focal point for employee orientation and integrate orientation into the Professional Development web site.

**5 Year Goals:**

- \* IT Department provide comprehensive online orientation to technology for new employees
- \* All employee orientation is documented at Professional Development Council web site as part of employee’s training record
- \* At least 70% of orientation is provided via asynchronous online training via the web site
- \* All employees are required to go through those general orientation materials available via web site
- \* At least 80% of departments have additional online orientation materials unique for their area

**Current Resources:**

- \* Current web site has gathered much of the needed information and policies for orientation
- \* Orientation materials are available for conversion to electronic form for online training
- \* Technology resources for creating online orientation materials (MediaSite, multimedia rooms, etc.) are readily available
- \* Administrative structure is in place for orientation – the web component will need to be built into this existing structure

**Projected Resource Requirements:**

- \* Conversion of orientation materials to online delivery will require staff time and additional technology resources (server space, network bandwidth, etc.)
- \* Additional orientation materials from colleges/departments to be placed on web site
- \* Necessary equipment and software for screen and video capture and structuring of online course materials
- \* Policies and forms for colleges/departments to request or to provide unique online orientation for their area and make it part of the requirements

**Measurable Outcomes:**

- \* Orientation will be documented and verifiable (percent of individual training/orientation records available via Professional Development Council web site)

- \* Information for employees will be readily accessible to them via the Professional Development web site (reports for individuals available from database at the web site)
- \* Orientation will be transparent and expectations for employees clearly set (policy statements and requirements for orientation available at web site)
- \* Orientation will be customized to needs of individual departments (percent of individual departments contributing orientation materials for the web site)
- \* Measure student and (full time and adjunct) faculty satisfaction with classroom technology each semester
- \* Numbers of faculty (full time and adjunct) receiving training in use of technology classrooms and amount of training provided
- \* Number of courses and instructors receiving instructional support from the District and Campus Centers
- \* Number of interactive training sessions provided by the District and Campus Centers
- \* Usage statistics of the technology classrooms

**Summary:**

The result of this initiative is a “one-stop shop” (i.e. web site) for orientation information and policies, for the orientation itself, and for tracking that information for individual employees and for the District as a whole.

- **INITIATIVE C: Added availability and increases in the responsiveness, timeliness, knowledge, and transparency of the Help Desk and the PC Technicians.**

**5 Year Goals:**

- \* Increase hours of Help Desk to match normal work hours of faculty, staff, and students.
- \* Merge Help Desk and Technicians to better coordinate work flows and incident management<sup>7</sup>
- \* Increase to at least 70% the reporting of incidents<sup>8</sup>
- \* Reduce resolution time for incidents by at least 50%.
- \* Increase effective problem management<sup>9</sup> and thereby reducing the number of repeating incidents by at least 50%
- \* Status of incidents and problems made available to employees
- \* Provide on-going training to all Technicians and Help Desk staff so that each has requisite certifications for their work
- \* A Help Desk located on each campus.
- \* A three-tiered response system at the Help Desk with tiers being basic, intermediate, and advanced depending on the question

**Current Resources:**

- \* Currently there are four full-time techs and one half-time tech on the campuses and two at the Help Desk.
- \* Help Desk has Track-It software to record and monitor work orders (incidents) for the District

**Projected Resource Requirements:**

- \* Training for Help Desk staff and Technicians
- \* Additional Technicians and Help Desk staff to cover hours
- \* District-wide policies for reporting technology incidents
- \* Clearer IT work flow policies and procedures for handling incidents and problems
- \* Staffing and physical space for the Help Desk on the various campuses.

**Measurable Outcomes:**

- \* Greater availability of technical support (Number of hours per week Help Desk and Technicians are available)

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<sup>7</sup> The definition of incident management is that used by ITIL – “to restore normal service operation as quickly as possible and to minimize the impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained.”

<sup>8</sup> The definition of incidents is that used by ITIL – “anything that disrupts normal service operations and impacts business operations.”

<sup>9</sup> The definition of problem management is that used by ITIL – “to resolve the root cause of incidents and thus to minimize the adverse impact of incidents and problems on business that are caused by errors within the IT infrastructure and to prevent recurrence of incidents related to these errors.”

- \* Reduction in number and frequency of emergency and unplanned outages (measured by District-wide network or server outages)
- \* Reduction in number and frequency of workstation outages (measured by number of incidents and problems for workstations)
- \* Higher quality technician support (measured by certifications of Technicians and Help Desk staff)
- \* Greater awareness of employees of the status of their incidents (fewer requests for updates on status of work orders)
- \* Incidents and problems resolved more quickly (average time length to resolution of incidents and problems)
- \* More first-call closure of incidents by Help Desk (number of first-call closures)
- \* Numbers of calls taken by each Help Desk on the campuses (record of calls at each campus)
- \* Three-tiered Help Desk (number of calls at each tier of the Help Desk)

**Summary:**

In short, the goal here is to establish a professional Help Desk and Technical Support staff that respond rapidly to incidents and problems in a knowledgeable manner while keeping users well informed.

▪ **INITIATIVE D: District-wide technology training and orientation for employees**

**5 Year Goals:**

- \* Provide District-wide training for Campus Cruiser or equivalent campus portal system
- \* Development and posting of Datatel training standards and documentation
- \* Require Datatel training prior to receiving a Datatel login with at least 50% of the training available online
- \* Development of training courses for Datatel reporting tools with at least 50% of the training available online
- \* Training and orientation provided to employees for Microsoft Office, available network services, and Outlook
- \* Training and orientation for Datatel, portal system, Microsoft Office products, etc. recorded in employee's training record in Professional Development web site
- \* Online resources for Datatel, Microsoft Office, and the portal system
- \* Expanded electronic storage capacity for staff and faculty

**Current Resources:**

- \* Training materials already created for Datatel, Microsoft Office, portal system etc.
- \* Multimedia rooms, MediaSite, and other hardware and software items that can be used for creating training and orientation materials
- \* Experienced Datatel users to help create training and orientation materials
- \* Administrative structure is in place for Datatel training (Core group, etc.)
- \* Current electronic storage capacity on EICCD servers

**Projected Resource Requirements:**

- \* Development of database and employee interface for recording training from the Professional Development web site
- \* Necessary equipment and software for screen and video capture and structuring of online course materials
- \* Expertise in Datatel, student portal, and Microsoft Office to assist in the development of the training, documentation, and standards
- \* Purchase of appropriate online resources.
- \* Additional server and bandwidth to support staff and instructor storage space, email, and web work

**Measurable Outcomes:**

- \* Employee familiarity with Datatel, student portal, and Microsoft Office (percent of employees taking training as well as qualitative scores from that training)
- \* Courses that are online and available for employees (number of courses online for employees)
- \* Online resources available (number of online resources available)
- \* Electronic storage capacity per employee

**Summary:**

Datatel, the portal system, and Microsoft Office are key aspects to much of what EICCD does and so the purpose is to provide adequate, up-to-date training for those employees who need it.

- **INITIATIVE E: IT web site**

- **5 Year Goals:**

- ★ Policies, forms, and procedures of IT department made available at web site
    - ★ FAQs for District technology issues made available to District employees
    - ★ District supported hardware and software outlined at web site
    - ★ Network and server status provided to employees at IT web site
    - ★ Multimedia and instructional technology resources available to District employees listed at site
    - ★ Information to help employees avoid spyware, spam, and viruses on their computers
    - ★ Explanation of basic computing “best practices” for District employees
    - ★ Listing of IT support policies, hours of support, staff, and staff functions
    - ★ Volunteer support groups and a skills catalog

- **Current Resources:**

- ★ Current IT web site
    - ★ Current FAQs and information gathered at current IT web site
    - ★ Technology resources available at Professional Development site

- **Projected Resource Requirements:**

- ★ Additional server space and bandwidth
    - ★ Staffing to create and maintain web site

- **Measurable Outcomes:**

- ★ Use of the IT web site (measurement of unique visits to web site as well as survey of employee satisfaction with site)
    - ★ FAQs available to employees (total number of FAQs as well as their currency to deployed systems and software)
    - ★ Knowledge of employees concerning IT issues (measured through employee survey and by number of questions at Help Desk that could have been answered by visiting web site)

- **Summary:**

- The focus is to provide an IT web site that serves as a central technology hub for information and policies and practices at EICC.

**OVERALL SUMMARY:**

Training and support of technology should move technology from being a barrier in accomplishing the business operations of EICCD to substantially improve those operations while opening new markets and broadening the potential of what is possible for EICCD to accomplish.

**Category 5 – Student Access to Latest Technology**

We recognize that students come to us with a wide variety of technology experience including those whose expertise surpasses ours. As a “teaching” institution, it is our responsibility to prepare students for a future where various technologies abound. That can best be accomplished by exposing our students to the many facets of technology and how they are and can be used for their own benefit. The addition of online and hybrid courses require having a student support network in place to facilitate student success and alleviate the frustrations they experience.

▪ **INITIATIVE A: Adopt Campus Cruiser or similar portal system**

**5 Year Goal:**

- \* Adopt Campus Cruiser or similar portal system
- \* Provide students with web and storage space for class work.
- \* Provide students with email address (including text messaging and other appropriate forms of communication) for improved faculty/staff communication with students

**Current Resources:**

- \* Initial evaluation and plans to adopt Campus Cruiser
- \* Campus Cruiser contract

**Projected Resource Requirements:**

- \* Evaluation of Campus Cruiser, Datatel's portal system and others
- \* Purchase and implementation of appropriate portal system
- \* Training for employees and students in new portal system
- \* Inputting information and resources into new portal system
- \* Additional server and bandwidth to support student storage space, email, and web work

**Measurable Outcomes:**

- \* Level of student participation in portal system (percent of students using portal for email, messaging, web work, and storage)
- \* Students use web space for course (number of student web sites related to class or student activities)
- \* Students use storage space for their course work (amount of storage used by students and number of students with electronic portfolios of campus work.
- \* Online training in portal system for employees (number of online courses and percentage of employees using that online training)

**Summary:**

The portal system provides students with a centralized location for storage, web development, email, messaging, and other forms of communication among themselves and with the employees of EICCD.

▪ **INITIATIVE B: Add wireless capability so students can access it and provide access to other low cost technologies for students.**

**5 Year Goals:**

- \* Extend the current student computer labs to match library hours
- \* Computer labs open for longer hours
- \* Create student study centers that includes wireless technology
- \* Provide students with email access and instant messaging
- \* Provide or rent to students current handheld wireless devices
- \* Increase student accessible wireless hotspots by 60 percent
- \* Make available digital cameras, audio equipment, video, etc. for student use
- \* Provide student support for the hardware and wireless technologies
- \* Online training materials for students to use hardware and software
- \* Web site for students to inform them about technology availability and resources as well as policies and procedures

**Current Resources:**

- \* Technology currently available at the libraries.
- \* Computer labs currently being used by students
- \* Staff for library and computer labs
- \* Current computer labs and staffing

**Projected Resource Requirements:**

- \* Staff for additional labs and library hours
- \* Technology for additional labs
- \* Student support staff for students at the labs
- \* Purchase of current technologies for student use – this will be on an on-going basis as technology changes
- \* Policies for student use of current technologies
- \* Staffing to oversee student-run Help Desk and web site
- \* Creation and maintenance by students of online-based training materials for students

**Measurable Outcomes:**

- \* Hours labs and libraries open (total hours open)
- \* Students use of technology (record of student use of labs, libraries, and the technology)
- \* Use of technology in student curriculum (percent of faculty making use of technology in their teaching and the amount used by courses during a semester)
- \* Amount of technology resources available to students (number of computers per student, number of technology devices available per student)

**Summary:**

The simple goal is to provide more access to more varied technologies for EICCD students – and the support that is needed to use those technologies.

**OVERALL SUMMARY:**

Providing students with technology resources and the means to communicate among themselves and with EICCD employees, especially faculty, is a crucial aspect of improving their educational experience while attending EICCD. This also serves the students well as they move into their careers or continue their education.

<b>Category 6 – Instructional Technology</b>
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There was a time when a professor was utilizing instructional technology if they placed a transparency on an overhead projector. The rapid rate of changes in technology has required instructors to stay familiar with the instructional technology tools available for teaching. Today it is vital for every instructor to possess enough technology savvy in order to utilize existing and emerging instructional technology in their instructional environment. By staying knowledgeable of these teaching tools it will enhance the teaching/learning experience.

As well as being able to use technology in a face-to-face setting faculty will also be expected to utilize components of the online learning environment. In 2005, the current Chancellor, Dr. Pat Keir, proposed an initiative to develop EICCD online course offerings. In order for this proposal to be realized, the district must possess the following:

1. Equipment and facilities conducive for implementing an online learning setting
2. Faculty who are capable of using the instructional technology in an online environment.
3. An online development team (as part of an instructional technology division) to provide the technical support for content experts.

- INITIATIVE A: Deploy appropriate instructional technology in all classrooms throughout the district.

**5 Year Goals:**

- \* Provide basic, intermediate, and advanced standards for technology in classrooms
- \* Establish clear guidelines for determining which classrooms and how many classrooms have either basic, intermediate, or advanced technology
- \* Deploy basic standardized instructional technology in all classrooms and intermediate and advanced based upon established guidelines
- \* Adjunct instructors be given full access to complete range of technology available for classrooms
- \* Full time and adjunct instructors receive or have available necessary information, training, and support for use of technology in classrooms
- \* Provide ongoing updating of this technology and the standards in and for the classrooms

- \* EICCD will incorporate technology into the overall design, planning, and construction of new classroom and facilities.

**Current Resources:**

- \* Current multimedia classrooms and carts
- \* Current practices and expertise in instructional technology and classroom design
- \* Current guidelines and policies for use of and creation of new technology classrooms
- \* Current staff for multimedia classrooms
- \* MediaSite system for development of and delivery of video-based instruction

**Projected Resource Requirements:**

- \* Provide additional staff to assist with the installation and maintenance of classrooms
- \* Instructional Technology development team to provide input on new technology and teaching methods
- \* Administrative and Faculty input for establishing and maintaining technology standards as well as determining classroom selection guidelines
- \* Members on instructional technology development team and instructional designers are included in facility planning and development committees
- \* Obtain and install the technology for the classrooms
- \* Utilize sound classroom design principles
- \* Creation of training and information materials for faculty and students

**Measurable Outcomes:**

- \* External evaluators rate EICCD classrooms and classroom designs
- \* Published standards for basic, intermediate, and advanced technology standards for classrooms
- \* Published guidelines for determination of total numbers of classrooms needed for each standard and which classrooms receive the technology standards
- \* Percentage of classrooms with basic, intermediate, and advanced standard technology packages
- \* Use of technology in student curriculum (percent of faculty – full time and adjunct -- making use of technology in their teaching and the amount used by courses during a semester)
- \* Measure student and (full time and adjunct) faculty satisfaction with classroom technology each semester
- \* Numbers of faculty (full time and adjunct) receiving training in use of technology classrooms and amount of training provided
- \* Usage statistics of the technology classrooms

**Summary:**

The goal is to provide directly within the classroom a rich set of resources and references for students as well as an immediate experiential and interactive environment to students to help them learn. Providing this for students is dependent, in part, upon having full time and adjuncts well-trained in using the technology classrooms.

- **INITIATIVE B:** Full time and many adjunct faculty are capable of conducting an online, hybrid and/or web-enhanced course and can utilize the available instructional technologies for teaching.

**5 Year Goals:**

- \* Integration of portal system with the various instructional technologies for classrooms, hybrids, and online classes.
- \* Availability for fulltime and adjunct faculty of their computer materials at anytime from any location
- \* Increase electronic storage capacity for instructors
- \* Provide electronic storage for students for their online class materials
- \* Implement wireless access to the entire district
- \* Provide (through the District Technology Development Center) instructional design services for faculty for online courses
- \* Full time and adjunct instructors receive or have available necessary information, training, and support for use of online technology for their teaching through the Development Center

**Current Resources:**

- \* MediaSite system for development of and delivery of video-based instruction

- \* I3 professional development course for new online instructors
- \* Current ICCOC campus mentor/advisors
- \* Current IT infrastructure for handling online courses
- \* Current online courses within ICCOC

**Projected Resource Requirements:**

- \* Hire Instructional Design technicians
- \* Creation of a District Technology Development Center and hiring a team with expertise, in online course development and instructional design principles
- \* IT staff to support the delivery of online materials
- \* IT infrastructure necessary to handle online courses and materials
- \* Instructor time to develop these courses

**Measurable Outcomes:**

- \* Availability of wireless throughout the District
- \* Accessibility of computer materials for instructors
- \* Electronic storage capacity per instructor
- \* Electronic storage capacity per student
- \* Total number of classes offered online as either fully online or hybrids
- \* Percentage of instructors providing online courses
- \* Measure full time and adjunct faculty and student satisfaction with online technology each semester
- \* Numbers of faculty (full time and adjunct) receiving training in use of online technologies and amount of training provided
- \* Usage statistics of the online courses (both student usage and instructor usage)

**Summary:**

The goal is to provide online courses for students that match in overall quality and richness of materials and interactivity what students obtain in the classroom without forgetting that the fundamental goal is enhancing student learning. Providing this for students is dependent, in part, upon having full time and adjuncts well-trained in using the online technologies.

- **INITIATIVE C: Establishment of an instructional technology development team.**<sup>10</sup>

**5 Year Goals:**

- \* Creation of a District instructional technology development team and center
- \* EICCD will provide and rejuvenate, under the District Instructional Technology Development Center umbrella, individual campus instructional technology development centers (currently called the Professional Development Centers) to assist faculty, staff, and students.
- \* Provide research and development on new and existing technology; present them to faculty, staff and/or students for evaluation and/or implementation.
- \* Connect the newly created District Technology Development Center with the Campus Centers via IP videoconferencing, or other video, technology as well as other new communication technologies
- \* Provide live interactive training and information exchange among the centers.

**Current Resources:**

- \* Current instructional technology and related IT staff.
- \* Existing Professional Development Center facilities and equipment.
- \* MediaSite system for development of and delivery of video-based instruction
- \* I3 professional development course for new online instructors
- \* Current ICCOC campus mentor/advisors
- \* Current IT infrastructure for handling online courses
- \* Current online courses within ICCOC

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<sup>10</sup> Instructional technology development team will provide technology assistance for faculty seeking to incorporate technology into their classroom. This will include instructional design services to enhance student learning. Services and training provided by the team may include such items as creation of interactive learning objectives, effective use of web and web sites in classes, improving online courses, training in effective electronic communication with students, and providing information on innovations in instructional technology. The team will also provide assistance to and support for the individual Campus Instructional Technology Development Centers. The team will be housed in the District Instructional Technology Center, which will have appropriate rooms and equipment for training faculty and staff.

**Projected Resource Requirements:**

- \* Facilities for both the District and Campus Centers including training rooms and equipment (computers, video recording and editing, wireless devices, appropriate software, etc.)
- \* Staffing for both the District and Campus Centers including both instructional designers and instructional technologists
- \* Servers for the use of the Centers' staff and the necessary network bandwidth
- \*

**Measurable Outcomes:**

- \* Information for employees on the training they receive will be provided to them from records of training provided by the instructional technology development team (reports for individuals available from database maintained by instructional technology development team)
- \* Use of technology in student curriculum (percent of faculty – full time and adjunct -- making use of technology in their teaching and the amount used by courses during a semester)
- \* Measure student and (full time and adjunct) faculty satisfaction with classroom technology each semester
- \* Numbers of faculty (full time and adjunct) receiving training in use of technology classrooms and amount of training provided
- \* Number of courses and instructors receiving instructional support from the District and Campus Centers
- \* Number of interactive training sessions provided by the District and Campus Centers
- \* Usage statistics of the technology classrooms

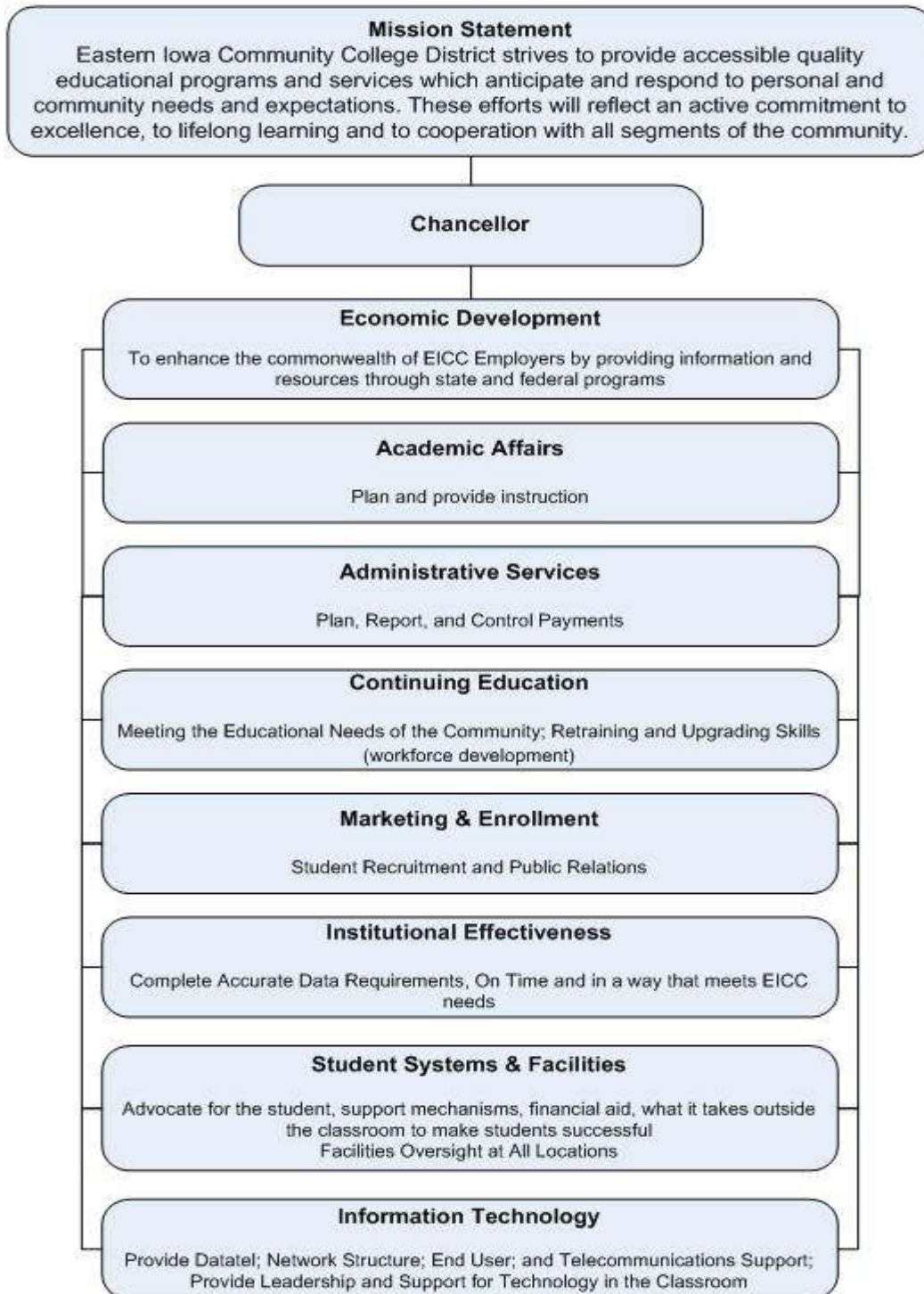
**Summary:**

The District Technology Development Center will continually keep employees up-to-date on new and existing technologies in a timely manner and provide a facility to train the users and the trainers themselves.

**OVERALL SUMMARY:**

Students expect, whether it be in the classroom or in their online courses, a technologically and resource rich learning environment that enhances their learning and adequately prepares them for their careers. EICCD needs to provide that kind of technology for both the classroom and for the online course. Providing the technology, though, is only a small part of delivering good learning opportunities to students. In addition, instructors and staff need the time, training, and support to learn how to effectively incorporate the technology into the learning agenda for the students. This means the development of staff and facilities that can provide that kind of assistance to instructors and staff. This is the purpose of the District and Campus Centers.

## Appendix F District Mission and Functional Areas



**Source: Developed by Interactive Technologies Group (2007)**  
**Appendix G**  
**IT Infrastructure Library (ITIL): Overview and Benefits**

IT Infrastructure Library (ITIL) is the only consistent and comprehensive documentation of best practice for IT Service Management. Used by many hundreds of organizations around the world, a whole ITIL philosophy has grown up around the guidance contained within the ITIL books and the supporting professional qualification scheme.

ITIL consists of a series of books giving guidance on the provision of quality IT services, and on the accommodation and environmental facilities needed to support IT. ITIL has been developed in recognition of organizations' growing dependency on IT and embodies best practices for IT Service Management.

The ethos behind the development of ITIL is the recognition that organizations are becoming increasingly dependent on IT in order to satisfy their corporate aims and meet their business needs. This leads to an increased requirement for high quality IT services.

ITIL provides the foundation for quality IT Service Management. The widespread adoption of the ITIL guidance has encouraged organizations worldwide, both commercial and non-proprietary, to develop supporting products as part of a shared 'ITIL Philosophy'.

Adopting its guidance offers users a large range of benefits that include:

1. reduced costs
2. improved IT services through the use of proven best practice processes
3. improved customer satisfaction through a more professional approach to service delivery
4. standards and guidance; improved productivity; improved use of skills and experience
5. improved delivery of third party services through the specification of ITIL or ISO 0000 as the standard for service delivery in services procurements.

These benefits are achieved by efficiently managing several functions that can require resource heavy investments:

***IT Functions Needing ITIL Efficiency Management***

* Service Support	* Service Delivery
* Incident Management	* Service Level Management
* Problem Management	* Availability Management
* Change Management	* Financial Management for IT Services
* Release Management	* Capacity Management
* Service Desk (function)	* IT Service Continuity Management

The 2006 version of ITIL was upgraded to reflect the life-cycle stages of service management more effectively. The industry views service management in this context and ITIL best practices were adjusted for consistency.

The analogy used to depict the new cycle of service management life stages is a wheel.

The inner core (the hub and spokes) will provide fundamental guidance that organizations can rely for a long period of time. Contained here are the generic principles of ITIL guidance which are the foundation of the solid, measurable service management best practices.

The outer layer (the rim and tire) would comprise the complimentary guidance and value added products that help organizations effectively customize deployment of the core in varying contexts defined by business environments, economic conditions and organizational strategies – much like matching the type of tire to the type of vehicle, purpose or road conditions. ([http://www.itil.co.uk/scope\\_web.pdf](http://www.itil.co.uk/scope_web.pdf), June 5, 2007)