WEST LOS ANGELES COLLEGE INTEGRATED MASTER PLAN

VOLUME 3

# Information Technology Strategic Plan

Prepared for

WEST LOS ANGELES COLLEGE PLANNING COMMITTEE

Prepared by

MOORE IACOFANO GOLTSMAN, INC.

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West Los Angeles College

Volume 3

# Information Technology Strategic Plan

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# Acknowledgements


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## Volume 3: Information Technology Strategic Plan

# Summary of Plan Objectives

# I. Summary of Plan Objectives

The plan's action objectives are summarized here and presented in detail in the last section of the plan:

## Improve IT Decision-making and Resource Allocation

With limited funds, West Los Angeles College must manage its IT human resources carefully in order to direct highly skilled workers to projects that have the maximum impact on the future success of the college. In order to do this, IT management, technicians and staff must have a clear understanding of college-wide priorities. The college will create a clear process for setting priorities and making decisions regarding priorities.

## Provide Resources for On-going IT Infrastructure Upgrades and Maintenance

All new technological systems at WLAC will require a stable and speedy IT infrastructure to support them. WLAC will allocate resources directly to infrastructure planning, maintenance, implementation and upgrades. This will allow the infrastructure to be independent of specific program requirements and allow IT decision-makers the ability to plan for technological growth from a campus-wide perspective.

## Establish an Information Distribution and Communication System

The college will enhance its operational ability and overall productivity by creating a useable, efficient and integrated information delivery system. Using appropriate technologies such as an Intranet, E-mail, online chatrooms, electronic bulletin boards, E-newsletters, Web-based college-wide announcements and an electronic suggestion box, WLAC can build a communication system that will be used by all of the college communities and departments.

### Improve IT Coordination with the Los Angeles Community College District and Streamline Administrative and Support Functions

WLAC will maintain communication with IT staff at the District level to understand and adequately plan for financial management software modernization and other District-wide IT projects.

### Create an IT Training Policy and System for Staff and Faculty

Training is one of the major objectives in the State's Community College Technology II plan for good reason. A community college must be able to remain competitive and responsive to both internal needs and external markets. WLAC will create a comprehensive training program for internal staff and faculty in order to respond to the exponential growth of technology in the current workplace.

### Plan for Facilities that Will Use Technological Systems to Enhance Instruction

All future facilities will have at least minimal backbone infrastructure installed in order to prepare for the implementation of "Smart" facilities. Existing, older facilities will also be retrofitted to provide some functional IT capacity

# Background

# II. Background

An educational environment depends on communication and information distribution to thrive. For this reason, Information Technology (IT) is an essential function in a large and diverse educational community such as West Los Angeles College. An integrated IT strategy that is driven by the visions and goals of educational, organizational and facility planning creates a more effective implementation of technology that complements and supports rather than being at odds with college-wide initiatives.

Information Technology is a factor at almost all levels of WLAC's organization from specific departmental support to District-wide modernization initiatives. The following desired outcomes allow us to provide the necessary infrastructure to achieve our future educational and organizational goals.

- Improve the IT decision-making process and organizational structure
- Establish resources to support on-going IT infrastructure growth and maintenance
- Create an efficient and robust information distribution system for both internal and external communications
- Streamline and automate administrative and support functions
- Establish an integrated technical orientation and training policy and system for staff and faculty
- Use technology to enhance instruction and learning

These desired outcomes share many of the same objectives of the State-wide Technology II plan adopted by the California Community College Board of Governors in September of 2000.

In the spring of 2001, a consultant team of Information Technology experts visited WLAC to evaluate the implementation of technology at the college. They conducted focus groups and informal interviews with key IT staff and personnel including WLAC's IT Director, Facilities Manager, Vice President of Administrative Services and Operations Manager. In addition, WLAC staff gave the consultant team tours of the various IT infrastructure sites, labs, classrooms and support

facilities where the team was able to talk informally with staff and ask questions.

Overall, the team found that WLAC has made great strides in IT services with the limited resources available. The IT technicians and staff are dedicated, enthusiastic and provide a good level of support. The overall infrastructure is slowly being modernized in a way that provides for future growth. The IT department has just been recently centralized to provide a more consistent and efficient support to the entire campus. The District is modernizing its financial management system to automate many time-consuming functions currently handled by WLAC staff. Internet connectivity is good and adequately secure.

However, even with these strengths, there are gaps in the current IT system that must be addressed:

- In many of the older buildings visited by the team, the switches and hubs were based on an older, slower networking technology. This effectively negates the most recent bandwidth gains from the recently completed fiber optic infrastructure.
- The IT department does not have its own discretionary operational budget. This negates the department's ability to upgrade equipment related to maintaining the technology infrastructure and its ability to effectively plan for these upgrades.
- The team found that the IT Director's time was not being fully leveraged to his capabilities. He was spending an inordinate amount of time on day-to-day maintenance and management while trying to do higher-level planning at home on his own time.
- All IT staff stated that their time were overbooked and, in some cases, it was impossible for them to finish assigned tasks in a normal business day.
- Even though all the staff and administrators at WLAC were aware that the District was going to implement an integrated financial management system, no one was aware of specific timetables nor the implementation needs on the college's end.
- WLAC conducts most of its internal communications using E-mail and voice-mail. The majority of staff and administrators interviewed and in focus groups complains the sheer volume of messages going to these two mediums impedes their ability to coordinate and prioritize tasks and meetings.
- Internal departmental communications can be overly complex and time-consuming. The time required between the initiation of a Purchase Authorization and the entry resulting in an invoice, for

example, can take as long as 2 or 3 weeks to be processed by the college with another 4 to 5 weeks before the District issues a check to the vendor. This lengthy processing time is especially troublesome for the Bookstore, which requires a faster turnaround of invoices in order to maintain stock.

- At every focus group meeting, WLAC staff felt that they required more technical training in order to do their job better and more efficiently.
- According to the focus groups and faculty and student surveys, the college community is very interested in increasing the student body's access to education through using the Internet for student services and distance learning. While WLAC has made great inroads into providing these services over the last two years, the number of students enrolled in distance learning courses at WLAC is about a half to a third of other California community colleges of similar size.

A detailed analysis of these gaps is discussed in the following section, Section III, Issues Analysis.

# Issues Analysis

# III. Issues Analysis

This Information Technology strategy was based on the following critical issues:

### Infrastructure implementation is aging and incomplete.

Even though there are fiber optic lines linking most of the structures on the campus with the main servers, many of the equipment within the buildings themselves are not upgraded. This causes a bottleneck that negates the speed of the larger incoming pipelines.

In addition, West Los Angeles College allocates resources to the IT infrastructure system by "tacking on" a line item to program-specific initiatives. While this method might be an effective fiscal tool for administrators, in real world application, it is inefficient. Specific program initiatives cannot be implemented without sufficient infrastructure; therefore, infrastructure must be planned and implemented before any specific IT project begins. Coupling infrastructure purchases with specific projects often leads to a piece-meal approach favoring only the project that is currently being installed rather than the college as a whole. Consequently, incompatible or inappropriate equipment often is installed only to be replaced later with equipment that might also be incompatible in future installations.

### High-level IT strategic planning is lacking.

Because of the demands of the college and the current IT staffing level, most high-level planning and system design is being done after-hours or on the IT manager's free time. This work environment is not conducive to the quality planning and design that this college demands especially with the anticipated growth over the next few years. IT should be taking the lead in many future-planning issues like the design and implementation of "Smart" facilities and the improvement of the distance learning systems.

### Adequate support staffing and the Total Cost of Ownership (TCO) for equipment need to be addressed.

All new equipment and software are requested on a departmental basis and are budgeted purely on their acquisition cost rather than the Total Cost of Ownership (TCO). TCO is calculated by adding the cost of

infrastructure, maintenance and support of the product. Without these costs, IT services do not have the ability to support the new technology introduced in the college. The Technology II plan guidelines state that the cost ratio between support staffing and hardware and software cost should be 1:3. At WLAC, we have not calculated the support cost ratio in this manner. With the support staff to computer workstation ratio at 1:125, however, it seems to indicate that there is a shortage of IT support on campus. Other guidelines from the Technology II plan that we can use, as possible indicators of IT staffing levels, are IT support staff response times. The Technology II plan states as goals that any classroom issue should have a 2-hour support response and that any IT issue should not have a longer response than 24 hours.

### Communication within and between departments needs improvement.

WLAC's reliance on E-mail as the main communications tool is inefficient and unproductive. A large volume of incoming E-mail can easily overwhelm an individual. Coordination between groups using E-mail requires multiple messages that are uncontrolled and confusing. Priority and important information are lost among the junk mail and personal conversations. Consequently, reactions to important or crisis situations can be slow and uncoordinated.

### Document routing and approval system is inefficient.

The current document routing system is complex and produces redundant files. The same information can enter the system at multiple points causing redundancy, confusion and difficult tracking. The interface with the District is cumbersome and time-consuming. Consequently, actions on important documents that require multiple levels of approvals both internally and from the District can take from four to six weeks to execute.

### Ongoing staff and faculty technology training is needed.

As new hardware and software equipment are being installed at WLAC, users' skills are not being updated to take advantage of the additional capabilities of the technology. In addition, new employees do not have a standard orientation that allows them to get acquainted with existing technology. Thus, for example, many users cannot adequately record, route and retrieve voice-mail messages. Even though the phone system

is a few years old, users were never trained in the proper use of its features.

### Technology should be better utilized to improve the student experience and access.

The use of technology for distance learning applications, including online classes and classes taught by videoconferencing and satellite downlink, has increased in the past three years. In less than two years, 23 online courses have been developed and 17 additional courses, including many in new disciplines, are currently under development. Enrollment in online classes has increased in the past two years to over 600 students enrolled in online classes in Fall 2002. The WLAC website has also been improved providing students with crucial information and access to online course syllabi. Using the LACCD website, students can apply, enroll, add and drop classes, in addition to checking their grades and transcripts. While WLAC has made inroads into using the Internet to enhance the student experience, the college must continue to improve its infrastructure and quality of its Internet services.

Additional training and technical support are needed to improve the integration of technology into the classroom. The hiring of instructors who are proficient with technology needs to be a priority. Although the campus infrastructure is strong, with Internet access in every classroom, difficulty in technical coordination and training has resulted in a lack of participation by many instructors. Computer-assisted instruction has been successfully used for Business, Foreign Language and Learning Skills classes.

Progress in computer-aided instruction should be improved and the current Unit plans show almost all departments believe that computer-aided instruction would be a potential benefit to students and the Unit would have a high interest in exploring any initiative.

# Smart Classroom Design Principles

# IV. Smart Classroom Design Principles

Based upon the unit plan analysis, West Los Angeles College must establish a template for classroom technology implementation. The base standard for all new classrooms should be a Level "A" smart classroom as described below. Level "B" and "C" smart classrooms should be built judiciously based on the needs of the college.

With more equipment available for use, instructors will have the greater opportunity for experimentation and creativity in teaching techniques. The Presentation Only Smart Classroom lends itself to a more traditional lecture-type instruction that is technologically enhanced.

| **Smart Classroom Type and Description** |
|---|
| LEVEL A: PRESENTATION ONLY SMART CLASSROOM<br>• LCD projector with full sized room screen<br>• Audio/Video/LAN/Internet inputs for a notebook computer<br>• LAN/Internet ready<br>• Smart whiteboard<br>• Printer (instructor only)<br>• Security |
| LEVEL B: SMART CLASSROOM/LAB<br>• Built-in lecture workstation with complete presentation software suite<br>• LCD projector with full sized room screen<br>• Audio/Video/LAN/Internet inputs for a notebook computer<br>• All stations LAN/Internet ready<br>• All students have a workstation<br>• Printers<br>• Security |
| STATE-OF-THE-ART LECTURE HALL/LAB<br>• Full Audio/Visual including VCR, DVD, CD, cable TV<br>• Built-in lecture workstation with complete presentation software suite<br>• LCD projector with full sized room screen<br>• Audio/Video/LAN/Internet inputs for a notebook computer<br>• All stations LAN/Internet ready<br>• All students have a workstation<br>• Fully amplified sound<br>• Video conferencing enabled<br>• Printers<br>• Security |

# Online Delivery of Student Services

# V. Online Delivery of Student Services[1]

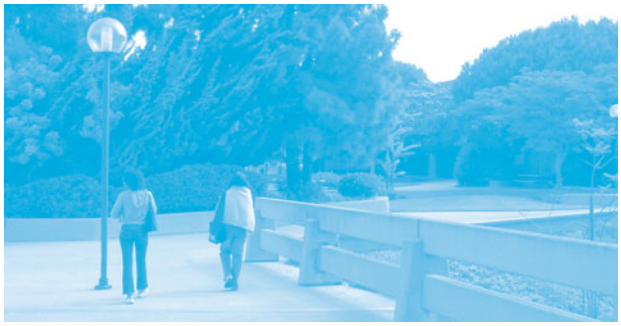
West Los Angeles College will provide online services specifically geared toward distance learning students and students with disabilities. These services will also be available to all students. In development of this system, the college will take into account the possibility of tying this system into the new District Financial Management data.

## Information Technology Building Design Principles

The following principles will be taken into account with the planning and design of any new or remodeled building:

- Each building's Local Area Network (LAN) has access to the campus-wide infrastructure, including Internet, Intranet, E-mail and campus-wide servers.
- Install LAN access to all classrooms, offices and common areas
- Allocate space in the building's mechanical room for a climate-controlled area for LAN equipment and servers
- Place access ports for easy access by instructors and students
- Design a climate-controlled LAN equipment space on every floor of a new or remodeled building
- Ensure that all LAN wiring throughout the building meets an established minimum standard bandwidth rating
- Ensure that the electrical power and circuitry is adequate to run any current or future LAN equipment
- Ensure that in the event of a power outage that the network equipment will have enough backup power (provided by a backup generator, battery or some other electrical storage device) to allow all users and administrative accounts a reasonable time to logout without the loss of data
- Design space and mechanical systems with wireless networking in mind especially in common areas and lounges
- Choose LAN equipment and servers to provide adequate data storage, electrical power, data backup, bandwidth and security

[1] For more specific information, see Chapter V, Campus Systems, Infrastructure and Utility Systems of the WLAC Facilities Master Plan (Volume 2).



# Information Technology Site Design Principles

# VI. Information Technology Site Design Principles

The following design principles will be taken into account as West Los Angeles College implements the Facilities Master Plan:

- Ensure Network wiring terminates in a communication hub that is located within the campus core in order to reduce costly runs and increase the efficiency of equipment
- Install fiber optic network wiring to any new or extensively remodeled building
- In its current form, wireless technology is less robust, slower and not as secure as traditional wired LANs. WLAC will consider wireless networking when remodeling older buildings. For new buildings, however, the college will install traditional network wiring. This strategy will give the college maximum flexibility in implementing networking technology.

## Implementation Responsibilities

Implementing the technology infrastructure components of this strategy is primarily the responsibility of the Technology Committee and Information Technology Services. The administration in consultation with constituency groups and operational units will address policy issues such as developing an infrastructure budget and an IT training policy.

# Action Objectives

# VII. Action Objectives

The Information Technology strategy will be implemented through the following action objectives:

**T1: Improve the IT decision-making process, planning and resource management**

**T2: Establish resources for on-going IT infrastructure upgrades and maintenance**

**T3: Use technology to enhance college communication**

**T4: Enhance administrative and support systems to leverage the new District Financial system**

**T5: Establish a comprehensive training and orientation program for staff and faculty**

**T6: Increase support for the integration of technology in the classroom**

## T1 IMPROVE THE IT DECISION-MAKING PROCESS, PLANNING AND RESOURCE MANAGEMENT

### Create an IT organizational structure that will provide better service to the college as well as manage resources more effectively

The college will establish a system that creates a clear line of authority and provides a template for unambiguous decision-making. An efficient organizational structure will allow constituencies, administrators and managers to take a leadership role in evaluating and planning for new technologies, IT staff to focus their efforts on priority projects and general users to begin to understand the complexities of technology implementation at a large organization.

#### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- Establish an unambiguous organizational hierarchy in which oversight duties and responsibilities are clearly defined for the Planning Committee, Administrative Services, Technology Committee, Information Technology Director and Information Technology Staff.
- Create an IT advisory body to provide guidance and technical advice to college units regarding IT decisions. This group would research "IT Best Practices" at other enterprises, educational and public institutions for examples of successful and unsuccessful implementations of technology. In addition, this group would research funding sources.
- Create a clear protocol for the educational departments to request additional equipment and new systems through the annual planning and budgeting process. The IT advisory body should also be consulted for any IT grant or initiative submitted by a campus department.

#### Responsibilities

LEADS: Vice President of Administration
TEAM MEMBERS: Dean of Planning, Technology Committee Chair, IT Director

## T2 ESTABLISH RESOURCES FOR ON-GOING IT INFRASTRUCTURE UPGRADES AND MAINTENANCE

### Create a technological backbone capable of supporting West Los Angeles College's educational vision of the future.

The college will allocate resources directly to infrastructure planning, maintenance, implementation and upgrades. The purpose of establishing a dedicated technology planning capacity is to ensure that a coherent IT infrastructure will be developed from a campus-wide perspective to meet the needs of all programs and services. Departmental technology will then use an existing and standardized infrastructure that ensures compatibility and consistency.

### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- Establish an IT infrastructure plan and budget item for on-going maintenance and upgrades of the infrastructure.
- Establish clear communication lines between the IT infrastructure planners and departmental IT initiative planners.
- Research possible funding from the State based on their Tech II Total Cost of Ownership Funding Model. The funding model does set a cost ratio requirement between IT support staff and cost of hardware and software. The model might include funding for additional support.

### Responsibilities

CO-LEADS: Vice President of Administration
TEAM MEMBERS: Budget Committee

## T3 USE TECHNOLOGY TO ENHANCE COLLEGE COMMUNICATION

### Allow WLAC's entire educational community to communicate with each other more effectively

The college will create a useable, efficient and integrated information delivery system to enhance its efficiency and effectiveness. The communication system will include an Intranet, E-mail, online chatrooms, electronic bulletin boards, E-newsletters, web-based college-wide announcements and an electronic suggestion box. This communication system will support effective communications at all levels of the institution.

### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- Create an effective and useable Intranet. An Intranet increases communication at every level of the college community from traditional static information for prospective students to faculty and staff group calendaring and meeting room reservations. A well-designed and easily updated Intranet will act as an information clearing-house that will disseminate information quickly and accurately.
- Set up E-mail accounts for all students and faculty including group accounts and listservs. This will foster a more active student learning environment as well as allow the college to contact the student body quickly and effectively.
- Establish a campus-wide information publishing process to serve as a clearing-house for campus-wide events and news. This group could be responsible for:
  - *Newsletter editing (electronic or printed)*
  - *College-wide announcements/bulletin board (electronic or printed)*
  - *Group E-mail or listserv administration*
  - *Internet/Intranet content oversight*

### Responsibilities

CO-LEADS: Vice President of Administration
TEAM MEMBERS: Other Vice Presidents, Dean of Planning

## T4 ENHANCE ADMINISTRATIVE AND SUPPORT SYSTEMS TO LEVERAGE THE NEW DISTRICT FINANCIAL SYSTEM

### Make the college more efficient in all of its financial and human resource services.

WLAC will maintain effective communications with District IT staff. A key focus of this relationship is to plan for and implement the financial management software modernization project. The college will also regularly communicate with District IT on other District-wide IT issues. Throughout this process, WLAC will develop the internal systems that will maximize the benefit of the District system changes.

### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- The college's SAP migration group will monitor and adjust the migration/new system plan. Maintain the migration group as the main contact with the District and as a managing committee for implementing new systems.
- Migration group will develop new communication (paper or electronic) that will leverage the new features and capabilities of SAP into a more efficient and effective solution.
- Include representatives of all the users of the new system including Facilities, Student Services, Administrative Services and the Bookstore on the migration group.

### Responsibilities

CO-LEADS: Vice President of Administration
TEAM MEMBERS: Other Vice Presidents

## T5 ESTABLISH A COMPREHENSIVE TRAINING AND ORIENTATION PROGRAM FOR STAFF AND FACULTY

### Keep the college competitive and responsive to both internal IT needs and external markets

The college will develop a comprehensive IT training program to respond to the rapid growth of technology in the work place. The training program will allow people in all areas of the college to develop needed skills and give them the ability to develop strategies for integrating technology into their current practices.

### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- In conjunction with divisional training plans, the college will create a comprehensive plan to implement an on-going training and orientation program for faculty and staff. The plan should identify departmental needs and existing systems, analyze workflow, create training guidelines and oversee the creation of training materials and instruction. Possible strategies for training could be:
  - *Web-based instruction*
  - *Out-source training to specialized vendor*
  - *Certification of a selected individual member of a group that will act as the instructor or expert in that group*

### Responsibilities

CO-LEADS: Vice Presidents
TEAM MEMBERS: Deans, Division Chairs, and Department Directors

# T6 INCREASE SUPPORT FOR THE INTEGRATION OF TECHNOLOGY IN THE CLASSROOM

## Explore new forms of pedagogy that might improve student success

The college will ensure that all future facilities have infrastructure to support the implementation of "Smart" classrooms. Existing facilities will be retrofitted to provide some functional IT capacity. The classroom and computer lab of the future will need to have Local Area Network (LAN) access, multi-media and network aware display and input devices and Internet access. WLAC will optimize student, faculty and staff access to technological systems and aids.

### Potential Implementation Methods

The following options will be evaluated in implementing this objective:

- Using the current Unit plans, identify IT needs and create a plan for the facilities necessary to meet future needs. The goal is to anticipate the level of infrastructure necessary to meet each Unit's needs. For example, what level of infrastructure is needed for a Unit's classroom, lab or meeting space?
- Obtain outside assistance from people who have experience with cutting-edge technologies in the classroom.
- Create a program for training faculty in the use of technology in instruction and keep them up-to-date in new ideas and forms of pedagogy.

### Responsibilities

LEAD: Vice President of Academic Affairs
TEAM MEMBERS: Division Chairs