TECHNOLOGY TRENDS

2007 Environmental Scan Committee

Committee Members:

Shawn Carraway

Ed Chan

Tony Hough

Donna Jordan

Bill Sandy

Michael Zanfardino

TECHNOLOGICAL TRENDS COMMITTEE
Final Report

Introduction: An array of technology innovations are on the horizon that will challenge the college's ability to creatively manage and implement the new changes. These changes will impact issues as broad-based as the deployment of wireless connectivity, our continued vigilant monitoring of security and network protection, the demand for alternative delivery of web services, the provision of online courses, the on-going need for professional development, and the availability of resources to adequately implement and support these advances in technology. Addressing these trends will require a multi-facetted approach involving technology as well as user education and awareness, and procedural updates.

TREND 1: The demand for campus-wide wireless connectivity will increase.

FINDINGS:

1) Wireless technologies represent a fast-emerging area of growth and importance for providing "everywhere" access to the network for the college. Students and faculty progressively want more unrestrained network access from classrooms and social meeting rooms (i.e., cafeterias). Wireless technology can support the college's mission and provide commercial solutions.

2) Wireless is being adopted by many applications to connect computers, to allow remote monitoring and data acquisition, to provide access control and security, and to provide a solution for environments where wires may not be the best solution.

3) The deployment and management of wireless technology will become more crucial.

4) More wireless carriers, easier and quicker access and smaller, more feature-rich handheld devices will continue to emerge.

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TREND 2: Information technology security and protection will continue to challenge the resources and capabilities of community colleges.

FINDINGS:

1) Information technology security and protection involves identifying potential security risks and taking steps to minimize the damage or prevent attacks. As software is enhanced and updated, numerous vulnerabilities may be introduced, which can be exploited by both internal and external sources. The college must continually maintain and prepare for the possibility for such attacks.

2) Peer-to-peer file sharing makes students vulnerable to litigation and causes college resources to be over utilized for non-essential activity and carries a certain amount of liability on the part of the college to prevent it.

3) The use of electronic mail continues to become a mission-critical component in the daily operations of the college. Protecting the integrity of email and controlling unsolicited messages are vital.

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TREND 3: Managing the cost of maintaining state-of-the-art technology will continue to be a top priority for the college.

FINDINGS:

1) Technology improvements do not come without some price and all of these technology trends involve both financial and human resource outlays. Whether it be increasing network bandwidth, meeting the demand for campus-wide wireless connectivity, improving security and protection

with improved crisis management and business-continuity procedures, offering and supporting the latest web services, paying licensing fees of new software and operating systems, providing more efficient document imaging systems, considering electronic textbooks and alternatives to traditional textbooks in the classroom, offering new technology certifications or constantly improving our own employees' skill sets. All of these costs will need to be properly managed in order for MTC to continue to be a leading technical college.

2) Business Continuity and the technological and human support required to ensure that the college functions optimally 24/7 is of utmost importance in our ability to remain a leader in providing technical education.

3) Data Warehousing and Business Intelligence tools will become necessary components for daily operations management as well as for strategic planning and trend analysis by providing the college convenient and comprehensive access to data from multiple sources and information platforms.

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BI at age 17, Q&A with Howard Dresner, Computerworld, October 23 2006 pg. 36 (3-3)
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TREND 4:   The demand for alternative delivery methods for web services will continue to evolve and increase.

FINDINGS:

1) Web Services-XML, Java and .NET continue to be big in new system development. Web services are programs that run on Application servers and are accessed by client web browsers. You can access web services from anywhere you can get a network connection. Programming is very modular, meaning that it needs to be written only once and can be accessed everywhere, making maintenance, upgrading and controlling very easy.

2) Podcasting, Vodcasting, access to iTunes University, Blogging, Live and On-demand streaming content and full lecture recording are new technology opportunities available for use in instruction and campus-wide communication.

3) A Spanish version of the MTC web site is needed to address the needs of the Hispanic community. This group is one of the fastest growing populations in SC and in the use of online services.

4) Create RSS, cell phone and iPod capabilities at MTC to permit prospective students to subscribe and receive important information about MTC, the application/registration process, important dates, etc.

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TREND 5:   The demand for online courses and new technology career opportunities will continue to emerge.

FINDINGS:

1) Increase offerings for online degrees to address increased competition in this arena of education and to permit those students who may not wish or be able to attend traditional classes. Investment in online infrastructure would be required to accommodate these actions. This would aide in allowing more students to obtain a degree, diploma or certificate and make MTC more competitive in the global educational network as student enrollment increases.

2) Robotics and more powerful microprocessors will influence the speed and capabilities of next generation technology and afford new career opportunities.

3) The field of bio-technology stays hot as it focuses on advancing drugs to deal with three main health areas that concern us all: cancer; central nervous system disorders (such as Alzheimer's, depression and pain) and cardiovascular diseases.

4) Certifications that enable IT professionals to target specific technologies, such as MCTS:SQL Server 2005, must be reexamined and prioritized. Microsoft has developed a series of these certifications called Technology Specialists.

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TREND 6: Voice Over IP and IP Telephony are the next generation of corporate voice communication.

FINDINGS:

1) The convergence of voice and data communications onto the same infrastructure facilities will offer more flexibility and cost savings.

2) Voice over IP and the use of the Internet to make local and long distance telephone calls will impact society as a whole.

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