



**Peralta Community College District
Information Technology Department
Resource Master Plan**

¹ **April 16, 2009**

¹ January 29, 2009 Draft v.1
February 19, 2009 Draft v.2
April 16, 2009 Draft v.3

1. Introduction

Mission

To provide a leading technology environment for all students, faculty and staff both on campus and from a distance, in a way that enhances teaching and learning to meet the educational needs of a diversified student body, faculty and staff and provides technology for change and growth of individuals.

1.1 Purpose

The Information Technology Resource master Plan (IT-RMP) for the Peralta Community College District demonstrates how the Information Technology Department will be aligned with and supportive of the District Wide strategic Plan (DSP) and the District Wide Educational Master Plan (EMP).

1.1.2 Desired outcomes of the IT-RMP

The effective strategic alignment of Information Technology departments presents several unique challenges because of the nature of technology. For example, technology is by definition, innovative at its core. Each individual type of technology has been created as a result of a smaller unit experimenting to make a certain business process more efficient. It is the ongoing challenge for IT departments to rein in this innovative spirit and choose technology paths that are for the good of the organization, rather than individual parts thereof. The effectiveness of the IT strategic alignment process can be evaluated in the following general areas:

- Identify key challenges and opportunities
- Ability to support the six key Educational Master Plan assumptions and effective resource allocations overall including:
 - Resource Planning Principles
 - RMP Assumptions, Goals and Strategies
 - Processes and Organizational Improvements
- Effectiveness in assessing current conditions
- Usefulness in identify best practices

- How effective is it in building on accreditation and unit reviews
- Does it describe ongoing processes for evaluating and updating the RMPs

1.1.3 Measuring Effectiveness of the IT-RMP

The effectiveness of the IT-RMP can be evaluated using the following criteria:

- How does the IT-RMP clarify a positive vision for the future?
- How well does the IT-RMP goals add value to Peralta Mission
- Does the IT-RMP clarify and support consistent use of uniform processes
- How well does the IT-RMP communicate decision making rationales to board and stakeholders
- How well does the IT-RMP assist in priority setting
- How well does the IT-RMP empower staff

1.2 IT-RMP Development Process

In 2008, the District IT department and the Campus Network Coordinators from each of the Peralta Colleges met to discuss the goals and objectives of Information Technology at Peralta. White board sessions were conducted that looked at the human and technical resources available and how these resources were being used to provide IT services to the organization. These very productive sessions were used as a source for developing a Unit Analysis of Technology Services as well as descriptions of current functional and technical areas. This background information has formed the basis for the IT-RMP.

1.3 Major Sections of the IT-RMP

The major sections of the IT-RMP are substantially the same as for the Organizational RMP, with certain emphasis on specific Technology issues. Since all organizational objectives, initiatives and evaluations should be aligned to the District's Educational Master Plan; there are only slight deviations from the overall format.

1.4 Relationship between the RMP and Unit Reviews

There is a very close relationship between the Unit Plans and the RMP. The Unit Planning process ensures that the process is a bottom up processes as well as a top down process. It is important to strike a balance so that the needs of individual departments and programs are considered alongside those of the District as a whole.

2. Guiding Framework

This section defines the District Wide Strategic Plan Framework and how the Information Technology Department will fit into the framework and advance the District wide goals.

2.1 District Wide Strategic Plan Framework

The District Wide Strategic Plan was developed through discussions of a 40-person steering committee representing faculty, classified staff, students and administrators. This section summarizes the key concepts of the plan, which are the foundation for educational planning.

2.1.1 Mission/Vision

The mission/vision statement describes the shared future the District is committed to creating. We are a collaborative community of colleges. Together, we provide educational leadership for the East Bay, delivering programs and services that sustainably enhance the region's human, economic, environmental, and social development. We empower our students to achieve their highest aspirations. We develop leaders who create opportunities and transform lives. Together with our partners, we provide our diverse students and communities with equitable access to the educational resources, experiences, and life-long opportunities to meet and exceed their goals.

2.1.2 Values

The Strategic Plan includes the values that represent the core commitments and beliefs that will guide our actions and our efforts to realize the vision of the Strategic Plan. There are three overarching values.

Students and Our Communities: The colleges and service centers are committed fundamentally to the success of students and flourishing of the surrounding communities. This includes commitment to ensuring equity of access, services and outcomes. The institution values and celebrates the strengths of our diverse students, communities, and colleagues. **Values:** Student Success and Equity; Diversity.

Excellence and Innovation: Peralta promotes the highest level of quality in all programs and services. The colleges and service centers support creative approaches to meet the changing demographic, economic and educational needs of our communities. We effectively manage resources. We engage in model

environmental sustainability practices. Values: Excellence; Innovation; Financial Health; Environmental Sustainability.

Communication and Collaboration: The colleges and service centers use a consultative decision-making process based on trust, communication and critical thinking. We support one another's integrity, strength and ability. We promote the development of all employees. We seek first to understand and then be understood. We treat one another with care and respect. Values: Collaboration; Trust; Employee Development; Communication; and Respect.

2.1.3 Principles

The Strategic Plan includes a set of principles to provide guidance for planning, decision-making, and institutional processes.

- Educational Needs are Primary
- Planning Drives Resources
- Shared Governance
- Diversity and Shared Strengths
- Organizational Development
- Collaboration
- Future Orientation
- Environmental Sustainability
- The Service Center Role
- Community and Individual Empowerment

2.1.4 Strategic Goals

The Strategic Plan includes a set of outcome-based goals, each of which includes a set of implementation strategies:

Advance Student Access, Equity, and Success: Actively engage our communities to empower and challenge all current and potential students to succeed.

Engage Our Communities and Partners: Actively engage and partner with the community on an ongoing basis to identify and address critical needs.

Build Programs of Distinction: Create a cohesive program of unique, high-quality educational programs and services.

Create a Culture of Innovation and Collaboration: Implement best practices in communication, management, and human resource development.

Develop Resources to Advance and Sustain our Mission: Ensure that resources are used wisely to leverage resources for student and community success in a context of long-term environmental sustainability

2.2 Resource Planning Vision

2.2.1 Vision of the Future State of Information Technology

Moore's Law² has accurately predicted the exponential growth and change in the area of Information Technology. Because of that, making sound technology choices that consider how rapidly things change and how that change will effect the organization as a whole will become more and more important. Each technology decision that is made in a vacuum will be more and more costly to the District, very inefficient and difficult to correct.

One of the primary goals of the Information Technology Department is to prove state-of –the-art information services, network infrastructure and excellent customer service. In the near future, Peralta will have a true data super highway that ties together the Peralta initiatives and strategic objectives and enhances our ability to consistently enhance our ability to deliver quality educational services which will be driven by the District's Educational Master Plan.

In the future, all of the Peralta Colleges would be equipped, where feasible, with appropriate technologies that allows faculty to provide the diverse and technology rich learning environments. This will provide students with the environment necessary meet or exceed their goals. Faculty would be able to integrate existing technologies into their curriculum.

² Moore's law describes a long-term trend in the history of computing hardware. Since the invention of the integrated circuit in 1958, the number of transistors that can be placed inexpensively on an integrated circuit has increased exponentially, doubling approximately every two years.[1] The trend was first observed by Intel co-founder Gordon E. Moore in a 1965 paper.[2][3][4] It has continued for almost half of a century and is not expected to stop for another decade at least and perhaps much longer.[5]

Almost every measure of the capabilities of digital electronic devices is strongly linked to Moore's law: processing speed, memory capacity, even the number and size of pixels in digital cameras.[6] All of these are improving at (roughly) exponential rates as well.[7] This has dramatically increased the usefulness of digital electronics in nearly every segment of the world economy.[8] Moore's law describes this driving force of technological and social change in the late 20th and early 21st centuries.

2.2.2 Information Technology Changes and Improvements

It is a goal of the Information Technology Department to meet existing commitments, as well as plan for the implementation of ongoing technologies in order to move Peralta to the place of information technology leadership among the California Community Colleges. It is important to efficiently use existing resources, where possible, especially given the current budget crisis in the State and Nation.

- Meet the technology needs of students.
- Provide faculty with a seamless information technology environment for teaching, and learning
- Keep abreast of emerging issues and technologies.
- Educate and advise users on technology issues.
- Establish strong collaborative relationships with the Colleges and District Offices
- Implement an organizational structure with permanent Peralta IT District staffing

3. Background Information

3.1 Key Trends, Issues and Challenges

3.1.1 Key Trends

The efficient use of state-of-the-art technology will greatly enhance ability of our students to be life long learners. This is especially true for Community College Districts where students are returning to education to improve or learn new skills, take a course on an interest or hobby or to develop new interests. Distance Education will provide students with the ability to take classes from the convenience of their home computer. The Information Technology department will increasingly be relied on to support faculty in the delivery of technology enhanced online courses. As we become more mobile, technology will enhance our experience with access to wireless environments, course management tools such as Moodle, Blackboard, etc. Smart phones and other mobile devices will allow students to download books, assignments, and conduct internet research outside of the classroom, library or computer lab. Web based applications will provide access to software programs to conduct there work without having the application stored on their computer. Free Collaboration Websites will provide the mechanism for editing group documents, hold online meeting, share information and data and collaborate in a number of ways. To provide our students, faculty and staff with the full benefit of current and new technology trends, Peralta needs to be a wireless environment. With the implementation of Smart classrooms as outlined in the Facilities Master Plan, wireless environments are necessary in order to fully integrate technology into an educational setting and create electronically enhanced lecture theaters and classrooms. These rooms create new opportunities in teaching and learning by integrating computer, multimedia and network technology. The implementation of Smart Classrooms will improve faculty working environment and student experience (See Attachment 1 for Peralta Smart Classroom Design Specifications).

The installation of technologies that specifically facilitate instantaneous communication is central to the Information Technology Vision. For example, digital message boards and kiosks touch screen technology is another trend that is being implemented increasingly at colleges and universities. This technology can be placed in areas where students congregate and provide convenience in areas such as applying for admissions, registering for classes, access to library online resources and more. These technologies are not confined to Peralta but can be place at airports, hotels and other populated areas as another convenient way for students to apply for admissions, enroll in courses, check online distance education websites,

etc. Kiosk touch screen technology will also accommodate students who are not able to use a keyboard or computer due to physical challenges. When the kiosk is not in use, it could display reminders and announcements to students. In preparation for the deployment of wireless technology, the Information Technology Department has developed a wireless implementation plan for all of Peralta. Wireless environments will provide students, faculty and staff with wireless access anywhere/anytime.

3.1.2 Green Technology

The application of Green Technologies and Initiatives will be critical. The Peralta District Information Technology Department strives to improve services in a variety of areas. High on our list of priorities are the increased use of Green Technologies, continued upgrades to our network infrastructure and enhancing delivery of Student Systems.

Peralta District IT Department has implemented in our core services VMware virtualization software to minimize capital and operating costs, maximize application and system uptime and reduce power consumption. VMware technology is revolutionizing the delivery of services. Virtualization for desktop computing is the next wave in green technology. With VMware Virtual Desktop infrastructure individual desktops are linked to virtual machines that host the software applications. Desktops are managed centrally providing a standard secure environment for remote and mobile users, software upgrades, virus protection upgrades take place at the host site. Computer equipment is ready to use with minimal setup.

With energy prices in flux and the real need to conserve, District IT is undertaking several green projects. We are virtualizing our physical servers thereby reducing the need for electricity and reducing the need to dispose of aging computer hardware. Areas of our network infrastructure have been virtualized as well as PeopleSoft Finance, Primavera, etc. Additionally, we continue to work with college technology staffs to develop and adhere to standards for energy efficient desktop and laptop computers.

3.1.3 Issues and Challenges

The network infrastructure is continually upgraded to maintain a state of the art system. Our EMC storage system has recently been upgraded to keep pace with the demands of the PeopleSoft system. New and faster systems have been implemented for messaging and virtualized servers. We will complete our upgrade to Exchange 2007 within the next few weeks. Included in this project

will be greatly increased storage capacity of our email system. The critical components of the PeopleSoft system are protected through a sophisticated firewall system. The Finance module was recently upgraded with new hardware and a faster data engine. We are in the process of upgrading our PeopleSoft database systems to advanced operating systems and hardware to keep pace with the demands of the Student System.

We continue to find ways to enhance the student experience. An AC Transit Fast pass application was created to automate the distribution of transit passes for students. Wireless access points have been implemented at the colleges in the most-used common areas for student convenience. A student email system will be available shortly which will include social networking and online storage for students. The College Websites are also being upgraded while alternatives to the current designs are being considered.

Adequate funding for the implementation and maintenance of new technologies is a key issue. The need for IT support and services will increase as demands increase. Resources are needed to ensure that faculty and staff have the necessary training to take full advantage of new technologies. Computer equipment must be made available to all faculty and staff with affordable computer purchase programs made available to students.

4. Major Challenges

4.1 Digital Divide

The Digital Divide is evident among the Peralta students. In order to ensure that students are able to use technology effectively faculty and students must have greater access to technology outside of the classroom as well as inside the classroom. For example, the availability of smart class rooms and labs, as well as the use of laptop carts in areas such as the Peralta College Libraries in which students can check out a laptop to conduct internet searches, prepare presentations, write papers or register for classes would allow students to use technology they otherwise may not accessible to them.

4.1.1 Technology in the Curriculum

The implementation of Smart Classrooms throughout the Peralta Colleges will do much to further the cause of exposing students to technology. Faculty who are not familiar with smart classroom equipment will require instructions on how to operate these technology tools, classroom support services, as well as assistance with integrating technology into their curriculum to achieve the desired outcomes.

4.1.2 Students and Faculty with Disabilities

As we move towards new trends in technology, we must remain cognizant of students and faculty with disabilities. We must ensure that new technology is provided for students with hearing, visual and physical challenges. We will strive to work closely with our DSPS resources on each campus to ensure that these interests are represented in the District's use of technology.

4.1.3 Computer Equipment

Obsolete equipment is common in educational institutions as it is costly to support. Fortunately, with the passage of the Measure A Bond initiative, Peralta has instituted an equipment replacement program for computer equipment in classroom computer labs as well as for faculty and staff. Peralta has a responsibility to its students to prepare them to meet the needs of potential employers by providing them with access to current computer and software products. By keeping these skills current, Peralta students will be competitive in the job market.

4.1.4 Information Technology Infrastructure Management

Information Technology infrastructure must be continually updated and replaced to keep up with increasing bandwidth demands and to stay ahead of malicious threats to less sophisticated systems. In keeping with the goals of the Education Master Plan, funding for IT initiatives, projects and services must be outlined within the Plan; facilitating successful university wide implementation of the Plan; and reviewing and reporting progress in achieving the desired outcomes of the Plan. Continual Service Improvement (CSI) means to align and realign IT Services to changing business needs by identifying and implementing improvements to the IT services that support the Business Processes. Challenges for the Peralta network infrastructure include inconsistent funding for equipment to serve Peralta's business needs. This includes funding for replacing aging network equipment as well as availability of replacement parts to repair equipment.

4.1.5 Information Technology Staffing

By definition, the IT employee is the quintessential knowledge worker. IT is important to have knowledgeable and well trained staff, in order to maintain the many complex systems at the District and Peralta Colleges. To the Information Technology professional it is very important to understand, and be able to support something that the users do not see – the network infrastructure. Without it, there are no connections to servers, internet, email systems, administrative database systems, file servers, Voice over IP technology, enterprise storage systems, high speed data lines, and much more. All of this connectivity is a result of IT professionals knowing how a multitude of switches, routers, firewalls, load balancers, interact keep the network infrastructure functional. Each day, all of these components have newer technology in terms of patches, software upgrades and even newer hardware that needs to be addressed. Peralta must implement an IT support staff of qualified IT professionals. Without this, we have challenges in establishing appropriate processes and service level criteria for supporting faculty, staff and students. Peralta must balance the needs for IT services with IT Staffing.

4.1.6 District Information Technology Department Alignment with Peralta Colleges

It is important that the individual colleges merge their technology strategies together, rather than acting independently, whenever it is most beneficial to the students and the goals of the Educational Master Plan. Often, Colleges operate as independent entities administering IT functions locally. This provides for contradictory priorities at both instructional and administrative levels at the District and College levels. Successful interaction among the Colleges and the

District Information Technology Department will allow for successful strategic planning. The alignment of the Peralta Colleges and District technology goals and priorities will ensure that the Peralta provides exposure to our student's educational technology to our students.

4.1.7 Business Continuity/Disaster Recovery Plan

A Business Continuity/Disaster Recovery plan was developed by the District Information Technology Department in 2008. This plan provided for an off site location for employees to go to for business continuity. In addition, a secondary plan was developed to bring essential services back up through bringing databases back up using the off site backup storage which is stored out of state. The execution of the DR plan is pending Board Approval.

5. Current Conditions

5.1. Unit Strengths, Competencies and Areas for Improvements

The Information Technology Department's core responsibilities and area of expertise are in Network Infrastructure, Applications Support, Client Services and Telecommunications. Peralta is fortunate to have a knowledgeable and dedicated Information Technology staffing who are willing to step up to challenges.

	Area for Improvement	Solution	Benefits of Improvement
1	Increase vendor selection for PC purchase/support	Allow other vendors to bid on providing equipment	Improve customer service/free up internal resources/timely Publication of Peralta standards
2	Fill critical positions	Fill positions to prevent the necessity of working out of class	Improve employee morale and free up internal resources
3	Security of Data, Hardware and Network	Develop procedures and security checks for data protection (Identity Theft, secure information), Disaster Recovery of Network	Prove more and better protection of sensitive information
4	Website all Phases	Replace current site and content management system. Develop a new support approach to assist campus and District users	Improve maintenance and operation of site
5	Technical and Functional Skills	Cross train staff members (Staff teaching Staff) on technical and functional areas. This will be done by creating training plans and setting goals to leverage the staff's strengths and weaknesses	Strengthen Information Technology's knowledge base and increase the productivity of the staff. Also, to provide an environment for more creative and dialogue amount staff.
6	Work Culture	Develop a more clear communications and informational exchanges with staff. Communicate institutional goals Develop team building activities and balance the workload through management of work assignments	Establishes an effective work team and builds trust and collaboration.
7	Support Infrastructure	Develop an understanding and knowledge of business processes to evaluate and suggest best practices and methods. Create a redundancy of skills among staff and review and align job roles and responsibilities with the staff's skills	Improve a community of support for applications and guarantees continuity of support and knowledge. Which will result in increased productivity and efficiency.

5.2 Best Practices

Some very noteworthy suggestions for implementing best practices involved centralizing IT services and implementing District wide standards. Implementing specific best practices can lead to improved bottom line results, increased productivity and stronger overall performance. Implementation of best practices will depend less on the technology selected but rather on how well the technology is implemented. The IT Department supports partnership over isolation and the development of cooperative solutions to mutual problems. IT supports a standard IT environment throughout Peralta. Mobile technology to allow the conducting of business away from out desks. The IT Department supports the implementation of a wireless environment in order to enjoy the full benefits of mobile technology, Voice over IP, Unified Voice Message system.

6. Assessment of Educational Master Planning Implications

6.1 Resource Planning Implications of the 6 District Wide EMP Initiatives

Information Technology departments are the quintessential service divisions for complex organizations. It is imperative that the efforts of IT are strategically aligned throughout the organization. In addition to providing data to facilitate the on-going operations, IT provides support in the form of tools and systems that must be upgraded and modified to fit the needs of the institution. This will become more and more critical as the pace of technologic changes grows ever more rapid.

PERCENT GROWTH IN KEY AREAS

EMP Direction	INFORMATION TECHNOLOGY RESOURCE MASTER PLANNING IMPLICATIONS
Growth Projections 2008-2022	20%
Programs Of Distinction	15%
Distance Education	30%
Education Centers	10%
Enrollment Management	40%
Active Learning	30%
Non-State Funded Education	NA

6.2 Resource Planning Implications of College Educational Plans

As the world grows closer together using technology such as, social networking and collaboration software, so must our Colleges. Technology will help to make the colleges closer than ever while maintaining their individual identities. Likewise, the distinction between the physical classroom and the virtual classroom will continue to become more and more meaningless as time goes on and technology becomes more useful, efficient and powerful.

College / EMP Initiative	INFORMATION TECHNOLOGY RESOURCE MASTER PLANNING IMPLICAITONS
Berkeley City College	Moderate (Newer implementation)
College of Alameda	High
Laney College	High
Merritt College	High

7. Master Plan for Supporting EMP Needs

7.1 Resource Planning Principles

It is important that IT-related decisions be as informed as possible. IT as a department must strive to education technology staff and customers that will be involved in making and shaping policy and direction in this arena. It is also extremely important to strive for organizational strategic alignment when making decisions.

7.2 Plan Assumptions, Goals and Strategies

In this complex budgetary environment, all technologies decisions need to carefully weigh the ability if the resource to maximize the delivery of educational services to students against the tangible and intangible costs to the District. We must attempt to maximize the impact of all new resources based on the stated goals of the Educational Master Plan and the realities of the current fiscal climate.

7.3 Technology Support Resources

District Information Technology comprises two areas of focus: Applications Services, supporting Peralta's ERP system; and Technology Services, supporting the district wide network infrastructure, telecommunications systems, servers, workstations, storage, email, web site, file sharing, helpdesk, etc.

Network, computer services, and information systems are both centralized at the District, and de-centralized to the colleges to ensure that the benefits of a standardized environment are realized on both an economic and resource level while also ensuring that bottlenecks in service delivery are minimized.

Technology Services Staffing, District: Supports district wide network infrastructure, telecommunications systems, various applications, computers, and servers. Staffing includes a Director of Technology Services, four full-time Sr. Network Coordinators, one Telecommunications Coordinator, two Helpdesk Technicians, and one Network Architect (consultant).

The District Helpdesk is piloting the use of Footprints Helpdesk software to provide a system to address immediate and long-range technical support needs. After the pilot implementation of Footprints is completed at the District, the

software will be deployed at the Colleges. District Help Desk support is available from 8:00 AM. to 6:00PM Monday through Friday.

At the Peralta Colleges, there are 6 full time College Campus Network Coordinators (two each at Laney College and the College of Alameda and one each at Berkeley City College and Merritt College), as well as a variety of technician level positions. College staffs provide technical and instructional support services and liaisons with the District Information Technology staff for network support services and administrative information systems.

The District Technology Services staff and the College Campus Network Coordinators are all members of the District Wide Enterprise Network Group. Meetings are held to discuss and agree upon standards, policies, and to address and resolve District wide network infrastructure, desktop computing and telecommunications issues. Knowledge transfer is an important part of the ENG meetings.

The District Technology Services Department works in partnership with School Web Services to upgrade Peralta's Website content management system as well as assist faculty and staff with website questions and issues. The PCCD website currently consists of approximately 3000 web pages including pages that belong to PCCD faculty.

Technology services, professional support, facilities, hardware and software are designed to enhance the operation and effectiveness of the institution.

7.4 Major goals for the Information Technology Resource Master Plan

We have as a goal to develop initiatives and objectives for all of the major focus areas of our strategic plan. We will complete this in the next fiscal year. We will then implement measures and targets for improvement.

- Align goals and objectives of the Peralta Colleges with the Information Technology Department
- Strengthen IT/Business unit working relationships
- Implementation of wireless environment throughout Peralta
- Implementation of Business Continuity Disaster Recover Plan
- Implementation of a fully staffed Information Technology Staff
- Implementation of Enterprise Unified Messaging System
- Enhance IT Service quality and effectiveness
- Facilitate effective project and contract management to ensure success of IT Projects

- Align technology goals of the Peralta Colleges with the District Information Technology Department
- Develop and implement service levels to ensure student, faculty and staff Success

7.5 Processes and Organizational Improvements

There are several committees and publications which identify technology requirements. These resources are as follows:

- Educational Master Plan (2008-2013 Draft)
- Facilities Master Planning Committee
- District Wide Technology Planning Committee
- College Technology Committees
- Distance Education Committee
- Educational Technology Committee
- Joint Facilities Master Planning and Educational Master Planning Committee
- PeopleSoft Implementation Team

Members of College Technology Committees also serve on the District Technology committees providing a bridge between District and College technology services. These committees provide a forum for administrators, faculty, and staff from the District and all four Colleges to discuss, preview, introduce, and recommend technology products, view application demonstrations, and discuss pedagogy, as each relates to teaching and learning, using technology.

District and College Network staffs are encouraged to and frequently participate in various committee meetings involving technology.

7.6 Implementation Timeline

The first requirement is the development of a unified timeline that incorporates all of the Unit plans and the goals of the Educational Master Plan.

7.7 Evaluation Approach

As stated, we plan to develop measures and objectives for all of the Unit's major strategic focus areas by the end of the next fiscal year. We will measure the effectiveness of the implementation by the degree that we meet our goals.

7.8 Update Cycle

The RPM will be evaluated and update frequently as we develop and refine our goals and objectives.

