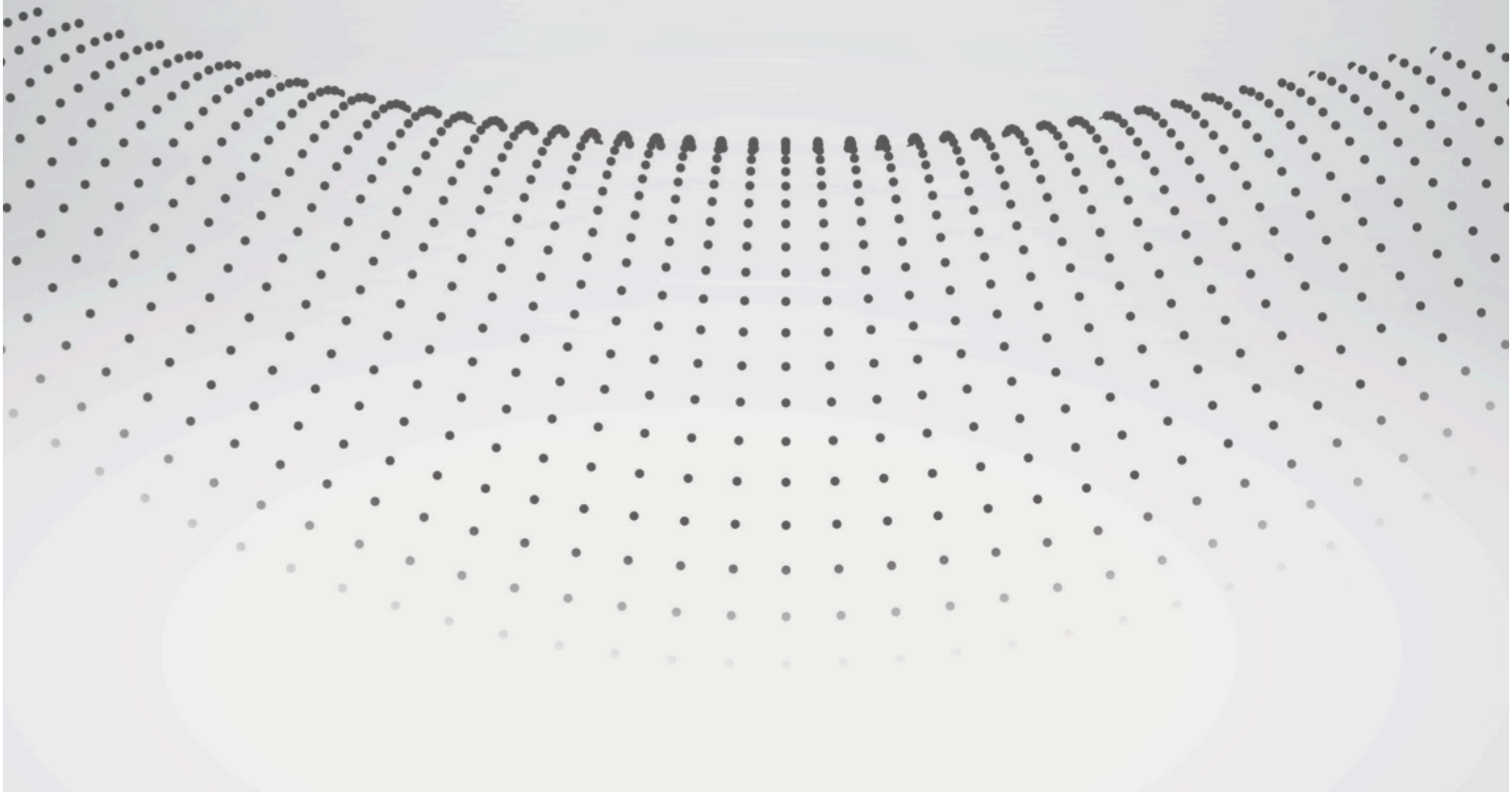
MPC
INFORMATION TECHNOLOGY

Technology Plan 2016-2019



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Executive Summary

The Technology Plan was developed to improve the overall student experience and learning environment at Monterey Peninsula College (MPC). The goal is to enhance student success by providing a high level of accessibility, service and support through the utilization of current technology.

State wide initiatives and mandates such as SB1456-The Student Success Act, Online Education Initiative (OEI) and Workforce Connection make a robust technology infrastructure essential for the sustainability of MPC. As an example, SB1456 requires MPC to change and enhance the way we communicate with our students. SB1456 directly effects our funding, the decisions we make about these changes must be made with high regard to current needs, future compliance, and stability, while ensuring that our existing core services be maintained or enhanced.

The MPC network can be leveraged to facilitate communications between the campus and students. These communications should be provided on-demand, as needed, and in real time, leveraging communication devices that our students are already using. Our wired and wireless infrastructure is of paramount consideration in order to facilitate this communication strategy. If addressed and implemented properly, our network can serve as the platform for MPC to fundamentally change the way we communicate with our students today and in the future.

This three year strategic plan sets forth a roadmap for technology enhancements at MPC. This Technology Plan, aligned with the goals and objectives of the five-year Education Master Plan, identifies the current technology needs at MPC and, to the extent possible, anticipates future technology needs. Where possible, this plan lays out the methods and processes necessary to meet those needs and the strategy to ensure that MPC resources support the delivery of high quality technology.

Some of the key technology needs addressed in this plan include: replacing the Student Information System, implementing an integrated Enterprise Resource Planning (ERP) system, redesigning the MPC intranet, implementing a technology refreshment plan, upgrading campus WiFi, enhancing core network infrastructure and developing a disaster preparedness/recovery plan.

The MPC Technology Plan is a living document that will be reviewed periodically by the Technology Committee and updated as necessary. Major revisions to this document will be executed based on large-scale changes of dependent documents, such as the Institutional Goals, Educational Master Plan, Strategic Initiatives and/or College Mission. Ongoing meetings with individuals, shared governance committees, and functional area groups, as well as campus-wide surveys will be some of the methods used to continue to gather data.

Institutional Goals and Objectives

The Technology Plan aligns with the goals and objectives which are defined in the 2012 -2017 Educational Master Plan as follows:

Educational Master Plan

MPC's 2012 -2017 Educational Master Plan (EMP) is the College's academic map; it serves as one of the College's central planning documents. It not only provides the College with general direction in support of achieving its mission and institutional goals, it also provides a framework for the integration of virtually all of the College's planning efforts.

Institutional Goals

The Educational Master Plan has identified four institutional goals that provide the framework for all plans and initiatives developed by the college. The four institutional goals approved by the College Council and the Board of Trustees on April 5, 2011 are:

1. Promote academic excellence and student success.
2. Build MPC into an economic driving force for the Monterey area by supporting and developing programs that teach employable skills.
3. Manage the rate of growth in programs and services in Seaside and Marina, subject to funding and growth conditions.
4. Maintain and strengthen instructional and institutional technology.

These institutional goals provide the framework for the Educational Master Plan and will guide prioritization and implementation of technology initiatives.

In addition to the goals listed above, Appendix G of the EMP is the *Strategic Initiative for Technology Sustainability*. All initiatives included in this Technology Plan are clearly defined as aligning to Institutional Goals or the *Strategic Initiative for Technology Sustainability*.

Planning Assumptions

Technology planning and resource allocation is guided by the College's planning and resource allocation process, which is in turn shaped by MPC's institutional goals. College constituencies participate in the program review annual plans to identify needs. Technology related initiatives are collected through the division chairs, administrative structures, and other sources including campus-wide surveys. The Technology Committee reviews the initiatives and a recommendation is made to President's Advisory Group based on the Technology Committee's evaluation criteria.

1. All initiatives herein will support the institutional goals of the College, as articulated in the Educational Master Plan and encompassed by the College Strategic Initiatives, and in response to ACCJC planning agenda items and standards.
2. The Technology Plan is one of the College's key strategic plans and plays a critical role in the success of the College.
3. As the detailed design and planning phases are implemented through the Technology Plan, the IT Department will identify technology issues and initiatives to be incorporated into relevant plans.
4. A significant number of demands for technology-related support will compete for limited funding. Consequently, the Technology Committee will rely on evaluation criteria to bring forward recommendations to President's Advisory Group (formerly College Council).

Introduction

Current and Future Environment

Based on research, evaluation, and feedback the overall state of technology at MPC has been below reasonable expectations. The successful completion of most of the initiatives contained in the 2013-2016 Technology Plan has significantly improved the overall technology at MPC, however, there is still a lot of work that needs to be done. Both the systems and services are in need of additional resources. Careful planning and follow-through is required to turn the course of technology for MPC. The items below are some factors in driving the need for this strategic technology plan.

Areas that Need Attention

1. MPC's reliance on the current Student Information System (SIS) has put this college into a very vulnerable position.
2. MPC needs a fully integrated Enterprise Resource Planning (ERP) system to pull together the systems of key functional areas. Santa Rosa Junior College (SRJC) has provided MPC notice that they will be putting out a Request For Proposal (RFP) for an ERP in Spring '17. SRJC plans to start a ERP implementation project in the Summer '17. This will directly impact MPC because SRJC programmers that are assigned to development and maintenance of the SIS system will be reassigned to new ERP implementation.
3. The WiFi at MPC needs to be upgraded to address current demands and expectations of the college and its students. A plan needs to be in place to address WiFi expectations such as Bring Your Own Device (BYOD) and other student-focused needs.
4. The networking infrastructure needs to upgraded at hardware level and redesigned at a software and configuration level. This remediation work is critical to future projects, such as an ERP system and WiFi improvement.
5. The Intranet solution needs to be upgraded and redesigned.
6. The age of all technology related equipment including workstations, networking devices, servers and storage equipment is well beyond industry use recommendations; there is a need to put significant resources and planning into technology refreshment.
7. The decentralized model of IT support and services does not meet accepted industry standards and best practices.
8. The IT Department must be provided with the necessary resources to improve the current state of technology at MPC.
9. In addition to IT providing expert support to the infrastructure and applications, IT must be more proactive in providing appropriate technical training and other professional development opportunities, for both the technical staff and their customers.
10. Collaboration and communication between functional areas, users and IT, needs improvement.

11. The design, procurement, and implementation of all technology on campus needs to be done in partnership with the IT Department through planning and collaboration.
12. Change is inherent with technology and the campus needs to be flexible enough to analyze and adapt to those changes as they occur in order to meet the technological needs and expectations of our students, faculty and staff.
13. The security of data needs to be enhanced with updated systems and policies.

Benefits to Students, Staff and Faculty

The three year strategic technology plan has both internal focus on functional areas and technology infrastructure. The primary purpose, however, is to improve technology systems and services designed to support instructional needs. The students of MPC will directly benefit from improved access to information and services. Learning needs will be the focal point when designing and implementing new technologies.

Benefits for students:

1. Easy, clear and efficient enrollment process
2. Access to campus wide WiFi
3. User-friendly navigation of new MPC website
4. 24-hour access to class websites and materials
5. Secure and efficient email communications with other students and instructors
6. Up-to-date classroom and computer lab technology that reflects industry standards

Benefits for faculty and staff:

1. Dependable technology equipment and support
2. Reliable classroom technology, customizable for specific software requirements
3. Sustainable technologies focused on efficiency
4. Ability to communicate securely with students online/via email
5. Easy access to forms, committee news, calendars, employee handbook, etc.
6. Increased electronic storage and reduced need for printed materials
7. Ability to customize department webpages easily (intuitively)
8. Streamlined and efficient processes for routine tasks with flexibility to adjust/improve

Recap of Goals, Objectives and Initiatives (2013-2016)

Goal 1: Academic Accessibility and Success	Status	Notes
Objective 1a – Enhance Delivery and Support of Technology to MPC		
1.a.1: Implement help desk software for IT/AV	Implemented July 2016	Freshservice IT helpdesk solution was implemented to enhance the ability for customers to request support and for IT managers to track / monitor progress of support tickets. Freshservice is based on Information Technology Infrastructure Library (ITIL)
1.a.2: Develop mobile apps for institutional use	Ongoing – Was removed as a Tech Plan Initiative (see notes)	More cost effective to purchase solutions versus building own. Student Services has implemented several apps which are supported by IT
Objective 1b – Enhance Distance Education		
1.b.1: Implement help desk software for Distance Education issues	Implemented Oct 2014	Freshdesk helpdesk solution was implemented based on ease of use, specifically focused on student support for Distance Education issues.
1.b.2: Hire full time instructional support technician	Implemented October 2014	This position was filled.
Objective 1c – Technology Support, Services & Training		
1.c.1: Centralize & standardize technology support	Ongoing	In March of 2016, Strata Information Group(SIG) performed an IT Department Health Check. One of the major findings from that report was a recommendation for a centralized model for tech support, to improve efficiencies and standardize IT solutions across campus.

1.c.2: Increase technical proficiency & professional development	Ongoing	The IT Department provides individual and small group training for Microsoft suite, Google Apps for Education and the public website CMS. Distance Education offers training on the Learning Management System (LMS) – Currently both Moodle and Canvas. Note: Canvas will be the only MPC supported LMS starting Fall '17
1.c.3: Improve IT best practices, planning & support	Ongoing	Improvements have been made in the areas of best practices, planning and support. IT Service Management (ITSM) based on Information Technology Infrastructure Library (ITIL) framework is being put in place.
1.c.4: Create a new computer/ network Acceptable Use Agreement (AUA)	Implemented Board Approved	Board Policy (BP) 3720 and the associated Administrative Procedure (AP) 3720 were Board Approved in Spring '15
1.c.5: Develop a Service Level Agreement (SLA)	In progress	An SLA is being developed as part of the new helpdesk solution (Freshservice).
1.c..6: Develop consortiums & partnerships with IT Leadership at CCCs	Ongoing	This is an ongoing process. There is an ongoing collaboration through CISOA and other listservs .
1.c.7: Establish IT maintenance windows	Implemented Approved by President's Cabinet	The following are approved Maintenance Windows to be used by IT to update systems: ● 1st & 3rd Sat: 10pm – 8am ● 2nd Wed: 10pm – 6am
1.c.8: Address IT staffing needs	Ongoing	Two new IT positions were created and filled: Network Technician and Instructional Technology Specialist (taking over the A/V Support Duties) However, the SIG IT Health Report provides evidence that the IT Department is still understaffed in many critical areas, including: Mid-tier management (Example: Network Operations Manager) and programming staff.

Goal 2: Communication and Collaboration	Status	Notes
Objective 2a – Enhance Multiple Channels of Communication & Collaboration		
2.a.1: Redesign website including project management & hosted solution	Implemented	The MPC.edu public website has been redesigned and reimplemented. The site is hosted on Rackspace servers and the content management system (CMS) is provided by an external vendor, Vision Internet. A new initiative for update\enhance the Intranet will be included in the 2016-19 Technology Plan.
2.a.2: Develop mobile apps for institutional use	Removed	After conducting research, it has been determined that developing mobile apps in-house is not practical. Instead, many internal solutions have been updated to be mobile-friendly and external apps have been procured and available via download.
2.a.3: Implement hosted email, storage & collaboration solution	Implemented	Google Apps for Education went live in Spring '16.
2.a.4: Implement & enhance the use of social media	Removed	It has been determined that this work is more appropriate for a PIO office.

Goal 3: Technology Infrastructure	Status	Notes
Objective 3a – Enhance Institutional Network & Internet Connectivity		
3.a.1: Enhance network infrastructure	Ongoing	Major improvements and upgrades have taken place. However, as evidenced by attached reports, there is still a lot of work to be done.
3.a.2: WiFi validation, plan & upgrade	Ongoing	Major improvements and upgrades have taken place. However, as evidenced by attached reports, there is still a lot of work to be done.
3.a.3: A redesign of VOIP, Voicemail	Implemented	The Microsoft Voicemail solution was upgraded to a CISCO Voicemail Solution.
Objective 3b – Enhance Security for Transactions, Storage & Backups		
3.b.1: Utilize services provided by the CCC Information Security Center	Ongoing	A external vulnerability scan was completed by the CCC Technology Center in June '16. Several vulnerabilities were discovered and are being addressed. Periodic vulnerability testing and remediation will be an ongoing process.
3.b.2: Implement network management/monitoring software	Implemented	Solarwinds network monitoring solution has been implemented.
3.b.3: Develop disaster preparedness/ recovery plan	In Progress	This initiative is in-progress and will carry over to the 2016-19 Technology Plan.

Objective 3b – Enhance Security for Transactions, Storage & Backups		
3.c.1: Implement server & desktop virtualization technologies	Ongoing	As server hardware is retired, new servers are implemented as virtualized servers.
3.c.2: Implement Single Sign On (SSO)	Implemented	Clearlogin has been implemented as the SSO solution. This solution provides the ability to authenticate once to gain access to several MPC applications including Google Apps, Canvas, IT help desk, and others. When new applications are brought to MPC, they are configured to work with SSO. The SSO is accessible on the homepage of MPC under the "Lobo Apps" quick link.
3.c.3: Active directory redesign	On hold	This initiative will be redefined and will be included in the 2016-19 Technology Plan
3.c.4: Develop a centralized printing solution	In Progress	Initial research and discovery is taking place. A new contact with Cannon copier/printers is in place.

Goal 4: Institutional Information Management	Status	Notes
Objective 4a – Enhance Institutional Data Storage, Retrieval, Organization & Access		
4.a.1: Hire consultant to perform a Business Performance Analysis (BPA)	Implemented/ Ongoing	4 BPA's have been completed, including: ● New Employee Transition Process ● Student Enrollment Process ● Financial Aid Processes ● Purchasing Processes Remediation work discovered as a result of these BPA's is underway. Additional BPA's may be scheduled for the future.
4.a.2: Procure & implement Enterprise Resource Planning (ERP) Software	On Hold	This initiative is on-hold until a funding source can be identified.
4.a.3: Enhance institutional reporting in concert with the new ERP system	In Progress	New Systems such as Enrollment Management System (EMS) and TracDat are being implemented. Because funding has not been identified for ERP implementation, there is a need to get as much out of the present systems as possible.

Goal 5: Institutional Information Management	Status	Notes
Objective 5a – Enhance Institutional Data Storage, Retrieval, Organization & Access		
5.a.1: Develop & update a sustainable technology refreshment strategy	In Progress	Attached refresh report/plan (Appendix C) has been reviewed by multiple committees, including AAAG, ASAG, Technology Committee and others during the fall 2015 semester.
5.a.2: Develop processes for departments to partners with IT for investigation, purchase & deployment of technology	On-going	The information gathered through the discovery process yielded by conducting Business Process Analysis (eg. Purchasing) is being used to develop processes that assure IT review before new technology is purchased.
5.a.3: Explore funding opportunities, including grants & partnerships	Removed	After review this initiative does not really belong in a Technology Plan.

Strategic Plan

Technology Plan Development

The following section illustrates the methodology used to gather relevant data for this strategic plan. Quantitative analysis was used to interpret the data from surveys. As an example, the results from student and employee surveys were categorized, tabulated and compared to other data, including the feedback contained in the Academic Senate Technology Discussions.

Research and Input

Research and input for the technology plan included the following components:

IT Customer Satisfaction Survey - Spring 2016

In Spring 2016 an all-employee Technology Needs and Satisfaction Survey was administered via Google Forms. Here is a summary of the results.

119 respondents completed the survey. The areas of greatest need identified were:

1. Age of equipment
2. Currency of instructional-based technology
3. Need for training and professional development
4. Lack of resources

Direct I.T. Staff Feedback and Supervisor Evaluation

1. Staff Meetings
2. Individual Meetings
3. Individual skills and methodology gap analysis
4. IT department staff strength, weakness, opportunity and threat (SWOT) analysis

Business Process Analysis

An outside consultant was hired to perform a Business Process Analysis (BPA) for the following processes:

- New Employee Transition Processes
- Student Enrollment Processes
- Financial Aid Processes
- Purchasing Processes

Use the findings from those BPAs to:

- Identify inefficient processes
- Use current technology that is in place to mitigate gaps
- Develop scripts for needs to be addressed by an ERP system

Interviews with IT leaders from other colleges and universities

Through relationships developed with IT leaders at other colleges and universities, compare technical solutions in place.

The following methods were used to gather information:

- Site visits to local schools including Cabrillo, Hartnell and CSUMB
- Chief Information Systems Officer (CISO) listserv
- Chief Information Systems Office Association (CISOA) Annual Conference and monthly board meetings

Reports from Expert Services

Reports from contracted expert services:

- Network Security and Vulnerability Scan
    - Assessment performed by CCC Technology Center
- I.T. Health Assessment
    - Performed by Strata Information Group

Other Documents

- Technology Plan 2013 - 2016
- Information Technology /Media Services Program Reflections and Reviews.

These documents were analyzed for historical information.

Technology Committee Overview/Bylaws

Description

MPC's Technology Committee reports directly to the President's Advisory Group regarding technology issues, and provides information regarding institutional and academic technology needs to the college's Academic Affairs Advisory Group, Student Services Advisory Group, and Administrative Services Advisory Group.

Responsibilities

The primary purpose of the Committee is to assess campus technology resources and needs and develop and annually update a comprehensive Technology Plan. The committee will evaluate and review specific equipment, software and/or training which the college requires in order to fulfill its mission. Specific duties and responsibilities of the committee include but are not limited to:

- Annually assess campus technology resources and needs.
- Create, and annually update, the College's Technology Plan.
- Act as recommending resource to the President's Advisory Group regarding technology issues.
- Make recommendations regarding priorities for the acquisition of technology, hardware and software, during budget development and review processes. Such recommendations could include priorities for support staff, training, and access to computer resources and laboratories.
- Recommend specifications and standards for the purchase, placement, operation, repair and replacement of technology resources as a part of the Action Plan process, grants, renovation/building projects and technology refreshment.
- Review and make recommendations on the design and use of facilities and related technology resources.
- Develop and recommend campus policy regarding use and control of technology resources.

Membership

The membership shall consist of 10 voting individuals, two of whom are the Director of Information Services and the Dean of Instruction who oversees Distance Education, and an additional 8 representing functional areas to be covered (see below). *One member can cover one or more functions depending on their experience.*

- 3 chosen by Academic Senate
- 3 chosen by MPCEA
- 1 chosen from ASMPC
- 1 identified by the other 9 committee members.

Additional resource people can be asked to attend specific meetings or all meetings as non-voting experts or non-voting members.

Suggested list of functional representation which includes:

- Distance Learning technology
- Open computer labs (Library, ESSC, etc..)
- Alternative platforms and mobile computing
- Adaptive technology for students with disabilities
- Classroom instructional technology (smart classrooms & instructional computer labs)
- Specialized computer instruction (CTE, Auto Tech, Physics, etc..)
- Staff use of technology for Student Services, Academic Affairs and Administrative Services
- Institutional technology (data center, infrastructure, telephone & paging, etc..)
- Website technology

Members should plan to serve two-year terms. There is no limit to the number of consecutive terms members can serve. The appointing group will be asked to submit a new nominee to replace any inactive members.

Quorum:

A quorum shall consist of fifty percent plus one of the active voting membership of the committee.

Chair/Co-chair:

The committee will be led by co-chairs, one of which shall be the Director of Information Services and the other shall be selected from the Technology Committee membership. The co-chair who is selected from Technology Committee membership shall be elected each May for the following year. There is no limit to the number of times a person may serve as co-chair.

All members of the committee shall be voting members except for the resource persons.

Member Roles and Responsibilities:

Committee members serve as a formal liaison between the Technology Committee and the areas they represent. A member's responsibilities include:

- Attend and fully participate in committee meetings.
- Be knowledgeable on current college policies, procedures, standards and technology resources.
- Provide information, consulting and assistance to members of their group on matters of technology for the area they represent.
- Serve on subcommittees or special assignments as needed.
- Inform and advocate to their employee group and their functional areas about MPC technology and capabilities.

Procedures

- Regular meetings of the committee will be held once a month during the fall and spring terms with additional meetings scheduled as needed and determined by the co-chairs.
- Agenda items must be submitted to a co-chair. Agendas will be established by the chair in consultation with the Vice President for Administrative Services. The agendas will be posted to the membership at least 24 hours prior to each meeting.
- Each agenda will consist of approval of minutes from previous meetings, consent items, discussion items, comments from visitors' (non-member) information items and action items.
- The co-chairs will see that minutes are kept for all meetings. The minutes will include all actions taken and make note of all significant discussions. Minutes will be distributed (or posted) to all members of the committee, the Academic Senate President, the Vice President of Academic Affairs, the Vice President of Student Services, President's Advisory Group tri-chairs and will be posted on the Technology Committee Web Site, once approved.
- Consent agenda items will be voted on as a group with no discussion. Consent items can be moved to the action agenda at the request of any member of the committee at the meeting.
- No action will be taken on any discussion item, unless it is placed on the agenda for a subsequent meeting as an action item.
- Action items may be approved, denied or tabled for future consideration based on a majority vote of the voting members present at a meeting of the committee where a quorum of members is in attendance. For tabled items, the chairperson or designee will contact the originator for more information if needed. The chairperson or designee will make the necessary arrangements for this to occur at a subsequent meeting.
- Non-committee members may attend and make comments at any meeting and may request to be placed on the agenda to make presentations.
- Proxy voting is allowed with prior notification to the chair.

Meetings

Meeting dates and times are scheduled at the beginning of each semester. All meetings are open to anyone wishing to attend.

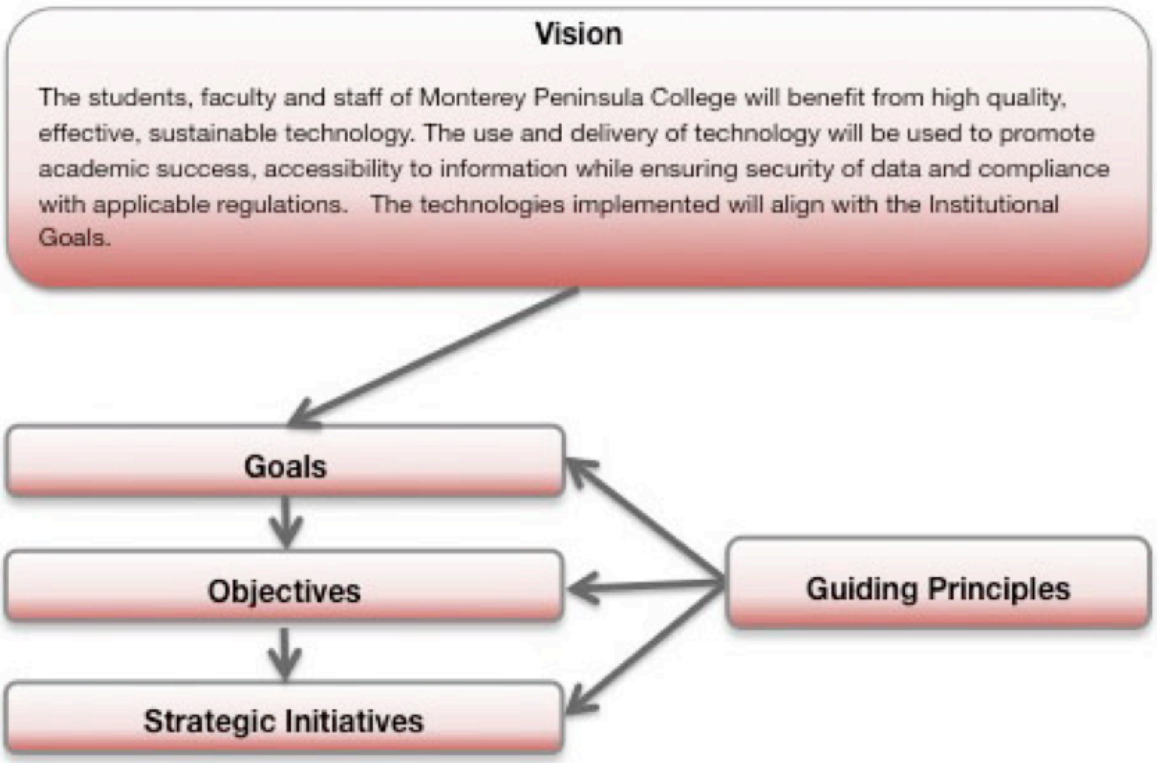
Strategic Elements

Guiding Principles

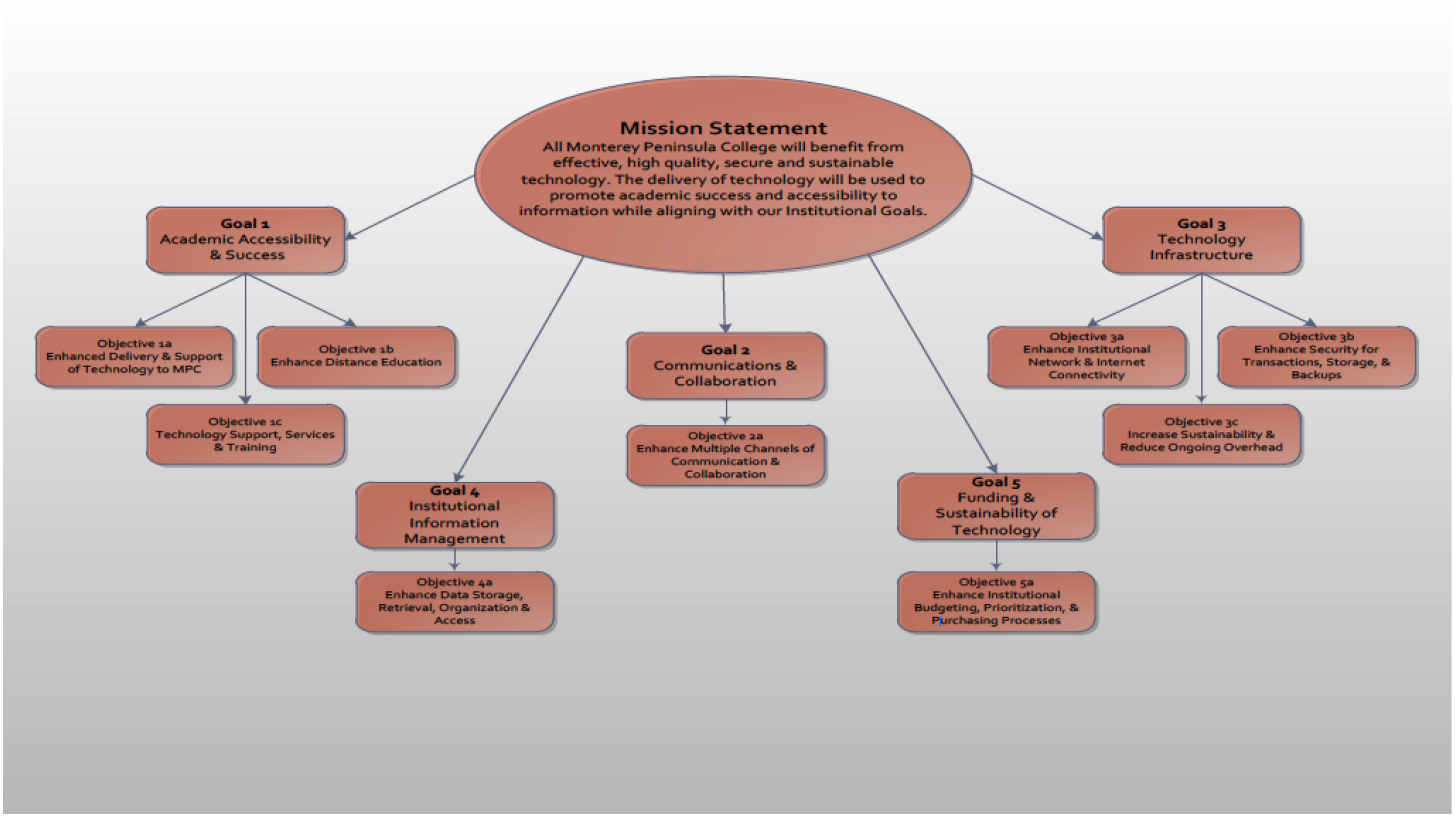
The following principles were developed in concert with the institutional goals and objectives to guide decision-making and the prioritization of IT initiative.

1. Technology initiatives will be considered based on their effectiveness in promoting an environment conducive to the student experience.
2. Technology initiatives will be given consideration for the scope of positive impact.
3. Technology initiatives will be given consideration for current and ongoing feasibility. The feasibility analysis will include current funding, ongoing support and maintenance, IT staffing and equipment requirements.
4. Technology initiatives will align with institutional goals as defined in the 2012 – 2017 Educational Master Plan (EMP).
5. Partnering opportunities will be pursued with other colleges and private sector organizations whenever possible.
6. Sustainable technologies including virtualization, hosted or cloud-based systems will be endorsed when appropriate.
7. Expert services will be utilized for highly complex / low frequency projects when practical.
8. Functional areas will partner with IT during investigation, consideration, procurement and deployment of campus technology to ensure standardization which increases support capability.

Goals, Objectives and Strategic Initiatives



- *Goals* identify MPC's main areas of technology focus and needs over the next three years. The goals in the Technology Plan are aligned to institutional goals identified in the Educational Master Plan.
- *Objectives* are tied to the goals and identify the activities or action steps needed to obtain the results envisioned by the goals. Some objectives support more than one goal.
- *Strategic initiatives* break down the objectives into specific projects and activities. When possible, timelines and budget information is provided.
- *Guiding Principles* guide decision-making in the continual development and enhancement of technology related solutions and services.


Mission Statement
All Monterey Peninsula College will benefit from effective, high quality, secure and sustainable technology. The delivery of technology will be used to promote academic success and accessibility to information while aligning with our Institutional Goals.
Goal 1
Academic Accessibility & Success
Objective 1a
Enhanced Delivery & Support of Technology to MPC
Objective 1b
Enhance Distance Education
Objective 1c
Technology Support, Services & Training
Goal 2
Communications & Collaboration
Objective 2a
Enhance Multiple Channels of Communication & Collaboration
Goal 3
Technology Infrastructure
Objective 3a
Enhance Institutional Network & Internet Connectivity
Objective 3b
Enhance Security for Transactions, Storage, & Backups
Objective 3c
Increase Sustainability & Reduce Ongoing Overhead
Goal 4
Institutional Information Management
Objective 4a
Enhance Data Storage, Retrieval, Organization & Access
Goal 5
Funding & Sustainability of Technology
Objective 5a
Enhance Institutional Budgeting, Prioritization, & Purchasing Processes

Goal 1: Academic Accessibility & Success

To ensure students have access to classes, services, and support with a focus on their overall academic success

Scope:

With declining enrollment and the current funding challenges that face MPC, it is imperative that efforts to enhance student accessibility and success are fully supported. It is necessary that adequate resources be provided to the Information Technology Department in order to support the technology-focused goals of the college.

Objective 1a – Enhance the Delivery and Support of Technology to MPC		
Initiative	Description	Measureable Outcomes
1.a.1 Continue to enhance processes associated with the IT Helpdesk system	In Spring '16, IT implemented a new helpdesk system called Freshservice. The basic operations of this system are in place; however, there are many process enhancements that need to be completed.	● Build out Frequently Asked Questions (FAQs) section ● Adjust Services Level Agreement (SLA) to match advertised IT SLA ● Enhance direct support to students
1.a.2 Implement a project tracking and monitoring solution.	The Freshservice helpdesk system is designed to track and monitor technology tasks. However, there is a need for a system to track and monitor projects.	Implement a system to track and monitor projects with the following criteria: ● Ability to assign project tasks to individuals ● Ability to display projects to outside stakeholders
1.a.3 Enhance IT processes utilizing IT service management (ITSM) methodologies.	The IT Department is dedicated to support and services. Therefore, ITSM practices, based on Information Technology Infrastructure Library (ITIL) need to be implemented.	● Implement ITSM practices and strive for continuous improvement. ● Document enhancement in processes and procedures on an annual basis
1.a.4 Increase hours and days	Increase the hours and days of	● Provide and advertise

of IT support	support to match times and days when classes are in session.	IT support hours that address instructional needs
1.a.5 Implement a clearly defined request, evaluation, and approval process for projects which require IT resources.	There is a need to implement a clearly defined request, evaluation, and approval process for projects which require IT resources. Clarify the distinction between project and service requests. Ensure that project requests clearly identify all relevant costs and resource needs prior to final evaluation and approval, so that realistic expectations are set and any ongoing support or funding commitments are clear.	● A documented and defined IT project evaluation and approval process.

Objective 1b – Enhance Distance Education Support		
Initiative	Description	Measureable Outcomes
1.b.1 CANVAS implementation	MPC has decided to move forward with CANVAS as the primary and support Learning Management System (LMS)	All online classes should have fully adopted CANVAS as the LMS by Fall '17
1.b.2 Online Education Initiative (OEI) implementation	MPC is one of the pilot schools for OEI. The OEI is comprised of several components, including OEI Course Exchange, the common course management system (CCMS) and Proctorio	Successfully participate and implement the following OEI components: ● OEI Course Exchange ● CCMS ● Proctorio

Objective 1.c – Technology Support, Services and Training		
Initiative	Description	Measureable Outcomes
1.c.1 Address IT staffing needs	The Information Technology Department: Health Check	Address the following IT Staffing needs:

	conducted by Strata Information Group (SIG)(See Appendix B) indicated several gaps in IT staffing. While it may not be feasible to address all staffing needs, those that are obtainable should be addressed.	● Develop and implement a plan to centralize technology support personnel. This plan needs to be inclusive of impacted stakeholders and implemented in a phased approach. ● Create and fill Webmaster/Technical Trainer position ● Address staffing needs in the programmer's area
1.c.2 IT Staff - Professional Development	Because of the dynamic and ever changing nature of technology, it is important that technical support staff be supported in continuing professional development.	Technical Support staff should complete ongoing training. The specific trainings will be identified individually, based on position.
1.c.3 Enhance IT supported, technical training to Staff, Faculty and Students	Create a regular series of basic training and knowledge sharing events addressing the most common and highest impact tools and services: Examples include Google Apps for Education, classroom technology, and data security awareness.	By Fall '17 a regularly scheduled series of technical trainings will be scheduled and advertised, including: ● Google Apps ● Classroom Technology ● Data Security Awareness

Goal 2: Communication and Collaboration

Provide students, faculty and staff with access to proven technology that enhances communication and collaboration.

Scope:

Using proven technology, students, faculty, and staff can effectively and efficiently access portals of communication and collaboration. Enhancing communication and collaboration through technology will lead to increased efficiency amongst functional areas on campus and will ultimately provide better support and services for the students.

Objective 2a – Enhance Channels of Communication and Collaboration		
Initiative	Description	Measureable Outcomes
2.a.1 Evaluate and enhance Intranet	The current Intranet solution is "My MPC", developed on a SharePoint platform. There is a need to explore and implement a new intranet solution.	Implement a new intranet solution that fulfills the following criteria: ● User friendly ● Sustainable ● Secure
2.a.2 Enhance Google Apps for Education automated processes	Google Apps for Education was successfully implemented in Spring '16. Now there is a need to automate processes on campus through the use of these tools.	● Develop workflows with Google Scripts to automate processes using Google tools (Form, sheets and docs)
2.a.3 Implement helpdesk solution for student serving functional areas.	There is a need for a helpdesk system for functional areas, such as A&R for tracking and monitoring requests. Because Freshdesk is the helpdesk system already successfully used by Distance Education, this system can be used to phase in new functional areas.	Successfully implement helpdesk system for A&R
2.a.4 Improve emergency notification systems and procedures.	The emergency notification systems and procedures have improved greatly since 2013. However, there are still gaps that need to be addressed including non-operating outside speaker system, VoIP	Implement the following: ● VoIP enhanced 911 ● Functional outside speaker system ● Improved technology inside of the Emergency Operations

	enhanced 911 needs to be implemented, areas that the Public Address (PA) system can't be heard need to be addressed.	Center (EOC) ● Documented training for individuals who may be using the emergency notification systems. ● Upgrade campus phones that are not compatible with Informacast

Goal 3: Technology Infrastructure

The college technology infrastructure needs to be enhanced and supported to provide the tools and resources for institutional technology needs.

Scope:

The technology infrastructure is the core of technology on this campus. We need to provide a modernized and sustainable foundation for which technology on this campus will grow. This includes: hardware, software, transmission networks, security protocols, backup and recovery systems, and monitoring systems.

3.a – Enhance the Institutional Network and Internet Connectivity		
Initiative	Description	Measureable Outcomes
3.a.1 Enhance network infrastructure	Deploying and managing a stable, robust, flexible and secure network infrastructure is a critical responsibility fundamental to delivery of all technology services. Conduct a comprehensive review of the campus network (equipment and configuration) using trusted external resources: either a professional consulting firm or perhaps explore engagement with experienced staff from peer institutions. Such a review was completed three years ago, generating many useful recommendations. A similar review of the current network environment should identify current risks and opportunities relative to stability, reliability, and security prior to undertaking any major system implementation.	The following should be completed before Fall '17: ● Security systems including enhanced firewall implemented ● Independent Network Security audit completed before and after implementation ● Network engineers trained on the ongoing use and maintenance of security systems
3.a.2 WiFi validation, plan and upgrade	WiFi coverage has greatly improved in the last 3 years. However, the work needs to continue to enhance WiFi to	Working directly with the office of Academic Affairs, identify and prioritize enhanced WiFi coverage based

	address current and future student and instructional needs.	on the following criteria: ● Instructional need (WiFi directly supports current or planned program needs) ● Enhanced campus-safety related communications ● Sustainability
3.a.3 Segment Computer Sciences (CS) labs to support network and Cyberpatriot classes	There is a growing demand for cybersecurity and networking classes. These classes pose a potential security risk to the network. The demand for these classes should be embraced, however, work must be done to remediate the security concerns.	By Fall 2017 have the CS labs segmented onto a separate, secure networks with access to the internet.
3.a.4 Implement a Bring Your Own Device (BYOD) environment	As part of the strategy to reduce the overall computer count, a BYOD environment needs to be implemented. To successfully implement a BYOD environment factors such as WiFi availability and appropriate furniture have to be addressed.	Identify and implement BYOD infrastructure in appropriate locations.

3.b – Enhance Security for Transactions, Storage and Backups		
Initiative	Description	Measureable Outcomes
3.b.1 Conduct external security audit/review	Engage trusted external resources to conduct a comprehensive infrastructure security audit/review. This audit should include testing for vulnerabilities and implementation of internal and external best practices	● Complete external security audit review ● Review results with appropriate stakeholders
3.b.2 Address known security vulnerabilities	Technology security measures need to be increased at MPC. The current state of cybersecurity on campus must	Successfully implement and train on systems that will address known security issues. Examples include

	be upgraded to mitigate vulnerability and risk to the college.	upgraded firewall solution and network security management tools.
3.b.3 Develop disaster preparedness/recovery plan	There is a need to formally plan and document a disaster recovery/business continuity plan. This plan should consider both hosted and local data backup and recovery options.	A formalized disaster recovery/business continuity plan to be completed by Summer 2017.

3.c – Increase Sustainability and Reduce Ongoing Overhead		
Initiative	Description	Measureable Outcomes
3.c.1 Promote the use of unlimited hosted (Google) data storage. Develop appropriate quota for local data storage.	In a recent scan of the locally stored data, it was determined that the local data storage has grown beyond sustainability. While IT will continue to support and maintain local storage, a reasonable per user quota needs to be put in place. The campus has unlimited cloud storage available through Google Drive. This unlimited cloud storage should be utilized when practical and possible.	• Reduced the amount of locally stored user data to a reasonable level. • Set a quota on the per user local storage
3.c.2 Develop sustainable printing solutions	Evaluate campus printing solutions, including copier/printer contracts and Print Shop Operations.	Develop report addressing all campus printing requirements and current solutions with recommendations for improvement.
3.c.3 Centralize servers and related systems	There are multiple servers, often managed by Instructional Technicians, across campus that need to centrally located and managed by the IT Department.	Design a supportable and sustainable centralized server solution that addresses the needs of the current decentralized servers.
3.c.4 Redesign Active Directory	Currently Active Directory (AD) is divided into two	Redesign and implement Active Directory (AD)

	domains: MPC.EDU and Lobosmpc.org. The time has come to review this design and to redesign using current industry recognized best practices.	adhering to currently recognized industry best practices.

Goal 4: Institutional Information Management

Faculty and Staff will have access to college information systems that facilitate storage, retrieval, analysis and reporting of institutional information.

Scope:

The guidelines for a business process analysis, the procurement of an Enterprise Resource Planning system, as well as institutional reporting in concert with the ERP system will be established.

4.a Enhance the Institutional Data Storage, Retrieval, Organization and Access		
Initiative	Description	Measureable Outcomes
4.a.1 Implement Enterprise Resource Planning (ERP) system.	An ERP would greatly expand the institution's effectiveness and efficiency with regard to its operational data, as well as allowing for efficiency and expansion of services to students. The need to transition to an ERP has been a topic of institutional discussion since 2013, and has been documented in the MPC Technology Plan 2013-2016, in the Institutional Goals and Objectives (see Objective 4.2), and in the Self Evaluation Report (see Standards I.B.8, II.A.6, and III.C.2).	See Appendix F - Quality Focus Essay
4.a.2 Implement Enrollment Management System (EMS)	The need for an Enrollment Management System (EMS) emerged from these discussions. Once implemented, EMS will increase access to course enrollment data and provide the ability to examine enrollment for the entire College down to the level of individual course sections.	See Appendix F - Quality Focus Essay
4.a.3 Implement TracDat	The TracDat system will strengthen connections between data elements of	See Appendix F - Quality Focus Essay

	SLOs, program review, planning, and resource allocation; once implemented, TracDat will connect these elements to each other and to the College's Institutional Goals. Using TracDat to improve the practical connections between the components of the planning and resource allocation process will allow the institution to improve institutional effectiveness and make better decisions in support of student success.	
4.a.4 Fully utilize current systems - SIS, Escape, EMS	Even though MPC is in need of an ERP system, there is a need to fully utilize the systems currently in place.	Meet with Santa Rosa Junior College (SRJC), review their similar systems and processes. Implement appropriate enhancements to current SIS (and related) systems (Examples include integrated timekeeper system, employee onboarding process, etc.)
4.a.5 Develop paperless processes	There is a need for a documented, paperless, processes to be developed. These processes need to be developed in a collaborative manner involving IT, HR, A&R and other functional areas.	Development and implement paperless processes.
4.a.6 Establish Data Custodian/ERP Steering committee	Accurate data is vitally important for MPC. The collection and reporting of data has been problematic. A collaborative steering committee with District level data oversight should be developed. This committee will take a lead role in steering MPC towards the procurement and implementation of an ERP.	Develop a Data Custodian/ERP Steering Committee with the following key stakeholders: ● Director, Information Services ● Director, Admissions & Records ● Director, Financial Aid ● Controller ● Systems and Programming Manager ● Others as determined by VPs and President

4.a.7 Implement PowerFAIDS	The current Financial Aid system, FAMS, is at end of support. Therefore, a new system has to be implemented. PowerFAIDS is a comprehensive, customizable software solution that automates your financial aid process. It allows institutions to efficiently and equitably administer financial aid, eliminating hours of paperwork and allowing for more student interaction.	PowerFAIDS go-live by Spring '17
4.a.8 Implement a "non-paid" waitlist	Currently the SIS system only allows for a "paid" waitlist. In other words, a student has to pay the class fees to be added to a waitlist. Because of issues that would cause, this option has not been enabled in the SIS system. It has been determined that non-paid waitlist is needed.	Hire a programmer to develop a non-paid waitlist. Project Objective: ● Implement "Unpaid" wait-list to be integrated into the SIS system Timelines: ● Demo in place by early Feb '17 (faculty training Feb and Mar '17) ● Production go-live before Summer '17 priority registration (April 10, 2017) Additional Notes: ● Training will be provided to faculty ● Wait-list will be limited to 15

Goal 5: Funding & Sustainability of Technology

Technology solutions will be high priorities for the college and are funded, acquired, developed and implemented in a timely, sustainable and cost-effective manner.

Scope:

The Technology Committee in consultation with the IT department will research a sustainable refresh strategy and identify additional funding sources. Grants and partnerships that are obtained will enhance technology for the campus and strengthen relationships with other educational and professional entities.

5.a Improve Technology Budgeting, Prioritization and Purchasing Processes		
Initiative	Description	Measureable Outcomes
5.a.1 Formally plan and fund an annual refresh cycle for enterprise infrastructure needs (network and centralized server/storage equipment) as well as personal equipment needs (faculty/staff/classroom PCs and related equipment).	MPC replaces aging instructional and institutional technology as part of its integrated planning and allocation processes. Inventory documents detail the equipment, years to replacement, and yearly replacement cost.	• Develop an ongoing budget to address technology refresh should be established. • Reduce the overall number of MPC computers by at least 10%.
5.a.2 Utilize Managed Hosted Solutions	The ongoing expense and management overhead to house local servers and storage can be offset by using managed hosted solutions, when appropriate.	Evaluate new solutions and systems in place for feasibility to move to managed hosted solutions when possible.

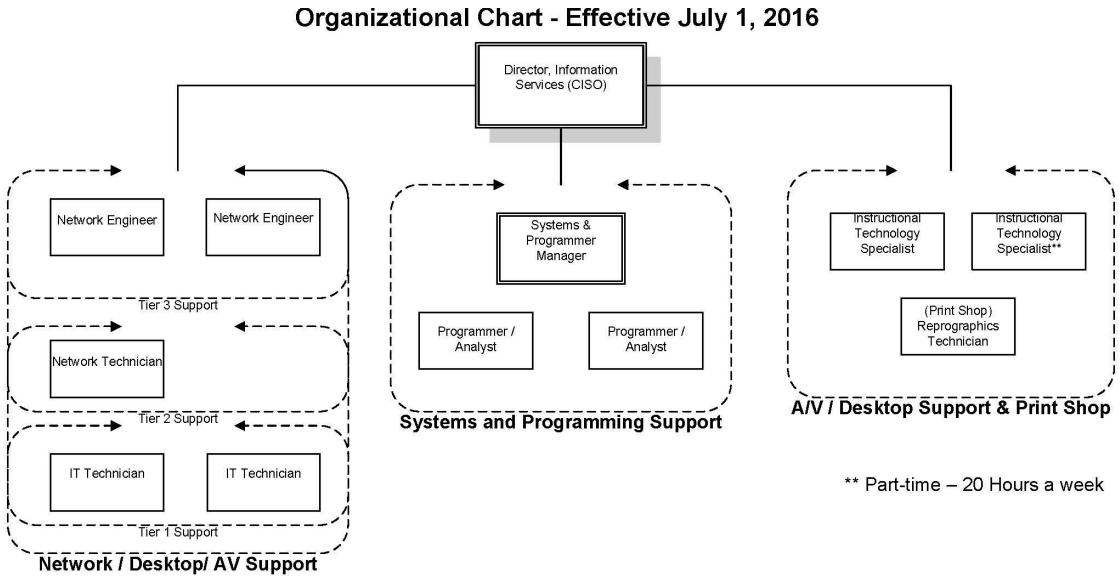
Information Services Department Overview

An essential factor in the Technology Plan is the available resources to successfully complete technology initiatives. The Information Technology (IT) Department is responsible for the implementation and continuing maintenance of the majority of the technologies discussed in this plan. The narrative below is the current status of the IT Department staffing as well as a proposed staffing model to address current and future technology needs as defined in this Technology Plan.

Current Staff Model

The IT Department supports the technology needs of the College in areas of instruction, student services and administration ranging from the central systems to individual desktops. The staff is composed of individuals trained in their area of specialty.

Qty	Position	Assignment or Speciality
1	Director of Information Services	Department Management and Chief Information Systems Officer (CISO) for the College
1	Systems & Programming Manager	Supervises, organizes, coordinates, and participates in the work assigned to Programmer/Analysts
2	Programmer/Analyst	Develops and maintains applications. Also responsible for required state mandated data submissions.
2	Network Engineer	Tier 3 support - Instructional, staff, and faculty infrastructure administration and support
1	Network Technician	Tier 2 support - Performs duties that span complex Tier 1 support and less complex Tier 3 support.
2	IT Support Technician	Tier 1 support - Desktop and AV
2	Instructional Technology Specialist	Tier 1 Support - Classroom technologies, AV and desktop
1	Reprographics Technician	Print shop operations and support



Proposed IT Staffing - Phase I

The MPC IT Department must stay current with technology and provide service and value to the college. Gaining efficiencies and improving productivity are necessary adaptations to the changing economic conditions of the California education sector. Based on evaluation of the current IT staff model, the following additional resources are the recommended means to satisfy the goals laid out in this plan. This IT staffing model will not eliminate the need for outside technical expert services; however, it will greatly reduce the need and ongoing dependence on consulting to achieve the goals identified in this plan.

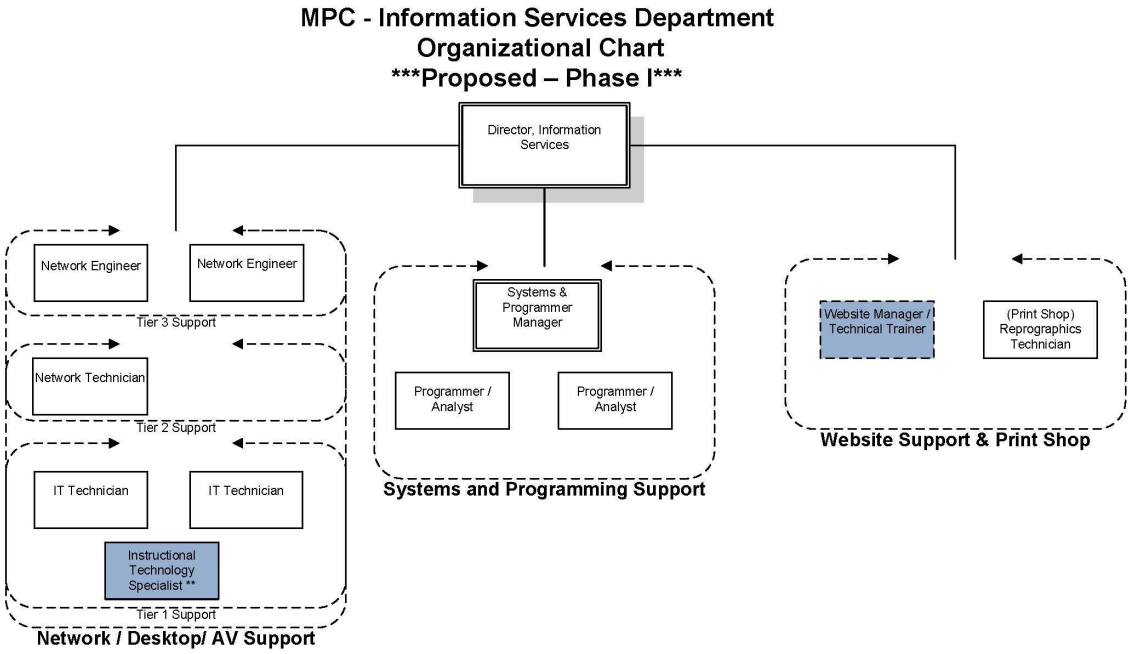
Website Manager / Technical Trainer (New Position)

The expanded capabilities of the MPC public website have identified a growing need for technical individual with strong communication, graphics design, project management and technical training skills to serve as MPC's Webmaster/Technical Trainer. The Webmaster will have oversight on the public website to ensure the site provides up-to-date information and is fully accessible. This individual will develop, maintain and promote the website, ensure the site is visually attractive and fully functional and serve as primary POC to the external vendor and hosting companies who are integral in maintaining a stable and reliable environment for the college. The Webmaster will be responsible for much of the content on the site, making sure that the website's code is compatible with various browsers, fixing broken links and images, adding new pictures, calendar events, news

items, updating content and providing training/support to other content editors, as required. In addition to providing training and oversight for faculty and staff with permissions to edit content on the public website, he/she will also serve to provide other focused training on enterprise software applications used on the campus (Google Apps, SIS, etc..) and take on project management/communication/training roles for future software application roll-outs (Intranet, ERP, etc..).

Instructional Technology Specialist

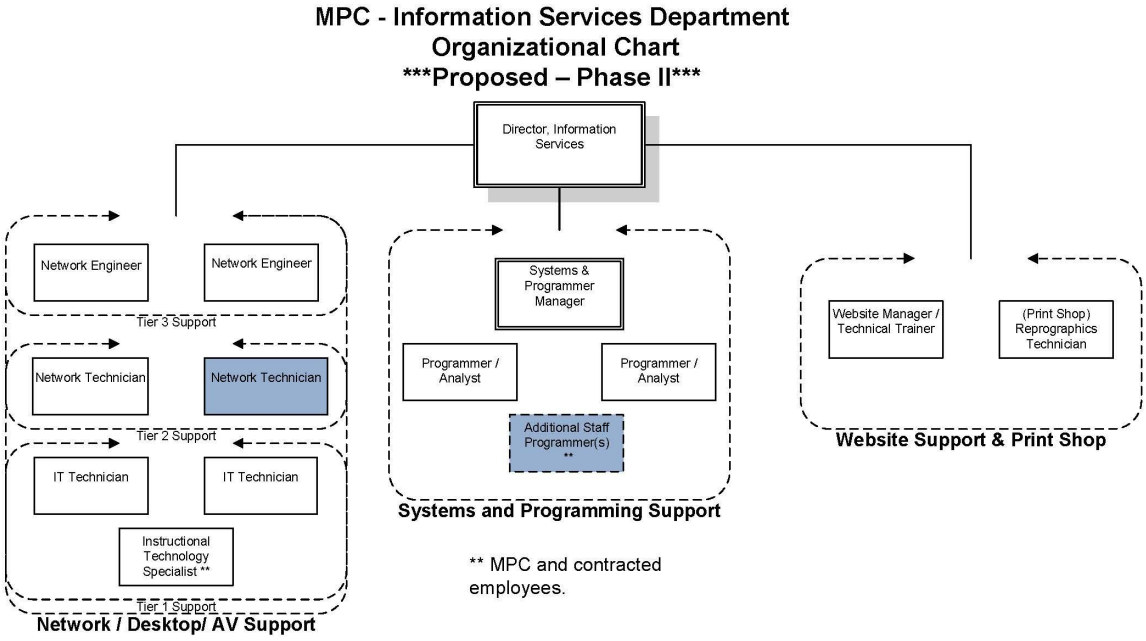
Based on the recommendations of IT Health Assessment (See Appendix B), develop and implement a plan to centralize technology support personnel. This plan needs to be inclusive of impacted stakeholders and implemented in a phased approach. The need for specialized support for programs remains a consideration.



** Existing pool of Instruction Technology Specialists after change of supervision. Support would include areas presently covered. Enhanced support would include standardized processes and overlap in coverage.
A/V support would be included in this coverage.

Proposed IT Staffing - Phase II

Add a 2nd Network Technician position. Increase programmers' resources through hiring additional staff programmers, contracting staff or a combination of both. The specific needs will be identified through further analysis. Other long-term IT staffing plans should include at least one additional manager reporting to the Director. (Appendix B: IT Health Assessment, Pg 65). The sequence of priorities for addressing these staffing needs may change as factors such as retirement, ERP implementation and others come forward.



Online Education

MPC's Online Education Committee (OEC) serves as the recommending body on all matters related to online teaching and learning. OEC makes recommendations on issues pertaining to academic and technical support for online students and instructors, policies and procedures related to online instruction, and also planning, development, evaluation and review of online offerings.

A Dean of Instruction provides the oversight and leadership for all MPC Instructional Technology and Distance Education.

The OEC is made up of faculty, staff, and administrators with expertise and interest in distance education including: the Vice President of Academic Affairs, a Dean of Instruction, Director of Information Services, the MPC Online Instructional Technologist, and the Faculty Coordinator for Distance Education. The OEC's membership also includes representatives from the Institutional Research and Financial Aid departments, division technicians, and instructional faculty members drawn from counseling/advising, library sciences, career technical education, liberal arts, and the sciences.

MPC has long recognized that distance education and online instruction support the learning and success of all students, traditional and non-traditional alike, by allowing for the incorporation of interactive technologies and a variety of media applications in instruction.

In addition to providing up-to-date computer technology for learning, MPC's information technology goals include: providing support for distance learning technologies such as online and video conferencing, maintaining an instructional technology lab for use by faculty, and ensuring that students with disabilities have equal access to technology.

Governing Board Policy - 3720

Chapter 3 General Institution

BP 3720 Computer and Network Use

The District owns and operates computer and electronic communication systems that support the District's mission of providing instruction and support services to students. The District explicitly prohibits individuals from using its computer systems and networks to violate intellectual property and copyright laws. All users of District information technology resources shall secure appropriate prior permission to download and/or distribute protected material in any form, including computer software, text, photographic images, graphic illustrations, video, and audio including music. The District reserves the right to deny access to its information technology resources when necessary to satisfy these restrictions and constraints.

The use of information technology resources is limited by restrictions that apply to all District property and by constraints necessary for the reliable operation of electronic systems and services. Anyone who uses District information technology resources and the information they contain, and related resources, has a responsibility to use those resources in an acceptable manner and to respect the rights of others. Administrative Procedures that provide guidelines to users for the appropriate use of the District's information technologies will be associated to this Board Policy. The procedures shall include that users must respect software copyrights and licenses, respect the integrity of computer-based information resources, refrain from seeking to gain unauthorized access, and respect the rights of other users of information technology

References: Education Code Section 70902; 17 U.S. Code Sections 101 et seq. Penal Code 502; Accreditation Standard III.C

**See Administrative Procedure 3720 on following page*

Administrative Procedure - 3720

AP 3720 Computer and Network Use

References: Education Code Section 70902; 17 U.S. Code Sections 101 et seq. Penal Code 502; Accreditation Standard III.C

Computer and Network Acceptable Use Agreement (AUA)

Introduction
To comply with federal and state regulations, laws, and harassment mitigation policies, educational organizations are compelled to establish Internet safety guidelines otherwise known as Acceptable Use Agreements (AUAs) for the appropriate use of computer systems.

Rights and Responsibilities
Use of computers, services, and networks owned by Monterey Peninsula College (MPC) is a privilege governed by certain regulations and restrictions as defined by the College as well as by all applicable federal, state and local laws.

The user agrees to abide by the regulations set forth in this AUA. This means that the user agrees to behave responsibly in accordance with the standards established by MPC and this document while using college systems and network resources.

Right to Privacy
MPC supports each individual's right for personal communication; however, messages on computing resources are accessible to others through normal system administration activities and to the public through public records laws. Therefore MPC cannot guarantee privacy of electronic communication.

The system administrator reserves the right to monitor the usage of all network resources to ensure compliance with this policy, College policy, and federal, state and local laws. User files may be subject to search by law enforcement agencies under court order if such files contain information which may be used as evidence in a court of law.

MPC users are expected to comply with copyright and intellectual property laws.
Users who become aware of any violation of this policy should notify the proper authorities.

Email
Email correspondence between employees of MPC to students or the community directly related to performing the duties and business of the College must take place using the official MPC.edu email

address. Any official correspondence to a preferred or provided email address that is not a MPC domain email address will be considered a violation of this policy. MPC students should be directed to check MPC.edu email often for communication from the college and its employees. The MPC administration acknowledges there are exceptions to this policy such as when contacted by past students who no longer use college email or prospective students who have not yet received their student email address.

Student E-mail

An MPC e-mail address (username@mpc.edu) is provided to all students as an official means of communication. Students are responsible for all MPC communication sent to their MPC e-mail address.

It is expected that students check their e-mail account on a frequent and consistent basis. To ensure that students remain current with MPC-related communications, students are strongly encouraged:

- To check their e-mail at least two times a week.
- To respond to all official MPC communications as directed in each communication (e.g., responding in person, by surface mail, or by e-mail).
- Do not assume an e-mail response is a satisfactory substitution when directed otherwise.

Students are subject to this policy during academic terms for which they are enrolled, during breaks between terms, and during MPC holidays and vacations.

Faculty members determine how they will use e-mail in their classes. Faculty may wish to include their e-mail expectations in the course syllabus. The distribution of mass communications is restricted to MPC departments and offices for MPC business. External requests for mass communications will not be honored.

MPC employs various measures to protect the security of its computing resources and users' accounts. However, users should be aware that MPC does not and cannot guarantee such security. Furthermore, individuals are advised to exercise caution when sending sensitive privacy-protected student information via e-mail (See or Family and Educational Rights and Privacy Act (FERPA) guidance online for additional information). In addition, individuals are reminded that some MPC information is not appropriate for e-mail communication.

Enforcement

Violations of this policy will be reported to the appropriate administrator and, if warranted, the appropriate civil authorities. Non-compliance with this policy may also result in the loss of access to computer resources.

- Students will be subject to the student discipline process as outlined in the college catalog.
- Employees: Enforcement and discipline of this policy will be decided upon by HR and/or applicable union contract agreements.

Acceptable Use Agreement

Conduct which is deemed non-acceptable use of MPC technology resources includes, but is not limited to, the following activities:

- Using a computer account without authorization.
- Sharing an account with other users is not authorized.
- Using the campus network to gain unauthorized access to any computer systems.
- Connecting unauthorized equipment to the campus network.
- Using a personally-owned wireless access point or wireless device acting as an access point on campus.
- Attempting to circumvent data protection schemes or uncover security loopholes. This includes creating and/or running programs that are designed to identify security loopholes and/or decrypt intentionally secure data.
- Knowingly or carelessly performing an act that will interfere with the normal operation of computers, terminals, peripherals, or networks, e.g., deleting programs or changing icon names.
- Knowingly or carelessly running or installing on any computer system or network, or giving to another user a program intended to damage or to place excessive load on a computer system or network. This includes, but is not limited to, programs known as computer viruses, Trojan Horses, and worms.
- Deliberately wasting/overloading computing resources
- Violating terms of applicable software licensing agreements or copyright laws.
- Violating copyright laws and their fair use provisions through inappropriate reproduction or dissemination of copyrighted text, images, movies, etc.
- Using College resources for commercial activity, such as creating products or services for sale.
- Using electronic mail to harass or threaten others. This includes sending repeated, unwanted e-mail to another user.
- Initiating or propagating electronic chain letters.
- Inappropriate mass mailing. This includes multiple mailings to newsgroups, mailing lists, or individuals, e.g. "spamming," "flooding," or "bombing."
- Forging the identity of a user or machine in an electronic communication.

- Transmitting, reproducing, or publicly displaying materials that are slanderous or defamatory in nature or that otherwise violate existing laws or MPC regulations.
- Attempting to monitor or tamper with another user's electronic communications.
- Reading, copying, changing, or deleting another user's files or software without the explicit agreement of the owner.
- Transmitting pornographic material.
- Software theft (pirating). Users will not install unapproved software on computers owned by MPC, including software that does not include a site license agreement via MPC Tech Services.
- Accessing MPC Ethernet (wired) network without written permission from MPC IT is strictly prohibited. Violations of this include:
    - Moving computers, printers or other devices from one data port to another.
    - Plugging any personal device into a data port.
- Network shared storage is for work related purposes only. Storing non-work related personal items, including photos, video clips and music is prohibited.

**See Board Policy 3720 above*

Services Level Agreement (SLA)

Purpose

The purpose of this document is to define service levels provided to Monterey Peninsula College (MPC), to ensure supported business needs are met. This Service Level Agreement (SLA) identifies customer expectations and defines services provided by MPC Information Technology (IT), stating agreed-upon service level goals, operating practices, and reporting policies.

Commitment to excellent service

IT is committed to delivering excellent customer service by:

1. Responding to requests for support within published time frames.
2. Interacting with the MPC campus community in a respectful and courteous manner.
3. Requesting feedback for opportunities for improvement.
4. Continuously working to improve quality of service.
5. Regularly reviewing and monitoring performance based on this SLA.
6. Publicly publishing weekly status reports.
7. Notifying all impacted customers well in advance before any system change takes place. The notification will be provided with as much lead time as possible.

Scope

IT provides support to MPC employees in the following categories:

1. MPC owned computing devices – desktops, laptops, etc.
2. MPC owned telephones, fax machines
3. Supported software applications
4. MPC IT approved Operating Systems, hardware, firmware, and supported software updates
5. MPC IT recommended anti-virus and power management software
6. Access to shared folders
7. MPC owned peripherals such as printers and scanners
8. Network hardware management
9. Internet connectivity and core phone systems/services
10. Core Enterprise Applications; Email, SIS
11. Network equipment configuration/installation

*The list above is not comprehensive and does not reflect the collaborative efforts between IT and the Lab Technicians in the current decentralized technical support model.

Out of Scope

1. Any equipment that is not owned by MPC.
2. Personal computers, laptops, tablets, or smart-phones of faculty, staff or students.

3. All personally owned devices and software.
4. Third party software not installed by IT.
5. District or College purchased software cannot be installed on personal systems.
6. Ad hoc end-user training on applications.

Hours of Operation

Normal hours of operation are Monday through Thursday, 8:00am – 8:00pm; Friday 8:00am - 5:00pm. All campus-observed holidays are excluded.

Requesting Service/Assistance

Submit all requests and question through the IT & AV Help Desk

Priority Levels

IT will assign priorities for all requests not resolved at the time of the initial call, based on the below definitions. Requests will be handled according to the priority of the work order, as determined by IT.

The following table briefly describes priority levels assigned to work orders, and initial response time expectations. While every effort will be made to resolve all issues immediately, circumstances may delay remediation or repair. In such cases, a resolution path and approximate time frame will be determined, and communicated to the end-user.

Level	**Description**	**Initial response**	**First Contact Point**	**Escalation**
1	Critical Emergency	<1 hour	831-646-4080 and x4088 (Evening Support) IT/AV Help Desk	Tier 4: Director, IS/Systems Programming Manager Tier 3 : Network Engineers/Programmers Tier 2: Network Engineer Tier 1: Technicians/Help-desk
2	Urgent/High	<2 hours	IT/AV Help Desk	
3	Normal	24 hours	IT/AV Help Desk	
4	Low/Scheduled	5 days	IT/AV Help Desk	
5	Project Based	Scheduled	IT/AV Help Desk	

Priority levels in detail

(Bullet points are provided as examples only and not inclusive of possible range of issues and may not reflect current model of decentralized technical support)

Priority 1: < 1 hour response

Defined: Immediate impact upon instruction

- Classroom technology failure, preventing the class from proceeding
- Critical service failure for one or more divisions/business groups

Priority 2: < 2 hour response

Defined: Urgent or high priority issues directly impacting instruction or business operations

- Classroom technology failure that must be addressed before the next class meeting
- Staff inability to access core services
- Faculty or staff computer is non-functional, and preventing them from working
- Virus infection

Priority 3: 1 day response

Defined: Day-to-day support issues of a non-urgent nature

- One or more applications will not function, but an alternative exists
- Classroom technology problems that do not prevent the class from proceeding
- Issues of an inconvenient nature, but not impacting day-to-day business operations

Priority 4: 5 day response

Defined: Low priority or scheduled requests

- The user has requested A/V for a class in the future
- An appointment for new or replacement equipment to be set up
- Computer OS or Software updates
- Equipment/phone moves and setup

Priority 5: Project based requests

Defined: These requests are considered informational, or project-oriented, and will be addressed as part of larger projects or ongoing maintenance issues.

- Any request for non-essential help without time constraints
- Technology initiatives or projects
- Non-urgent software or equipment purchase consultation

Exceptions:

During traditionally busy times, such as the first week of a semester, response times may be longer than normal. Help Desk staff will inform callers if a delay is to be expected.

Response times do not guarantee resolution times, although every effort will be made to resolve all work orders upon first contact. If an immediate resolution is not available, interim solutions will be suggested and made available. Examples of delays:

- A part needs to be ordered to return a computer to operation. If possible a loaner computer will be made available.
- A subject matter expert must be contacted in order to resolve the problem.

Customer Responsibilities

To help facilitate the IT support process, the MPC campus community is requested to:

- Provide a clear, detailed narrative of the problem, including location and contact information.
- Provide a clean, safe and hospitable work environment for IT while they are in your office, class or lab.
- Notify IT at least 24 hours advance of any pre-determined need.*
- Interact with IT in a respectful and courteous manner.
- Attend training opportunities offered on campus for technology that will be used.
- The District IT Department must be consulted regarding new hardware or software purchases to have expectations of ongoing support. The instructional support technicians are a valuable support resource; however, to avoid confusion and non-standardized solutions, technical assessments need to performed by the District IT Department.
- Customers are asked to put in their own individual helpdesk tickets, not have others, such as instructional support technicians, put them in on their behalf.

*Depending on the scope of the request, additional lead-time may be required.

Appendix A: Security Report

On June 27, 2016 an external vulnerability scan was performed by the California Community Colleges Technology Center per the request of the Director of Information Services. Due to sensitive nature of data included in the security report the document can not be included in its entirety but a summary of findings are provided below.

The following are some of the network vulnerabilities that were discovered.

- Servers with unpatched vulnerabilities.
- Servers running no longer supported operating systems
- Services that should not be reachable externally
- Cross Site Scripting Vulnerabilities

For the most part, the servers with issues identified above were not being centrally managed by the I.T. Department. Initiative 3.c.3: Centralize servers and related systems will address this. Other vulnerabilities will be addressed through initiative 3.a.1: Enhance network infrastructure.

Appendix B: IT Health Assessment

MPC | Monterey Peninsula College

Information Technology Department: *Health Check*

March 2016

Bill Reed, Senior Manager/Consultant

Strata Information Group

Information Technology Department Health Check Report

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BACKGROUND INFORMATION

Monterey Peninsula College (MPC) engaged Strata Information Group (SIG) to conduct a high-level review of their information technology environment and operations including assessment of various aspects of information technology utilization, organization, and management. Senior Manager/Consultant Bill Reed conducted the assessment and prepared the report. This document is intended to provide MPC with an evaluation of the current state of information technology needs and services along with recommendations which may be used to help chart the future direction for organization and delivery of technology services and support.

The observations and recommendations are derived from review of information provided by MPC, phone interviews/discussions, and a series of onsite interviews (10 individual and 4 group meetings) with IT staff, other technical support staff, and key stakeholders completed in March 2016. MPC participants were open and cooperative in sharing their perspectives. It's clear that commitment to the College and a strong desire to provide high quality services and support to the students, faculty, and staff are shared values across the organization.

Technology services and support have become an essential component of virtually every aspect of college life. The intersection of growing demand and constant pressure on resources presents substantial challenges requiring creativity, flexibility, management expertise and effective leadership to navigate. A clear course needs to be charted and execution effectively managed to ensure that activities and resources are closely aligned with the strategic priorities of the College. Leadership, governance, planning, delivery, and communication always matter, never more so than when resources are constrained or when organizational change is prevalent.

OVERVIEW

IT organizations provide a wide range of essential services which have often been characterized as utilities/maintenance (communications, infrastructure, equipment support) or development (programming, system implementations, research/analysis, project management). More recently the conversation describes services in terms of purpose:

Run – supporting ongoing operations
Grow – supporting incremental growth and improvements
Transform – supporting transformative change (e.g. new programs/initiatives, substantially different business processes, new applications/systems)

Many IT organizations in higher education are of necessity focused on services which fall toward the run/grow end of the spectrum. The highest priority is typically maintaining the communications and collaboration networks along with the central enterprise-level systems upon which daily operations depend. Sometimes the capacity, or ability, to support transformative projects or initiatives which help differentiate the institution – i.e. those directly related to teaching/learning or other strategic objectives such as enrollment management, fundraising, research, or community service and outreach – is constrained by inadequate resources or lack of clarity around institutional priorities.

In contrast, mature IT organizations typically display some degree of balance across the full spectrum of services – run, grow, transform - by effectively negotiating reasonable expectations with their customers and meeting agreed service levels in all three areas. That's achieved by developing trusted relationships across all segments of the campus and demonstrating a commitment to meeting customer needs. Many IT departments are consumed with meeting run/grow demands and struggle to support transformative initiatives for various reasons: resource constraints, expanding run/grow needs, management inefficiencies, or leadership challenges. The IT department at MPC has effective leadership and strong executive support, but is clearly impacted by those other factors. Despite the

best intentions, commitment to the mission, and loyalty to the College, those challenges impede the staff's ability to provide the range and quality of services required by an institution of MPC's size and scope. MPC's path to excellence requires a comprehensive, well-staffed, cohesive and collaborative technology services organization.

The assessment was organized around three primary components of the organization:

People (Leadership, Resources, Staffing, Structure)
Process (Governance, Planning, Procedures, Service Management)
Technology (Operations, Tools)

Recommendations are based on the information available to date and may evolve during review and discussion. Specific, in-depth review of specific systems or individual staff performance was not part of this assessment.

PEOPLE

Strengths

- Adequate level of technical expertise for current requirements
- Mix of long-term and newer staff providing fresh perspectives and institutional history
- Key stakeholders acknowledged most staff members are responsive and applauded their efforts to provide high quality service
- Effective leadership and executive support

Concerns

- Difficult environment in which to recruit and retain highly skilled technical staff due to proximity of many large commercial technology firms competing for talent.
- Current skills sets may not translate well to implementation and support of an integrated ERP system. While specific skills needed will depend on the system selected, it's reasonable to assume that process analysis expertise and programming/development support using languages such as Java, JavaScript, SQL, PHP, Ruby, Eclipse, C# or Python will be essential.
- Staffing levels are inadequate for implementation and support of new systems. The implementation effort for any ERP system is substantial, requiring dedicated full-time engagement of both technical and functional roles such as database administrators, programmers, report developers, subject matter experts from the business units, and trainers. This takes place while the essential work supporting college operations is also ongoing. Current staffing just to support basic operations is already well below the norm for colleges of this size.
- Lack of a mid-tier management level creates a very flat organizational structure with a broad span of supervisory duties for the IT Director. The most essential manager roles missing from the organization are in the areas of network operations, customer support (i.e. instructional techs, help desk, training, communications), and report development/data analysis.
- Constrained staff resources create risks of extended service interruptions or less than optimal response times: very limited capacity for cross-training or creation and management of supporting documentation for systems and services.
- Centralized IT staff ratios fall well below those of other Associate's institutions per the Educause Core Data Service benchmarks (table of key ratios is appended). Over the past

three years the median falls near five IT staff per 1,000 institutional FTEs (students, faculty, staff). Recent approval of a new position will bring central IT staffing to 10.5 FTE: that's 1.5 staff per 1,000, an extremely low ratio. Educause, with over 1,800 institutional and 300 corporate members, is the premier non-profit association focused on the use of information technologies in higher education. The core data service is the most comprehensive and consistent information source available for comparing IT planning, management and operations among peer institutions. Additional information on the Educause CDS is available at http://www.educause.edu/research-and-publications/research/core-data-service.

Recommendations

1) Add positions in areas of highest risk or most impact to the campus community: network operations, customer service/user support, reporting/data analysis, training/documentation, business/process analysis, and project management. While it may be unrealistic to reach the median ratio of 5.2 FTEs in the near term, a funding/staffing plan prioritized to address at least some of the highest risk and major impact needs would position the department to better serve the College. Address the missing mid-tier management level within the funding/staffing plan. Adding more line positions without management support will only exacerbate the operational challenges.

2) Adopt a centralized management structure for all user support resources. Reinforce basic technical support to the campus by formally clarifying support responsibilities and service level agreements, then leveraging the resources of the centralized pool to meet those agreements. Deploy the centralized user support staff based on a formal co-location model (i.e. staff assigned to and housed in specific buildings or supporting specific clusters of departments).

3) Initiate a formal structure supporting career progression, targeted professional development, and collaborative cross-training. It's often difficult to successfully recruit technical staff if they can't see a path to grow and progress within the organization.

4) Evaluate options and potential benefits of outsourcing selected service functions on an as-needed or ongoing basis (e.g. remote programming/report development, service contracts for A/V event support). Intermittent needs can often be addressed more cost-effectively through contracting with outside firms, freeing staff to focus on primary services best provided internally.

5) Identify the optimal approach to fill staffing gaps in technical training, project management and business/process analysis. Those skillsets are instrumental in evolving the organization toward effective delivery of transformative services, but whether they reside in the IT department or user departments is best determined by the culture of the institution. What matters is those staff focused on process improvement, training, and project management being available somewhere and effectively shared by the entire campus community.

6) Encourage and support staff outreach and information sharing with colleagues across higher education, locally and nationally. Pursue knowledge sharing with sister institutions relative to support of common applications and services.

PROCESS

Strengths

- MPC has a broad-based advisory/governance committee for technology which meets regularly. While we did not have an opportunity to meet with the committee we did meet with some individual members who seem engaged and supportive of current initiatives.

- The College has a technology plan containing specific goals, initiatives, and measurable outcomes which is currently being updated.

Concerns

- The intake processes for both incidents and project requests are unclear. Users can submit tickets to the SchoolDude system but often just contact specific IT staff members directly. Project requests are not formally evaluated and prioritized by a broad-based advisory group (e.g. the MPC Technology Committee).
- Some IT staff mentioned concerns with adequate communication across the entire department, as did some customers regarding external communications (e.g. change management). There is no formal process for planning, approving, and communicating changes which impact users.
- Very few procedures are documented. A robust set of documentation should be available for use by IT staff to codify provision of essential support services, help maintain seamless coverage as roles and staff change, and provide parameters for performance measurements.
- There is no framework for managing service delivery. Clear and effective procedures by which users should access services are missing or simply not followed.
- No service catalog exists. That's a useful and increasingly common tool used in setting expectations with the user community and clarifying processes for accessing services.
- The process to fully evaluate tools or systems with a technology component prior to procurement is not formally documented, understood, and followed. Some decisions include the IT Director but not all, and some only involve IT as the last step "gatekeeper" after the decision is effectively already made.

Recommendations

7) Implement a clearly defined request, evaluation, and approval process for projects which require IT resources. Clarify the distinction between project and service requests. Ensure that project requests clearly identify all relevant costs and resource needs prior to final evaluation and approval, so that realistic expectations are set and any ongoing support or funding commitments are clear.

8) Review the project request and approval processes relative to governance procedures, then clarify and publish the approval criteria. While it's common and good practice for the IT department to establish and enforce standards relative to equipment purchases, the IT department should not be positioned to approve or deny project requests. Those projects requiring investment of IT resources or ongoing IT commitments should be institutional decisions which flow directly from the strategic planning and budgeting processes of the College.

9) Commit to a service management framework based on ITIL principles. ITIL – the Information Technology Infrastructure Library – is a framework based on delivery of services rather than delivery of specific technologies, shifting the focus from individual technology silos or functions to one of end-to-end service delivery. ITIL emerged in the 1980s with the objective of

improving IT service delivery and operations, with widespread adoption beginning in the mid-1990s. Version 3 of the Library was published in 2007. Widely adopted by governmental and commercial organizations around the world, higher education institutions are increasingly incorporating this framework as the basis for clarifying expectations and managing IT service delivery. Plan a phased implementation of IT Service Management at a realistic and reasonable pace consistent with staff capacity.

10) Implement a proven, supported help desk/service request system that is easy for users to access and staff to manage. There are multiple systems used in colleges and universities today with great success. Some are focused on basic ticketing needs while others offer more robust functionality encompassing a knowledge base, change management features, even project/portfolio management processes. Implementation of a usable tool which supports IT Service Management can provide a very solid foundation supporting delivery of all technology services. We understand planning is already underway for replacement of the SchoolDude ticketing functionality currently used by IT.

11) Work with the user community to create a regular series of basic training and knowledge sharing events addressing the most common and highest impact tools and services: the Google for Education services, classroom technology, and data security awareness. Don't underestimate the need for extensive training support for users and IT staff if/when implementing a new Student Information System.

TECHNOLOGY

Strengths

- Most classrooms are equipped with technology tools for presentation of materials.
- Risks associated with the network infrastructure, both from aging equipment and non-standard configuration, are gradually being addressed as funding permits. The current network staff have made progress despite significant constraints in funding and staffing.

Concerns

- Classroom technology tools are neither standardized nor refreshed regularly, significantly increasing the frequency of service issues and complicating efforts by support staff to quickly resolve issues.

- The network infrastructure, while improved since the last external assessment was completed, still relies on too much equipment which is past end-of-life. In addition, supporting equipment such as power conditioners or backup power supplies are not deployed to a minimally acceptable level - again due to funding constraints - resulting in recurring outages in some locations and creating even more stresses on old equipment.

- Wifi coverage is perceived as improved but still not at a consistently acceptable level of performance for the student population.

- Enterprise data systems are not integrated, resulting in numerous challenges to staff efforts to efficiently provide service to students, produce timely and accurate reports for decision-making, and respond to ad hoc requests in a timely manner. Multiple users shared concerns with data quality and consistency, which is unavoidable when multiple versions of the same data are maintained in separate systems.

- Many offices rely on internal spreadsheets and databases to manage data which would typically be maintained in an integrated system accessible to all relevant departments.

- Many processes which are typically automated or executed electronically rely on paper and physical transport from one office to another.

- The lack of a recurring equipment refresh process (and funding) has contributed to a higher volume of service issues and impact on operations than would otherwise be the case.

- While the Google for Education rollout appears to have gone relatively well, users may need assistance in using functionality beyond basic email such as shared calendaring, collaborative document creation/editing, or protection of private or institutional data in a shared, cloud-based platform.

Recommendations

12) Deploying and managing a stable, robust, flexible and secure network infrastructure is a critical responsibility fundamental to delivery of all technology services. Conduct a comprehensive review of the campus network (equipment and configuration) using trusted external resources: either a professional consulting firm or perhaps explore an engagement with experienced staff from peer institutions. Such a review was completed three years ago, generating many useful recommendations. A similar review of the current network environment should identify current risks and opportunities relative to stability, reliability, and security prior to undertaking any major system implementation.

13) Engage trusted external resources to conduct a comprehensive infrastructure security audit/review. This audit should include testing for vulnerabilities and implementation of best practices both external and internal (e.g. penetration testing, patch management, monitoring, configuration management, user access management). Protection of personal and institutional data requires regular evaluation of risk and vulnerabilities as campus networks have become very popular targets. With the constant barrage of security threats and attacks no institution can afford to assume they are protected without regular validation.

14) Formally plan and fund an annual refresh cycle for enterprise infrastructure needs (network and centralized server/storage equipment) as well as personal equipment needs (faculty/staff/classroom PCs and related equipment). We recommend basing the plan on the generally accepted practice of a 3-4 year lifecycle for personal equipment, 2-3 years for classroom equipment, and 4-6 years for infrastructure equipment. Of course adjustments may be required as funding fluctuates or needs change but it's important to have a clearly articulated and visible plan based on discussion and agreement with the user community. Such thoughtful planning is necessary to ensure the best use of scarce institutional funds.

15) Formally evaluate commercially available off-premise alternatives for server deployment. Competition in this area is intensifying among Amazon, Google, IBM, Microsoft, and others leading to improved services and lower costs. We are seeing an increasing number of schools contracting for cloud-based deployment of servers and databases including those which support core systems. Of course robust, stable, and redundant internet access is critical in scenarios where systems are deployed off-premise, but this can be an effective solution providing flexible, scalable and high availability resources while also addressing concerns with both operational data backups and continuity of operations in the event of local issues (AKA disaster recovery/business continuity planning).

16) Address concerns with centralized data backup/protection through a combination of standardizing on the recommended/supported tools and user education. Validate backup/restore processes on a regular basis. Do not leave users in the position of figuring it out on their own. The risk of data loss or privacy breech is too high.

17) Dedicate an internal resource to address some of the most commonly reported campus issues. Resolving problems with the platform used by so many customers on a daily basis should be a high priority. There are support networks within the HE community that can be supplemented with professional consulting support on specific items as needed.

SUMMARY OF RECOMMENDATIONS

This report is intended to provide guidance for moving forward. To that end we offer the following recommendations for next steps based on our proven framework for process improvement and project delivery. Of course every institution deals with change based on their specific circumstances and culture. While a formal improvement project may not be the most effective path forward for MPC, organizing the effort in a similar manner can be helpful in securing support and articulating what will be required in order to be successful.

Initiate the project: review the observations and recommendations at the appropriate level of the MPC community; define or reaffirm the objectives; confirm the project sponsors and solidify support.

Plan the implementation: group and prioritize the recommendations based on logical sequencing, dependencies, and impact; identify the project leaders and key resources; create a high-level plan and timeline.

Execute the plan: emphasize teamwork, inclusion, communication, transparency, and steady progress; celebrate successes along the way.

Close the project: formally transition from the interim period to ongoing operations.

Assess the results: review outcomes relative to the objectives; identify new opportunities for improvement.

Below is a summary of all recommendations. *The highest priority recommendations addressing the most fundamental issues or the greatest risks are highlighted.*

People Recommendations	
1)	*Add positions in areas of highest risk or most impact to the campus community: network operations, customer service/user support, reporting/data analysis, training/documentation, business/process analysis, and project management. While it may be unrealistic to reach the median ratio of 5.2 FTEs in the near term, a funding/staffing plan prioritized to address at least some of the highest risk and major impact needs would position the department to better serve the College. Address the missing mid-tier management level within the funding/staffing plan.*

Adding more line positions without management support will only exacerbate the operational challenges.
2) Adopt a centralized management structure for all user support resources. Reinforce basic technical support to the campus by formally clarifying support responsibilities and service level agreements, then leveraging the resources of the centralized pool to meet those agreements. Deploy the centralized user support staff based on a formal co-location model (i.e. staff assigned to and housed in specific buildings or supporting specific clusters of departments).
3) Initiate a formal structure supporting career progression, program of succession planning for key positions, targeted professional development, and collaborative cross-training. It's often difficult to successfully recruit technical staff if they can't see a path to grow and progress within the organization.
4) Evaluate options and potential benefits of outsourcing selected service functions on an as-needed or ongoing basis (e.g. remote programming/report development, service contracts for A/V event support). Intermittent needs can often be addressed more cost-effectively through contracting with outside firms, freeing staff to focus on primary services best provided internally.
5) Identify the optimal approach to fill staffing gaps in technical training, project management and business/process analysis. Those skillsets are instrumental in evolving the organization toward effective delivery of transformative services, but whether they reside in the IT department or user departments is best determined by the culture of the institution. What matters is those staff focused on process improvement, training, and project management being available somewhere and effectively shared by the entire campus community.
6) Encourage and support staff outreach and information sharing with colleagues across higher education, locally and nationally. Pursue knowledge sharing with sister institutions relative to support of common applications and services.
Process Recommendations
7) Implement a clearly defined request, evaluation, and approval process for projects which require IT resources. Clarify the distinction between project and service requests. Ensure that project requests clearly identify all relevant costs and resource needs prior to final evaluation and approval, so that realistic expectations are set and any ongoing support or funding commitments are clear.
8) Review the project request and approval processes relative to governance procedures, then clarify and publish the approval criteria. While it's common and good practice for the IT department to establish and enforce standards relative to equipment purchases, the IT department should not be positioned to approve or deny project requests. Those projects requiring investment of IT resources or ongoing IT commitments should be institutional decisions which flow directly from the strategic planning and budgeting processes of the College.
9) Commit to a service management framework based on ITIL principles. ITIL – the Information Technology Infrastructure Library – is a framework based on delivery of services rather than delivery of specific technologies, shifting the focus from individual technology silos or functions to one of end-to-end service delivery. ITIL emerged in the 1980s with the objective of improving IT service delivery and operations, with widespread adoption beginning in the mid-1990s. Version 3 of the Library was published in 2007. Widely adopted by governmental and commercial organizations around the world, higher education institutions are increasingly incorporating this framework as the basis for clarifying expectations and managing IT service delivery. Plan a phased implementation of IT Service Management at a realistic and reasonable pace consistent with staff capacity.

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11) Work with the user community to create a regular series of basic training and knowledge sharing events addressing the most common and highest impact tools and services: the Google for Education services, classroom technology, and data security awareness. Don't underestimate the need for extensive training support for users and IT staff if/when implementing a new Student Information System.

Technology Recommendations

12) Deploying and managing a stable, robust, flexible and secure network infrastructure is a critical responsibility fundamental to delivery of all technology services. Conduct a comprehensive review of the campus network (equipment and configuration) using trusted external resources: either a professional consulting firm or perhaps explore an engagement with experienced staff from peer institutions. Such a review was completed three years ago, generating many useful recommendations. A similar review of the current network environment should identify current risks and opportunities relative to stability, reliability, and security prior to undertaking any major system implementation.

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14) Formally plan and fund an annual refresh cycle for enterprise infrastructure needs (network and centralized server/storage equipment) as well as personal equipment needs (faculty/staff/classroom PCs and related equipment). We recommend basing the plan on the generally accepted practice of a 3-4 year lifecycle for personal equipment, 2-3 years for classroom equipment, and 4-6 years for infrastructure equipment. Of course adjustments may be required as funding fluctuates or needs change but it's important to have a clearly articulated and visible plan based on discussion and agreement with the user community. Such thoughtful planning is necessary to ensure the best use of scarce institutional funds.

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17) Dedicate an internal resource to address some of the most commonly reported campus issues. Resolving problems with the platform used by so many customers on a daily basis should be a high priority. There are support networks within the HE community that can be supplemented with professional consulting support on specific items as needed.

A draft plan or timeline for executing the recommendations is obviously dependent on a number of variables such as timely decision-making, staff and financial resource availability, and unified executive support. While some of the recommendations are relatively straightforward to implement, such as the infrastructure upgrades, there are of course funding needs associated with their successful execution. Failure to address the high priority issues (i.e. make progress on the high priority recommendations) will seriously jeopardize the institution's ability to undertake implementation and ongoing support of an ERP system. While contracting for specific ERP system expertise during an implementation is commonplace and typically essential to a successful rollout, it's difficult to see how MPC could effectively realize any benefits from investment in an ERP system without progress on the fundamental changes addressed in these recommendations.

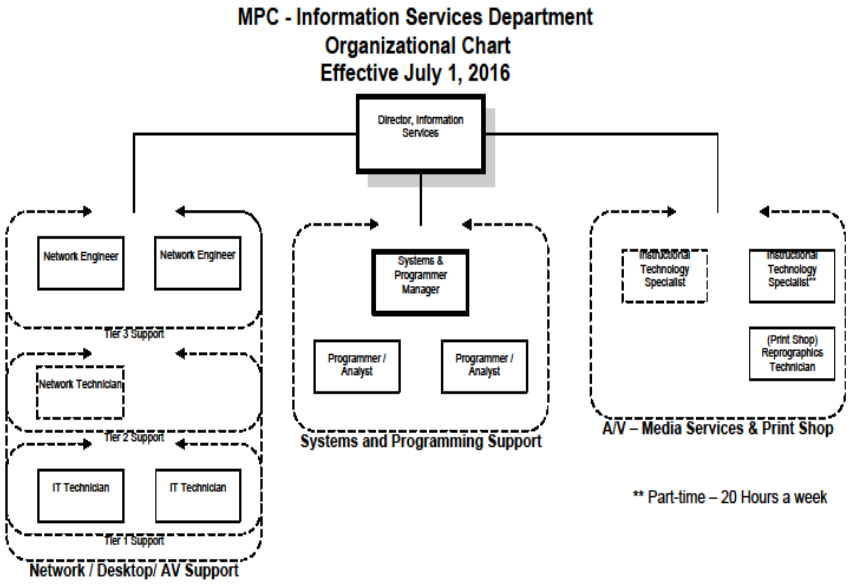
APPENDIX A: KEY RATIOS

MPC provided the institutional data; comparisons are to the EDUCAUSE Core Data Service metrics for FY 14-15 (Carnegie classification = Associate's Institutions).

Metric	MPC 2014-15	EDUCAUSE CDS 2014-15 AA sample
Central IT FTEs (IT + Stdt Wrkr) per 1,000 institutional FTEs	1.5	5.2
Student workers as percentage of total central IT FTE	0%	6%
Highest ranking IT officer sits on presidential cabinet	N	65%
MPC student FTE	6,450	
MPC faculty FTE	231	
MPC staff FTE	166	
MPC IT staff FTE	10.5	
MPC IT student worker FTE	0.0	

MPC student, faculty, staff data per the California Community Colleges Chancellor's Office. IT staff FTE reflects one new position approved but not yet filled (see organization chart in appendix B).

APPENDIX B: CURRENT ORGANIZATION CHART



Appendix C: Refresh Plan

(2016-04-20)

Executive Summary

MPC replaces aging instructional and institutional technology as part of its integrated planning and allocation processes. Inventory documents detail the equipment, years to replacement, and yearly replacement cost. At current inventory levels the total technology refresh would require approximately $450,000 per year for an average 5 year refresh cycle. A one-time expenditure of approximately $1.8M is needed to make the oldest campus technology efficient again and then establish a 5 year refresh cycle. Given the industry standard and local needs and the ability to support and sustain technology, the total number of desktop computers should be reduced by at least 10%. Implementing the refresh plan can be accomplished through a phased approach that utilizes both ongoing and one-time funds. This document gives an overview of the inventory documents and replacement parameters.

Purpose

The goal of this Technology Refresh Plan (TRP) is to keep MPC's technology reliable and functional for the needs of the various users, ensuring that all critical components of the District's technology infrastructure are maintained in an appropriate timeframe.

The Process

The Refresh Inventory provides some prioritization. As items approach their end of life, they have a higher priority for being replaced. Items whose failure would threaten campus computing capabilities are noted in the Refresh Inventory, giving their refreshment a higher priority.

In addition to the yearly budget cycle, refresh money can come from episodic sources, sometimes with restrictions and time limits, year end funds, and instructional equipment block grants. These funds may be allocated to the prioritized Refresh Initiative in the Technology Plan.

The Technology Committee recommends that at least 50% of the expected yearly refresh cost be included as a line item in MPC's yearly budget.

A contingency equipment fund should be set up outside of the refresh budget for emergency repairs. This fund will need to be sufficiently large to deal with the few, very expensive items on the refresh list.

A very important factor to consider is the Total Cost of Ownership (TCO). TCO is a financial estimate intended to calculate direct and indirect costs. As an example, laptop computers generally have a much higher TCO vs desktop computers. This is because laptop computer often require

additional technician support. The technician's time needs to be calculated in the total costs. Another example for TCO is managed-locked down computers vs unmanaged computers.

Approval for technology purchases with a high TCO as compared to alternative technologies (laptop computer vs. desktop computer), should only be done for compelling business or program needs.

Items are removed from the Refresh Inventory by notifying the Director of Information Services when the owner no longer has use for that technology.

When technology is refreshed, the old device must be returned so the inventory doesn't grow. The refresh is a replacement, not an additional piece of technology. Reuse of old devices for new purposes is at the discretion of the Director of Information Services, with the recommendation of the technology committee as needed.

A up-to-date inventory is now in place. This inventory can be used to let any individual know where they are in terms of the refresh cycle and to calculate cost of refresh.

The Technology Refresh Plan will be reviewed and updated on a yearly basis.

Current Inventory

The Refresh Inventory, maintained by the Director of Information Services, lists all items to be refreshed. It includes life expectancy, replacement cost, and for institutional technology, an explanation of purpose and priority. Life expectancy for a computer at MPC is typically 4-6 years. The approximate average price for computer replacement is $1,000 (including MACs and Laptops).

MPC has gone through a prolonged period with minimal investment on campus technology. That leaves much instructional and institutional technology out of warranty, beyond the typical lifespan, and inadequate for many tasks. The information below is based on an inventory that took place in March 2016.

Staff and Faculty Computers

The current inventory for Staff and Faculty computers:

- 404 PC's - (291 or 72% at or older than 5 years)
- 6 Thin Clients – (6 or 100% at or older than 5 years)
- 7 Laptops – (1 or 14% at or older than 5 years)
- 30 Mac's - (26 or 87% at or older than 5 years)

Cost to get into 5 year refresh cycle:

- PC's - $261,900 one-time, $73,000 per year to maintain
- Thin Clients (Replace with PC's) - $6,300 one-time, $1,200 per year to maintain
- Laptops - $1,000 one-time, $1,400 per year to maintain
- Mac's - $32,000 one-time, $7,400 per year to maintain

Total Staff/Faculty Workstations = $301,200 one-time, $84,000 annually

Computer Lab and Smart Classroom Computers

Lab and Classroom Computers:

The current inventory for Lab and Classroom Computers:

- 545 PC's - (461 or 85% at or older than 5 years)
- 44 Thin Clients – (44 or 100% at or older than 5 years)
- 95 Laptops – (39 or 41% at or older than 5 years)
- 137 Macs – (89 or 65% at or older than 5 years)

Cost to get into 5 year refresh cycle:

- PC's - $414,900 one-time, $98,100 per year to maintain
- Thin Clients (Replace with PC's) - $39,600 one-time, $7,920 per year to maintain
- Laptops - $95,000 one-time, $19,000 per year to maintain
- Mac's - $90,300 one-time, $27,800 per year to maintain

Total Lab and Classroom = $563,800 one-time, $152,820 annually

Network / Infrastructure

Edge Switching – This refers to the switches distributed through the campuses. Each building has at least one intermediate distribution frame (IDF). The IDF is also commonly referred to as the "network closet". Multiple floor buildings commonly have 1 IDF per floor. The IDF houses network switches and associated equipment. When calculating the cost for switch refresh, cost such as uninterrupted power supply (UPS), fibers to the buildings and other have to be included. There are currently 130 network switches distributed throughout the campus. 30 (or 23%) of these switches are past the end of support, the upgrade of these switches should be considered urgent. 70 (or 53%) of these switches are nearing end of support, the upgrade of these switches are considered to be important. The remaining 30 switches are within support and should be replaced as part of planned refresh cycle.

One-time costs to get to 7 – 8 year refresh cycle:

- 100 switches - $75,000 one time, $14,000 per year to maintain
- Uninterrupted Power Supplies (UPS) - 45 UPS's – $ 33,750 one-time, $9,000 per year to maintain
- Fiber to buildings – ~ $100,000 (One time – good for 25 years)

Total Edge Switching = $208,700 one-time, $25,000 annually

Servers

TBD - Current and future needs being assessed

Note: $100,000 one-time, $20,000 annually, should be earmarked as a placeholder

Printers

TBD - Current and future needs being assessed

Note: $100,000 one-time, $20,000 annually, should be earmarked as a placeholder

Data Center

TBD – Current and future needs being assessed

Note: Current Firewall solutions is at end of life - $150,000 needs to be earmarked

Totals

- Edge Switching = $208,700 one-time, $25,000 annually
- Servers = $100,000 one-time, $20,000 annually, should be earmarked as a placeholder
- Data Center = Current Firewall solutions is at end of life - $150,000 needs to be earmarked
- Classroom Technologies = ~$500,000 one time, $100,000 annually
- Computers:
    - Staff/Faculty Workstations = $301,200 one-time, $84,000 annually
    - Lab and Classroom = $563,800 one-time, $152,820 annually

Total = ~ $1.8M - $2M one-time, ~$400,000 - $450,000 Annually

Funding Strategies

The Technology Committee strongly recommends that a combination of line item funding from general fund, both restricted and non-restricted, as well as one-time funds be used to fully address the ongoing needs to support the refresh of technology. In addition, they recommend reducing overall computer count by at least 10%.

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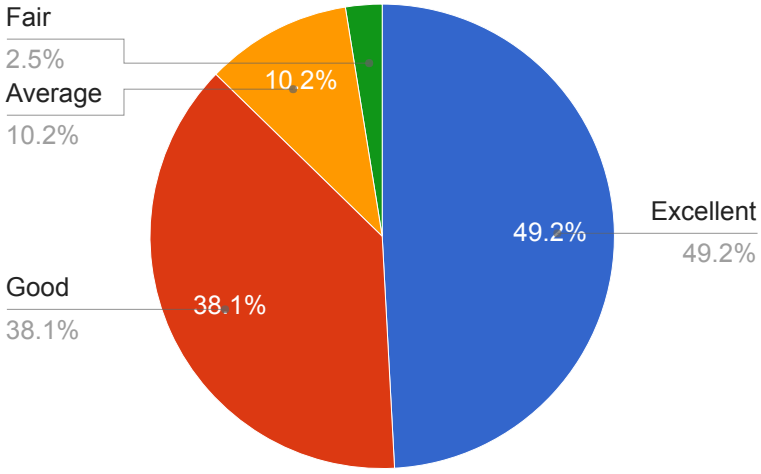
Appendix D: IT Survey Spring 2016

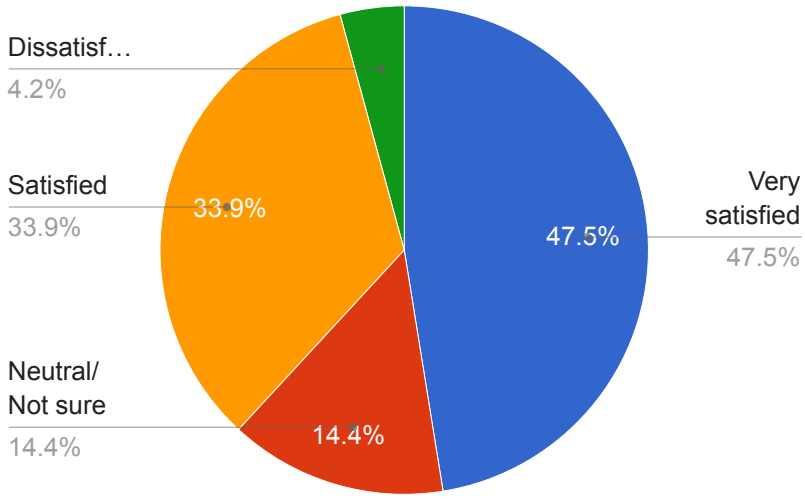
IT Survey Spring 2016

In April 2016, Information Services conducted a survey to receive feedback from the campus on the performance and services they provide. 119 faculty and staff members responded to the survey. A summary of results of this survey can be found below. Qualitative results were summarized based on categorical themes and organized with suggestions for improvement across a variety of areas. Information from this survey will be used to guide the department in project implementations and improvements of service.

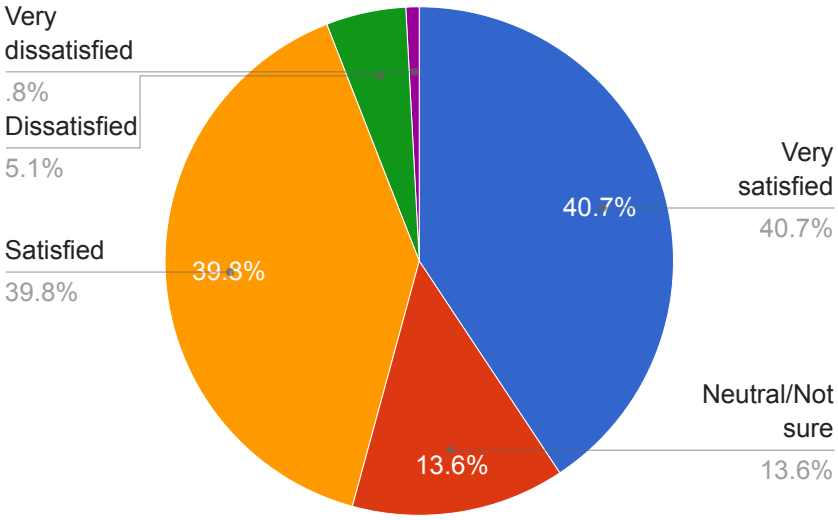
Please rate the overall quality of technical support services you have received during the past year.



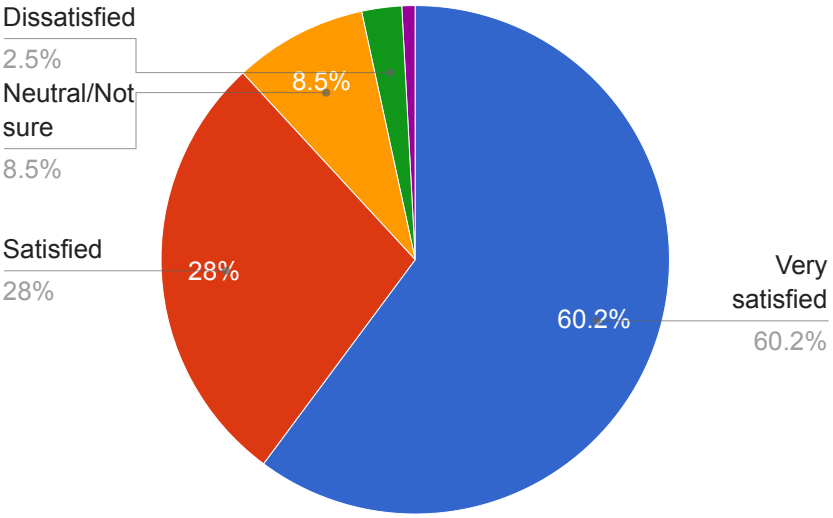
How satisfied are you with the IT department's ability to resolve your problems within a reasonable timeframe?



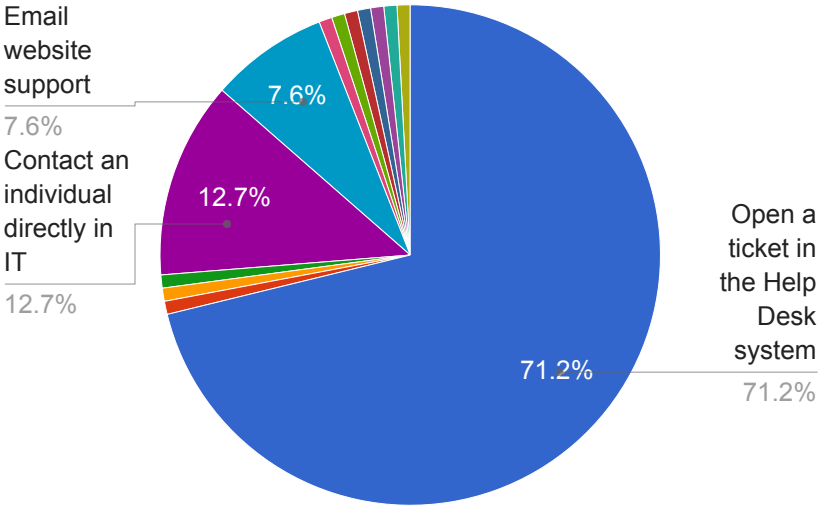
How satisfied are you with IT's follow-up on any unresolved issues?



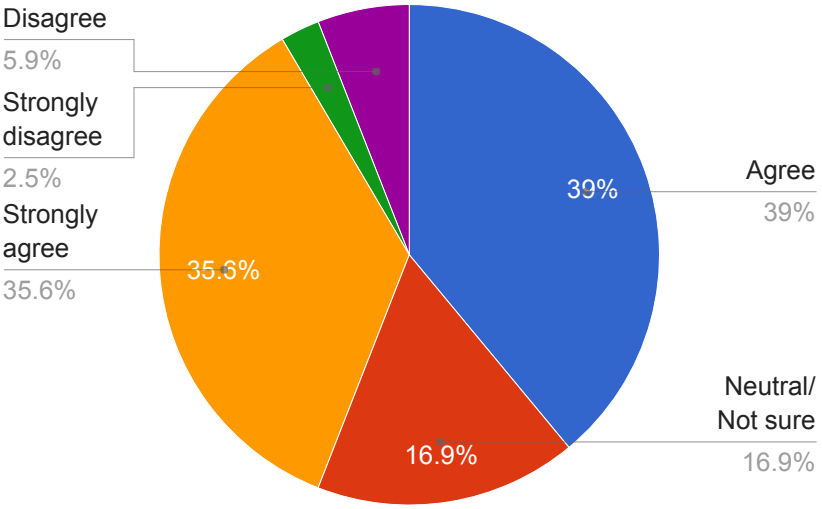
How satisfied are you with your interactions with the IT staff (professionalism, customer service?)



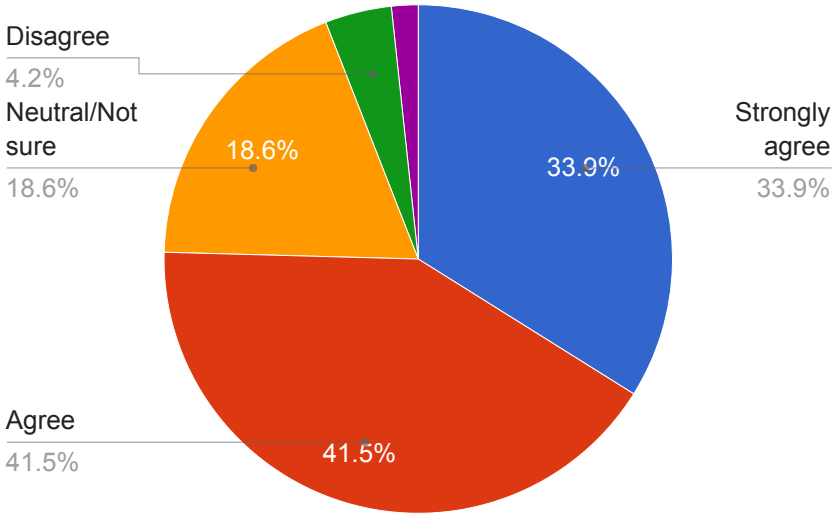
How do you typically get IT support?



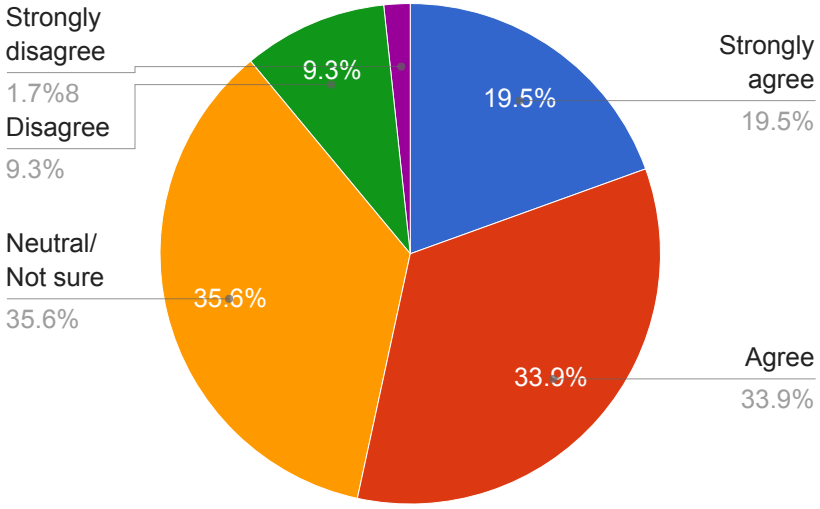
It is easy to open a support ticket online.



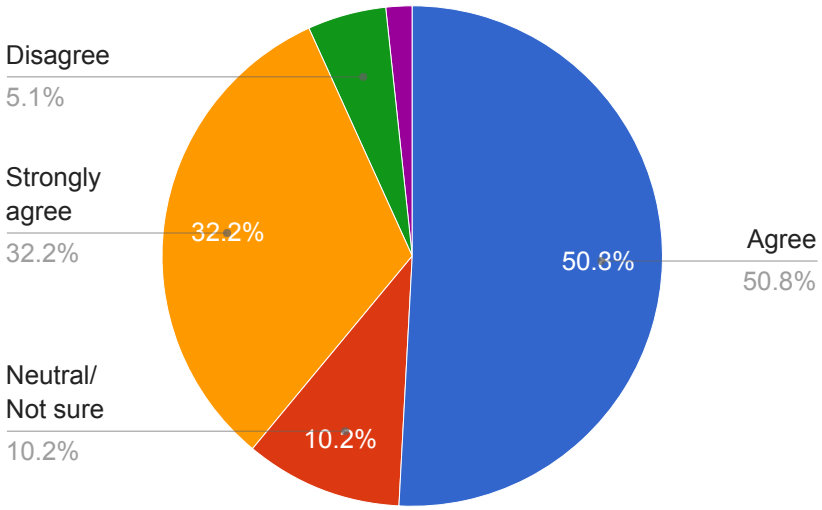
Urgent problems are treated with priority and fixed quickly.



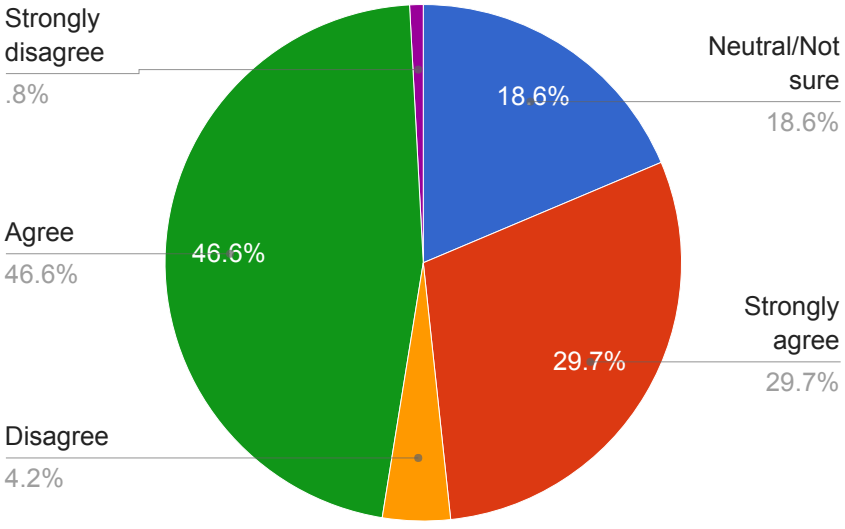
If an issue can't be resolved quickly it is easy for me to know the status of my issue/ticket.



I am notified in advance of system changes that affect me.



I am able to get extra support and training on the software and systems that I need to use to do my job at MPC.



Qualitative Data Results

The IT Survey included 4 open-ended questions which enabled respondents to provide more detailed information or clarifications to their responses on the survey. Data from these questions has been organized into themes and summarized below.

Online Help Desk System

Most saw the necessity and benefit of using an online (web-based) help desk system in terms of streamlining support and tracking purposes within the department. Several users noted the current web-based system appeared to be outdated. System should be easy to navigate and not arduous for users in terms of opening and filling out a ticket. Users should be provided with clear choices in the system and fewer check-boxes should be required.

Suggestions for improvement:

- Users would like suggestions of how to resolve problems on your own included as part of the system
- Training should be provided on new system when it is rolled out so users can fully benefit from all features
- Help Desk System should be used as a communication tool by technicians so user is aware of progress on their ticket while issues are being worked
- It should be easy for users to find the status of their ticket when logging into the system
- Proper communication should be made with customer when ticket is resolved
- More IT support needs to be provided to students

Technology on Campus

Most respondents noted equipment and systems on campus still seem outdated. Most noted importance in refreshing systems over time and that this needed to be funded appropriately.

Suggestions for improvement:

- Faculty and staff computers need to be updated to keep up with systems that are put in place for them to use
- IT should get feedback from faculty and staff before classrooms are upgraded
- Classroom computer systems should be set up in a uniform/standard way so all classrooms work similarly
- Clear instructions (job aids) should be provided on podiums so faculty and staff can perform simple troubleshooting when issues arise

Communications & Training

Respondents provided positive feedback regarding training sessions that have been offered by IT, and were interested in more training opportunities to increase their use of the software and systems provided by MPC. Communications from IT about changes in systems are appreciated but would like to feel like they were more directly involved in the discussion about changes as well - so they have the opportunity to ask questions and prepare in advance. Respondents expressed a high level of interest in additional training, especially Google Drive (including Docs, Sheets and Slides) and MS Office suite, with review sessions for Mail, Calendar and Contacts. Training should be offered at a variety of levels and focused on small groups (departments) and one-to-one training at a variety of dates/times so all can be accommodated. Face-to-face (f2f) training was preferred by most.

Suggestions for improvement:

- Communicate changes in technology well in advance with opportunities to ask questions and get clarifications
- Provide training materials online in centralized location in addition to f2f training
- Provide training on troubleshooting in the classrooms and limited administrative permissions so they are not completely reliant on IT
- Provide training on technology in Student Center

General Comments

Respondents noted a marked improvement in the services provided by IT over the past 3 years and appreciated opportunity to provide feedback through the survey.

Suggestions for improvement:

- Provide opportunities for tech staff to continue professional development to improve knowledge in areas where they provide support to keep up with changing technologies
- More systems need to be integrated into single-sign on, still too many user names and passwords across MPC
- "Can do" attitude needs to be continually nurtured

Appendix E: 2013-2016 Improvements & Accomplishments

The area below is highlighting just some of the major areas of technology related improvement and accomplishment that took place from 2013 to 2016.

1. **Website enhancements** - The Student Technology needs survey given in 2013 identified the MPC website as one of the top 3 areas that needed improvement. Onetime funding was used to have the website redesigned. In addition, the website is no longer hosted locally. Offsite hosting has greatly improved availability and sustainability.

2. **Improved Network Availability** - Before 2013 the MPC network was often plagued by unexpected downtime. Processes and systems (such as SolarWinds) have been put in place. Now network availability has greatly improved. Unexpected downtime is now a very rare occurrence.

3. **Improved IT Responsiveness** - Before 2013 IT responsiveness to issues was often not at an acceptable level. There was no helpdesk system in place, instead email distribution lists were used by end-users to log issues. This system provided no management oversight or reporting structure. Since that time, helpdesk systems have been implemented (first Schooldude, now Freshservice) and processes such as a Service Level Agreement (SLA) have been put in place. Overall IT responsiveness has improved greatly, as evidenced by multiple surveys.

4. **Improved WiFi -** Before 2013 The MPC WiFi was not stable and there were many buildings where WiFi was marginal or not available at all. One time funding has been used to improve the WiFi systems and equipment. Professional development for the Network Engineers on the MPC IT staff to enhance their WiFi skillsets has been supported. The result has been greatly improved areas of WiFi coverage and quality of WiFi service. This is evidenced by the reduction of helpdesk requests related to WiFi from frequent to non-existent.

5. **Implemented Sustainable Email and Storage (Google Apps for Education) -** Campus email systems was identified as a problem area in several surveys conducted over the past several years. The locally housed Exchanged/Outlook system was plagued with issues including frequent downtime and limited storage. It was a rare week in IT when there wasn't a request for increased email storage. The email storage and need for local backup solutions strained the systems in place. After extensive research, it was decided to move to an external solution using Google Apps for Education. In Fall '15 a 6-month project was started to transition all student, faculty and staff campus email/calendar accounts from Exchange/Outlook to Google. The project was successfully completed in Spring '16. Now the entire campus has email with unlimited storage and secure access to other collaborative tools offered through Google Apps for Education. In addition, going from a locally hosted

system to an off-site hosted email/storage system has greatly enhanced sustainability. The servers and storage formally used for the Exchange/Outlook system can now be retired. Licensing for Exchange does not have to be renewed. MPC has also addressed an ongoing need to provide ample training for the Google Apps for Education.

6. **Implemented and improved Emergency Notification Systems** - In 2013 there were limited emergency systems in place. From 2013 - 2016 two major emergency notification systems were successfully implemented or enhanced:
    a. Everbridge - This is the email and text alert system. Students, Faculty and Staff are encouraged to self-enroll. In the emergency situation, alerts are sent to all of those who have registered.
    b. Informacast - This is the Public Announcement (PA) system. This system was in place, with limited functionality, in 2013. Since that time, the system has been greatly enhanced with updated software, new speakers (phones and wall clocks) installed and improved (simplified) instructions provided to the emergency team.

7. **Enhanced Distance Education programs -** Under the leadership of Dr. Jon Knolle, the Distance Education program has grown from a fledging of offerings in 2013, to a highly renowned and recognized Distance Education program.

8. **Fiber installed to Public Safety Training Center (PSTC) -** During the spring 2016, fiber was successfully installed to the PSTC. Previously the PSTC internet connection was bonded T1 lines. The speed for data was increased from approximately 4.5 Mbps to 1 Gbps. This is approximately 20 times increase in speed.

9. **Technology Equipment Standards -** Standardized technology equipment has been established and is posted on the I.T. Department website. The standards include computers, laptops, printers and other equipment. The campus standard equipment website is kept current and includes pricing. The pricing on this page can be used to calculate costs for planning purposes.

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Appendix F: Quality Focus Essay

Quality Focus Essay

Monterey Peninsula College has identified three Action Projects that will strengthen connections to student access and success and have a strong, positive effect on institutional effectiveness:

1) implementation of an enrollment management system (EMS),
2) implementation of TracDat, and
3) procurement and implementation of an Enterprise Resource Planning (ERP) system.

These three Action Projects support student access and success in the following ways:

	EMS	TracDat	ERP
Connection to **ACCESS**	• Will provide reports to help the College determine whether it is scheduling classes appropriately (online, evening, weekend) to meet student needs	• Improves compilation of data used in program review and SLOs/SAOs assessment, leading to improvements in service delivery to students	• Will allow College to implement waitlists for courses and communicate waitlist information to students
Connection to **SUCCESS**	• Allows the College to do "year ahead scheduling," which helps students build schedules with program completion more firmly in mind	• Enables College to improve its use of SLO assessment results in planning to increase student success	• Will include a Degree Audit program, allowing both students and Student Services staff to more effectively track progress toward successful program completion

In addition, the three Action Projects will greatly improve institutional effectiveness:

	EMS	TracDat	ERP
Impact on **IE**	• Will provide better productivity data, allowing improved efficiency in scheduling processes, in terms of both staff time and budget resources • Will provide reports to support flexible response during scheduling (capturing the 'what if' factor)	• Streamlined data collection, assessment, and reporting practices • Will generate reports in a consistent format for use in discussions about institutional resource needs (e.g., staff, equipment, facilities, technology, etc.)	• Improved data integrity • Improved data collection and reporting capacity • Improved availability of program completion data

Overview of Action Projects

	EMS	TracDat	ERP Procurement
		Disparate data sources are used to house and locate information, making it difficult to find and use data. MPC chose to contract with TracDat in 2015.	Need for ERP documented in Title 5 grant applications, results of Business Process Analyses (in HR and Admissions & Records), Technology Plan (projects such as EMS and Laserfiche, eTranscripts, OpenCCCApply, OEI Pilot Program)
Spring 2016		● Gather course and program data to input into TracDat ● Begin TracDat configuration	Spring and Fall 2016: BPAs 1. Financial Aid 2. Fiscal 3. Student Success -- 3SP and Equity 4. Schedule Development
Summer 2016	Pilot in AA Office	● Develop Instructor and Program Reflections Templates	
Fall 2016	Train those involved in scheduling	● Implement Course SLOs into TracDat	Investigate funding sources
Spring 2017		● Program Review ● Program-of-study Learning Outcomes	● Develop RFP based on BPA results ● BPA group to be hired to be part of RFP process. -- not yet scheduled
Fall 2017	Evaluate effectiveness of implementation	● Connection to Planning and Resource Allocation Process ● Evaluation of TracDat implementation	
Spring 2018	Evaluate effectiveness of implementation, develop recommendations for any warranted improvements	● Evaluation of TracDat implementation	
Fall 2018	Implement improvements based on evaluation	Implement improvements based on evaluation	
Spring 2019			Explore additional modules (e.g., Starfish)

Action Project 1: EMS

Background

Since the 2013-14 academic year, the College has been engaged in efforts to review and revise scheduling processes to meet student needs, improve success and retention, and increase average class sizes. This is consistent with the College's Institutional Goals and Objectives (see Institutional Goal 1, Objective 1.7). The College also examined scheduling practices during its institutional self-evaluation; specifically, Standard II.A.6 addresses the college's course scheduling as it relates to scheduling courses to facilitate degree completion. During the self-evaluation, the College recognized that its current Student Information System (SIS) had become a barrier to effective scheduling practices, and College personnel have difficulty generating data needed to inform scheduling decisions in an efficient manner. As a result, current scheduling practices are often based on a "rollover" of the previous schedule, rather than on analysis of data that would lead to more strategic schedule-building.

In summer 2015, an *ad-hoc* group comprised of the College president, the three vice presidents, three deans of instruction, scheduling technician, support staff from the Office of Academic Affairs, admissions director, programming manager, and institutional researcher came together to discuss the barriers to producing timely enrollment reports and to brainstorm solutions for improved practices. The need for an Enrollment Management System (EMS) emerged from these discussions. Once implemented, EMS will increase access to course enrollment data and provide the ability to examine enrollment from the level of the entire College to the level of individual course sections. EMS interfaces with the College's current Student Information System (SIS) and presents data elements (e.g., enrollments, full-time equivalent students (FTES), load, productivity, cost) in a spreadsheet format so it can be easily examined and discussed. EMS will enable the College to efficiently analyze the schedule, as well as plan for and manage future years' schedules, thereby improving support for student success. Integration between EMS and SIS will improve the accuracy and timeliness of data used in scheduling.

In preparation for the implementation of an EMS, the MPC is reviewing and revising its scheduling practices to provide students with a more consistent and predictable schedule. As of the 2015-16 year, a block scheduling practice is now implemented in most areas of the college. The blocks have been revised and will be implemented in the spring 2017 schedule. The College is moving towards FTEF allocation and productivity targets for programs and Divisions. The EMS Timeline Table below outlines how the institution plans to continue the implementation and evaluation of EMS over the next two years.

TIMELINE
Action Project 1: EMS

Project Objective: Increase effectiveness of scheduling and enrollment management practices by providing greater access to and coordination of enrollment data			
Specific Tasks/Activities	**Outcome for each task**	**Target Completion Date**	**Responsible Parties**
Create algorithm tables, based on historical demand for classes, contractual definitions of load, as well as on current enrollment patterns and expectations	Set of functional algorithms for every type of course and apportionment method	Currently, spring 2016 (nearly complete as of 4/5/16)	• Office of Academic Affairs • MPC EMS workgroup • Vendor implementation team
Develop taxonomy by: • College • Division • Department • Discipline • Emphasis	1. Comprehensive spreadsheet that includes every course identified by: college, division, department, discipline, emphasis. 2. Taxonomy run against algorithm tables 3. Identification of "outlier" courses	Spring 2016	• Office of Academic Affairs • Vendor implementation team
Develop taxonomy by location: • Monterey • Fort Ord • Distance Ed	1. Comprehensive spreadsheet that includes every course identified by location. 2. Taxonomy run against algorithm tables 3. Identification of "outlier" courses	Spring 2016	• Office of Academic Affairs • Vendor implementation team
Develop programming to implement algorithm tables and taxonomy	Functional EMS program that allows college personnel to predict enrollments (FTES) and FTEF at any level of the College	End of spring 2016	• MPC IT • Vendor implementation team
Pilot EMS program to develop scheduling for Summer 2017, Fall 2017, and Spring 2018	Data available for development of schedule for Summer 2017, Fall 2017, and Spring 2018	Summer 2016	• Office of Academic Affairs • MPC EMS workgroup • Vendor implementation team

TIMELINE
Action Project 1: EMS

Specific Tasks/Activities	Outcome for each task	Target Completion Date	Responsible Parties
Train department/division chairs how to use filters, run reports, etc.	All department and division chairs will demonstrate ability to use filters, run reports, etc.	Fall 2016	• Office of Academic Affairs • MPC EMS workgroup • Vendor implementation team
Implement new scheduling practices for 2017-18 year	New practices used to develop Fall 2017 schedule	Fall 2016	• Office of Academic Affairs • Department and Division Chairs • MPC EMS workgroup • Vendor implementation team
Evaluate effectiveness of EMS implementation (and supporting processes)	Analysis of what works well, and what improvements could be made in order to increase effectiveness of the implementation	2017-2018 Academic Year	• Office of Academic Affairs • Department & Division Chairs • MPC EMS Work group
Implement improvements to EMS (or supporting processes) based on results evaluation		Fall 2018	• Office of Academic Affairs • Department & Division Chairs • MPC EMS Workgroup

Action Project 2: TracDat

Background

Monterey Peninsula College designed its planning and resource allocation process to support student learning and achievement. In practice, however, the process does not always work as effectively as intended, because the tools MPC uses to collect and assess data are not effectively integrated with each other. The information and data used in the planning and resource allocation process are housed in different systems with varying accessibility and formats. The institutional self-evaluation revealed that campus personnel have difficulty--and in some cases are prevented from--seeing data elements of one process when it is time to support the next, making the College's evaluation and planning processes overly cumbersome and inefficient. For example, it is difficult to access results of SLO assessment in a timely manner when conducting program review or writing justification for resource allocation requests. The findings from the institutional self-evaluation led to the development of an Actionable Improvement Plan related to Standards I.B.4, I.B.7, I.B.8, and I.B.9. This AIP also aligns with the College's Institutional Goals: Objective 2.1 of the Institutional Goals--Improve Institutional Effectiveness, which identifies the need to "implement systems for easier access to data."

In fall 2015, MPC decided to implement the TracDat system in order to strengthen connections between data elements of SLOs, program review, planning, and resource allocation; once implemented, TracDat will connect these elements to each other and to the College's Institutional Goals. Using TracDat to improve the practical connections between the components of the planning and resource allocation process will allow the institution to improve institutional effectiveness and make better decisions in support of student success. For example, when departments have easier access to student achievement and student learning data, they will be able to better define instructional needs, and the College will be able to make more informed resource allocation decisions. TracDat directly enables institutional effectiveness, connecting student learning and success to the institutional processes designed to support those student needs.

The TracDat Timeline below outlines how MPC plans to implement TracDat over the next two years. Some tasks are in progress as of spring 2016. The project will proceed in three phases: course SLO assessment, program SLO assessment, and program review. Effectiveness of the system will be evaluated during the 2017-2018 academic year, and the results of the evaluation will be used to make improvements to the system and its support resources during 2018-2019.

TIMELINE
Action Project 2: TracDat

Project Objective: Improve operational connections between student learning and achievement data, planning, and resource allocation processes to improve effectiveness of decision-making processes.			
Specific Tasks/Activities	**Outcomes for Each Task**	**Target Completion Date**	**Responsible Parties**
Data entry and configuration for course assessment & program reflections	1. Programs, courses, & SLOs entered into TracDat 2. Instructor Reflections interface established 3. Program Reflections interface established	Spring 2016	TracDat Team
Develop user training & support resources for course assessment and program reflections tools	1. User guide for Instructor Reflections 2. User guide for Program Reflections	Spring/Summer 2016	• TracDat Team • Learning Assessment Committee
Launch Course Assessment and program reflections tools	Course and program assessment transitions into TracDat (Sharepoint system retired)	Flex Day, Fall 2016	• TracDat Team • Learning Assessment Committee
Data entry and configuration for program assessment (program of study)	1. Program outcomes entered into TracDat 2. Program of study interface established	Spring/Summer 2016	TracDat Team
Develop user training & support resources for program assessment	1. User guides for course → program outcome mapping 2. Support resources for outcome mapping (including training sessions)	Summer/Fall 2016	• TracDat Team • Learning Assessment Committee
Data entry and configuration for Action Plans	1. Action Plan interface established 2. Action Plan reports established and tested	Summer/Fall 2016	TracDat Team

Specific Tasks/Activities	Outcomes for Each Task	Target Completion Date	Responsible Parties
Develop user training & support resources for Action Plans	User guides for action plans	Fall 2016	• TracDat Team • Learning Assessment Committee
Launch Program Assessment and Action Plan tools	1. Program of study assessment transitions into TracDat 2. Action Plans transition into TracDat (Word forms retired)	Spring Flex, 2017	• TracDat Team • Learning Assessment Committee
Data entry and configuration for Program Review (Comprehensive and Annual Updates)	1. Program Review templates for Academic Affairs, Student Services, Administrative Services, President's Office established in TracDat 2. Institutional and program-level achievement data configured in Action Point/Planning Point	Spring 2017	• TracDat Team • Office of Institutional Research
Develop user training & support resources for program review	User guides for Program Review	Spring 2017	• TracDat Team • Office of Institutional Research
Launch Program Review tools	Program Review transitions into TracDat (Word templates retired)	Fall 2017	• TracDat Team • Vice Presidents • Office of Institutional Research
Evaluate TracDat and use results of evaluation to make improvements to process	Recommendations regarding effectiveness and potential improvements to TracDat and processes it supports	Evaluation conducted 2017/2018 AY	• College Council • TracDat Team

Action Project 3: ERP

Background

Monterey Peninsula College is one of only six colleges in the California Community College system that does not currently use an Enterprise Resource Planning (ERP) system to manage its operational data. Currently, MPC uses the Student Information System (SIS) developed by Santa Rosa Junior College. However, SIS no longer meets the needs of the College. SIS does not integrate the vital data functions of the College, as an ERP would do. As a result, MPC uses multiple systems in parallel. Reporting capabilities vary from system to system, as does the quality of reports. Systems may or may not integrate well with each other, leading to a reliance on manual entry and greater opportunities for error. For example, the Fiscal Services Department relies heavily on the Escape financial management system, provided by the Monterey County Office of Education; Escape has not been set up to integrate with SIS. Likewise, the Student Financial Services Department uses Financial Aid Management Systems (FAMS), which is being phased out by its vendor. Because FAMS, Escape, and SIS are not integrated, the College has had to invest in a separate stand-alone program (PowerFaids) to replicate FAMS functionality. In addition, SIS has programming constraints that make it difficult and fiscally unfeasible to add student-focused services that are standard to higher education and desired by MPC students (e.g., waitlists, degree audit program).

An ERP would greatly expand the institution's effectiveness and efficiency with regard to its operational data, as well as allowing for efficiency and expansion of services to students. The need to transition to an ERP has been a topic of institutional discussion since 2013, and has been documented in the MPC Technology Plan 2013-2016, in the Institutional Goals and Objectives (see Objective 4.2), and in the Self-Evaluation Report (see Standards I.B.8, II.A.6, and III.C.2). Discussions about the most effective way to finance the implementation and ongoing licensing costs of an ERP are in progress as of spring 2016. In the meantime, the College has begun to plan for an ERP implementation (see Institutional Objectives 4.2a-4.2c). Business Process Analyses (BPAs) have been completed related to student enrollment and employee onboarding processes; additional analyses are scheduled for Fiscal Services, Student Financial Aid, and other areas. Results of the BPAs will inform the configuration of the ERP, to ensure that the implementation enables increased institutional effectiveness and expanded support for students.

The ERP Timeline Table below outlines how MPC plans to prepare for an ERP implementation over the course of the next two years. As some of the specific tasks/activities in the plan are dependent on funding that has not yet been identified, the plan includes the College's best estimate for the length of time the activity would take to complete. Firm completion dates will be added to the plan once funding has been established.

TIMELINE
Acton Project 3: ERP

Project Objective: Implement an Enterprise Resource Planning system to improve integration of operational data, increase institutional effectiveness with regard to use of operational data, and support expansion of student-focused services that rely on operational data			
Specific Tasks/Activities	**Outcome for Each Task**	**Target Completion Date**	**Responsible Parties**
Complete Finance BPA	Assess current process, design optimal processes.	Spring 2016	• VPAS (CBO) • Controller
Complete Financial Aid BPA	Assess current processes, design optimal processes	Spring 2016	• VPSS • Director, Fin Aid
Develop ERP funding strategy	Identify funding sources	TBD	• Superintendent/President • VPAS (CBO)
Complete Student Success BPA	Assess current processes, design optimal processes	Fall 2016	VPSS
Complete Schedule Development BPA	Assess current processes, design optimal processes	Fall 2016	• VPAA • Academic Affairs Deans
Develop ERP Request for Proposal (RFP)	Use the data gathered in the BPA's and other sources to develop the specific criteria for the RFP	TBD based on funding (2-4 month goal)	• VPAS (CBO) • Controller • Director, Information Systems • ERP Steering Committee

Specific Tasks/Activities	Outcome for Each Task	Target Completion Date	Responsible Parties
Implementation planning	Develop timelines and address resource needs for 2 year project	TBD (6-month goal)	• Superintendent/President • VPAS (CBO) • Director, IS • ERP Steering Committee
Implementation of ERP	Full implementation of relevant modules	TBD (24-30 month goal)	• VPAS (CBO) • Director, Information Systems • ERP Steering Committee

Appendix G: IT Disaster Recovery Plan 2017

MPC

INFORMATION TECHNOLOGY

DISASTER RECOVERY PLAN

1.0 Plan Introduction

Monterey Peninsula College(MPC) recognizing their operational dependency on computer systems, including the Local Area Network (LAN), Database Servers, Internet, Intranet and e-Mail, and the potential loss of revenue and operational control that may occur in the event of a disaster; authorized the preparation, implementation and maintenance of a comprehensive IT disaster recovery plan.

The intent of a Disaster Recovery Plan (DRP) is to provide a written and tested plan directing the computer system recovery process in the event of an interruption in continuous service resulting from an unplanned and unexpected disaster. The DRP is a working document and will be periodically updated as enhancement are made.

The Disaster Recovery Plan preparation process includes several major steps as follows:

- Identify systems and applications currently in use
- Analyze business impact and determine critical recovery time frames
- Determine recovery strategy
- Document recovery team organization
- Document recovery team responsibilities
- Develop and document disaster recovery procedures and checklists

These steps were conducted and this document represents the completed effort in the preparation of the MPC IT Disaster Recovery Plan.

1.1 Mission and Objectives

The mission of the IT Disaster Recovery Plan is to establish defined responsibilities, actions, and procedures to recover the MPC computer, communication, and network environment in the event of an unexpected and unscheduled interruption. The plan is structured to attain the following objectives:

- Recover the physical network
- Recover the applications
- Minimize the impact on the college with respect to operational interference

1.2 Disaster Recovery / Business Continuity Scope

The scope of the plan is to recover computer information services provided by the MPC Datacenter located on the main campus, first floor of the Administration Building, 980 Fremont Street, Monterey Ca. The network encompasses the following:

- Critical business applications such as Student Information Systems (SIS)
- File servers supporting all business operations
- Gateway to the host applications and other sites
- Wired and wireless networks
- Campus phone system

1.3 Responsibility

The responsibility for ensuring the plan is maintained and tested rests with the MPC Information Technology Department under the leadership of the Director of Information Services / Chief Information Systems Officer (CISO). This plan will be updated and presented to Technology Committee periodically. The updated DRP will be an appendix to the 2016 – 2019 Technology Plan.

2.0 Business Impact Analysis

The Business Impact Analysis is completed to determine the Critical Time Frame in which the application system capabilities and functionality must be available after an interruption in service to minimize the operational loss of control and potential loss of revenue. In addition, the Business Impact Analysis assists in identifying alternative manual procedures which may be used during an interruption in service. Therefore, the objectives of the Business Impact Analysis are:

- Educate user on the need for a disaster recovery plan
- Identify alternative manual procedures which may temporarily minimize impact due to an interruption in computer service

It is considered best practice to conduct a business impact analysis for each physical location, application, business function, department, and organizational entity annually. In addition, as conditions change (i.e. event like 9/11) to alter the operating environment, at least the risk component should be reviewed and actions taken to mitigate un-acceptable levels of risk.

Legend of Impact Score

1 = Catastrophic – as a result MPC could cease to exist and/or would be placed in material legal and/or financial jeopardy.
2 = Very High - as a result MPC would not be able to meet its material contractual and/or service obligations. Or do material damage to MPC's reputation and have major negative long term implications on MPC's ability to continue being a going concern.
3 = Noticeable - MPC would not be able to operate effectively and efficiently, thus reducing productivity and service levels.
4 = Minor – MPC would be affected in a minor way with little productivity and/or service level loss.
5 = Non-essential – MPC could operate indefinitely without this physical location, business function, or IT application.

2.1 Application/Systems Inventory and Risk Scores

A summary of the major business systems and their impact scores are shown below.

Locally Hosted Systems

SIS servers and storage - Impact score 1

File Servers / Storage – Impact score 1 to 2

EMS – Impact Score 2

Powerfaids – Impact Score 2

DNS, DHCP – Impact Score 1

Cloud Hosted Systems

Webpage – Impact score 2

Single Sign-On – Impact score 2

Email – Impact score 1

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3.0 Backup & Restore Strategy

The MPC IT department maintains a Data Center with Uninterruptible Power Supplies (UPS) that provides one hour emergency power to the servers as well as adequate cooling/humidity control systems for all its critical systems including servers and network equipment. The Data Center is connected to a gas powered generator that starts when power to the campus is lost. Spare, preconfigured network switches are available to be deployed in the case of hardware failures. All servers are backed up daily from Monday through Friday and monitored to ensure timely recovery from a system failure, system crash or natural disaster.

In the event of a disaster, the disaster recovery team would be assembled and a plan of restoration would be put in place. The systems would be prioritized (see section 2.1) and restored accordingly.

Information technology systems require hardware, software, data and connectivity. Without one component of the "system," the system may not run. Therefore, specific recovery strategies will anticipate the loss of one or more of the following system components:

- Data Center environment (secure computer room with climate control, conditioned and backup power supply, etc.)
- Hardware (networks, servers, desktop and laptop computers, wireless devices and peripherals)
- Connectivity to network (fiber, cable, wireless, etc.)
- Software applications (electronic data interchange, electronic mail, enterprise resource management, office productivity, etc.)
- Data and restoration

3.1 Data Capture and Backups

Backups performed using System Center 2012 SP1 Data Protection Manager
Short term backups are to disk, long term backups are to Virtual Tape Drives using HP StoreOnce 4220 Backup solution with deduplication
Other than Bare Metal Backups, long term backups are kept for 1 year

☐ Bare Metal Backups of all Domain Controllers- short term weekly, long term every 2 weeks

☐ Bare Metal Backups for other mission critical servers - short term weekly, long term monthly retained for 2 months

☐ All user data and shares –short term every 12 hours, retained for 14 days and weekly retained for 2 weeks– long term monthly backups are retained for 1 year

☐ SharePoint Websites –short term daily, retained for 2 weeks– long term monthly backups are retained for 1 year

☐ Student Records System –short term every 15 minutes, retained for 7 days- long term weekly retained for 1 month, monthly retained for 1 year

☐ All SQL Databases – short term every 6 hours, retained for 2 weeks – long term every 2 weeks then monthly retained for 1 year

- All network equipment configuration is backed up nightly

3.2 Preventative Measures

Following are several preventative measures that, when implemented and monitored on a regular basis will reduce the chance of a computer disaster ever occurring or minimize its impact.

- Restrict access to the Data Center to authorized personnel only
- Ensure there are no combustible materials located in the Data Center, such as solvents, paper, etc.
- Conduct regularly scheduled service on support systems, such as the Air Conditioning, Fire Retardant and UPS systems
- Check for overloaded circuits or worn/damaged electrical and power cables
- Perform regularly scheduled backups

4.1 Data Recovery

4.1.1 Recovery Management Team

The Recovery Management Team is responsible for managing the recovery effort as a whole, ensuring restoration occurs within planned Critical Time Frames and assists in resolving problems requiring management action. The Recovery Management Team consists of the Director of Information Services, Network Engineers and Network Technicians. The team is activated at the call of the Director of Information Services when a disaster occurs. Specifically, the Recovery Management Team is charged with:

Pre-Disaster

- Approves the final Disaster Recovery Plan
- Ensures the Disaster Recovery Plan is maintained
- Ensures Disaster Recovery training is conducted
- Authorizes periodic Disaster Recovery Plan testing
- Maintains and updates the plan as scheduled
- Distributes Disaster Recovery Plan to recovery team members
- Appoints recovery team members and alternates as required
- Coordinate the testing of the plan
- Trains disaster recovery team members in regard to the Plan

Post-Disaster

- Declares that a disaster has occurred and the Disaster Recovery Plan is activated
- Determines the plan strategy to be implemented
- Determines alternate team members (if any) and other support members of the recovery process
- Manages and monitors the overall recovery process
- Advises Senior MPC and user management on the status of the disaster recovery efforts

5.0 Future Enhancements

Following are several future enhancement that will improve the robustness of the backup and recovery process:

- Identical backup solution configured at the Marina Education Center
- Cloud backups for all appropriate systems and data
- Reduction of local physical servers and storage, utilizing virtualization and cloud hosting.
- Expanding Uninterrupted Power Supplies (UPS) to provide power backup to critical systems locally throughout the campuses
- Cloud based Active Directory (AD) as redundancy for local AD.
- Develop and test disaster recovery scenarios.
- Implement Enterprise Resource Planning (ERP) to consolidate systems.

Glossary Of Terms

Acceptable Use Agreement (AUA) - An acceptable use agreement (AUA) is a document that outlines a set of rules to be followed by users or customers of a set of computing resources, which could be a computer network, website or large computer system. An AUA clearly states what the user is and is not allowed to do with these resources.
An acceptable use policy is also known as a fair use policy or terms of use.

Active Directory - Active Directory (AD) is a Windows OS directory service that facilitates working with interconnected, complex and different network resources in a unified manner.

Bring Your Own Device (BYOD) - Bring your own device (BYOD) refers to employees who bring their own computing devices, such as smartphones, laptops and tablet PCs, to work with them and use them in addition to or instead of company-supplied devices. The prevalence of BYOD is growing as people increasingly own their own high-end mobile computing devices and become more attached to a particular type of device or mobile operating system.

Business Process Analysis (BPA) - Business process analysis (BPA) is the analysis of various business operations classified into processes, or series' of related tasks, where observation revolves around the specific ways in which these processes happen along a life cycle from beginning to end. Because a business process consists of a series of related tasks or events with a particular end objective, business process analysis uses various tools and methodologies to look at these processes in a variety of ways, and to monitor efficiency, productivity and more.

CCC Information Security Center - The California Community Colleges Information Security Center facilitates and coordinates the work of system wide information security (IS) technology by:

- Understanding CCC IS priorities
- Offering free vulnerability scanning
- Providing free server monitoring
- Developing IS policies & procedures
- Promoting IS awareness
- Publicizing important IS information

Cisco - One of the leading manufacturers of network equipment. Cisco's primary business is in internetworking products

Disaster Preparedness/ Recovery Plan - A Disaster Recovery Plan (DRP) is a business plan that describes how work can be resumed quickly and effectively after a disaster. Disaster recovery

planning is just part of business continuity planning and applied to aspects of an organization that rely on an IT infrastructure to function.
The overall idea is to develop a plan that will allow the IT department to recover enough data and system functionality to allow a business or organization to operate - even possibly at a minimal level.

Enterprise Resource Planning (ERP) - Enterprise resource planning (ERP) is a method of efficiently utilizing people, hardware and software to increase productivity and profit, thus simplifying a company's business processes. ERP may include many software applications or a single (but more complex) software package that smoothly disseminates data required by two or more unique business departments.

Hyper V - Microsoft Hyper-V is a server virtualization product developed by Microsoft Corporation, which provides virtualization services through hypervisor-based emulations.

Information Technology Infrastructure Library (ITIL) - Information technology infrastructure library (ITIL) is a widely accepted best practices framework for IT service management (ITSM). ITIL includes practices, checklists, tasks and procedures documenting the role of the ITSM function. Additionally, ITIL is supported by a qualification scheme, accredited training organizations and implementation third-party (also called ITIL-aligned) assessment tools.

Local Area Network (LAN) - A local area network (LAN) is a computer network within a small geographical area such as a home, school, computer laboratory, office building or group of buildings.
A LAN is composed of inter-connected workstations and personal computers which are each capable of accessing and sharing data and devices, such as printers, scanners and data storage devices, anywhere on the LAN.

Family Educational Rights and Privacy Act (FERPA) - The Family Educational Rights and Privacy Act (FERPA) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education.

Microsoft Exchange - Microsoft Exchange Server (MXS) is a collaborative enterprise server application designed by Microsoft to run on Windows Servers. MXS supports:

- Email
- Contacts and tasks
- Calendar

Project Management Institute - The Project Management Institute (PMI) is a leader in credentialing project management professionals and advancing the field of project management.

Service Level Agreement (SLA) - A Service Level Agreement (SLA) is the service contract component between a service provider and customer. A SLA provides specific and measurable aspects related to service offerings.

Single Sign-on (SSO) - Single sign-on (SSO) is an authentication process that allows a user to access multiple applications with one set of login credentials. SSO is a common procedure in enterprises, where a client accesses multiple resources connected to a local area network (LAN).

SSO advantages include:

- Eliminates credential reauthentication; thus, improving productivity.
- Streamlines local and remote application and desktop workflow.
- Minimizes phishing.
- Improves compliance through a centralized database.
- Provides detailed user access reporting.

Virtualization - Virtualization refers to the creation of a virtual resource such as a server, desktop, operating system, file, storage or network.
The main goal of virtualization is to manage workloads by radically transforming traditional computing to make it more scalable. Virtualization has been a part of the IT landscape for decades now, and today it can be applied to a wide range of system layers, including operating system-level virtualization, hardware-level virtualization and server virtualization.

Virtualized Desktop Infrastructure (VDI) - Virtual desktop infrastructure (VDI) is a virtualization technique enabling access to a virtualized desktop, which is hosted on a remote service over the Internet. It refers to the software, hardware and other resources required for the virtualization of a standard desktop system.

VMWare - VMware is a company that was established in 1998 and provides different software and applications for virtualization. It has become one of the key providers of virtualization software in the industry.

WiFi - WiFi is a wireless networking technology that allows computers and other devices to communicate over a wireless signal.

Contributors

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Committee Review/Approval

Technology Committee - Information Item - Oct 21, 2016
Academic Senate - Information Item - Nov 3, 2016
Academic Affairs Advisory Group (AAAG)- Information Item - Nov 9, 2016
Student Services Advisory Group (SSAG)- Information Item - Nov 17, 2016
Online Education Committee (OEC)- Information Item - Nov 18, 2016
Administrative Services Advisory Group (ASAG)- Information Item - Nov 22, 2016
Technology Committee - Approved - Nov 18, 2016
President's Advisory Group (Formerly College Council) - Approved - Nov 22, 2016
Board of Trustees - Approved - Jan 25, 2017