



GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

Draft
Districtwide Information
Technology Plan
2004 - 2005

November 3, 2004

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I. Overview

The primary focus of technology in the District is to provide:

- Access to education and training to the student community
- Quality administrative, learning and teaching technologies to meet the mission of the district and two colleges

The Information Technology Plan identifies major information systems and technology goals for Grossmont College, Cuyamaca College and the District Office. The plan encompasses the development, management, operation, maintenance, and evaluation of the infrastructure, administrative information systems, programming, web management, organization and staffing.

This plan is developed in concert with the college technology plans. This plan represents a consensus that facilitates maximization of institutional benefits in pursuit of common and individual college goals.

II. Background

Today's accelerated pace of change in technology developments, advancements, and capabilities have served to place increasing expectations on the educational system. At the same time, critical issues related to access, governance, funding, resource allocation, training, maintenance and technical support have arisen that must be addressed. The district is driven by these factors as well as:

- Increasing growth in campus use of technology by students, faculty, and staff
- Expanding technology-based instructional course offerings
- Burgeoning dependency on the Internet and intranets in local society and the world economy
- Unceasing demands for technology, technical support and assistance
- Growing demands upon the student-instructional administrative information system
- Demand for ubiquitous web access to data by students, faculty and staff
- Emergence of high-speed data communication into homes, businesses and educational institutions
- Multimedia technologies, multiple and hybrid modes of distance education, and conventional/IP-based video conferencing
- Merging of data, voice, and video/audio over various communications technologies and transmission media: landline, cable, fiber optics, satellite, and wireless

III. District Vision, Mission and Strategy

The District's vision is that every student who succeeds at Grossmont or Cuyamaca College will have the intellectual knowledge and workforce skills necessary to meet the competitive challenges of a global economy.

The mission of the Grossmont-Cuyamaca Community College District is to provide educational leadership through learning opportunities that anticipate, prepare for, and meet the future challenges of a complex democracy and a global society.

The Way Forward serves as a guidepost as the District moves forward with technology. The five principals of The Way Forward are:

Unity
Standardization
Alignment
Funding
Facilities

Using these principles, the district seeks to create a supportive learning environment that encourages innovation, responds to unique challenges, and builds on proven successes. Technology is used to enhance the learning environment and to improve activities, processes and structures. The district implements a broad-based, integrated system of research, evaluation and planning to assess and improve institutional effectiveness.

IV. Relationship of District-Wide and College Technology Plans

There is a division of responsibilities among the Information Systems Department, a districtwide function, and the Grossmont College and Cuyamaca College instructional computing services departments. Each of these is charged with creation of a plan for technology. These plans do not overlap but rather help to ensure that the computing functions throughout the district work in concert.

The Information Systems Department (IS) is responsible for technology planning and standards for the entire technology infrastructure, and for administrative information systems. IS has direct responsibility for: electronic mail, Internet access, dial-up access, telephone system and voice mail, network, the standard suite of desktop software, operation and maintenance of all District servers, computer installation and repair, telecommunications

circuits, web hosting, distance ed hosting, programming, systems and database administration, computer operations and the Help Desk.

Information Systems works with the two colleges in providing planning for goals, yearly objectives and standards for technology infrastructure for staff development, human resources, desktop PCs, printers, scanners for student labs, faculty and staff, and web presence. IS also supports instructional computing planning by working to develop recommendations for standards for classroom and distance education and providing the appropriate technology infrastructure.

These responsibilities are summarized in the table on the following page.

Component	District-Wide	Grossmont	Cuyamaca	District Office/IS
TECHNOLOGY AND INFRASTRUCTURE				
Staff Development				
Goals		X	X	X
Yearly Objectives		X	X	X
Standards		X	X	X
Human Resources				
Goals		X	X	X
Yearly objectives		X	X	X
Standards		X	X	X
Network-servers, routers, switches, Internet, satellite, video conferencing, document imaging...				
Goals	X			
Yearly objectives	X			
Standards	X			
Desktop PCs, printers, scanners - students, faculty, staff				
Goals		X	X	X
Yearly objectives		X	X	X
Standards	X	X	X	X
ADMINISTRATIVE INFORMATION SYSTEMS				
Goals	X			
Yearly objectives	X			
Standards	X			
INSTRUCTIONAL COMPUTING				
Classroom				
Goals		X	X	
Yearly objectives		X	X	
Standards	X	X	X	
Distance Education				
Goals		X	X	
Yearly objectives		X	X	
Standards	X	X	X	
WEB PRESENCE				
Goals	X	X	X	X
Yearly objectives	X	X	X	X
Standards	X	X	X	X

V. Governance

Below are the descriptions of the two technology advisory committees that report to the Chancellor's Cabinet and the District-Wide Executive Council and are integral components of the District Governance Structure. These descriptions define the charge, chair, composition and meeting schedules. These two subcommittees are the Administrative Technology Advisory Committee (ATAC) and the Instructional Computing Advisory Committee (ICAC).

Administrative Technology Advisory Committee (ATAC)

The Administrative Technology Advisory Committee (ATAC) provides recommendations for policies, operational enhancements, allocation of resources, and priorities and assists in the development of the Information Technology Plan for administrative information systems. The areas of responsibility for IS and for such recommendations include all administrative computing functions: the student record system, financial system, human resources system, financial aid system, library information system, administrative systems web content, and training on administrative systems and desktop software.

Charge

1. Provide recommendations to the Chancellor's Cabinet concerning strategic policies and directions for administrative information systems.
2. Provide recommendations to the Information Systems Department regarding operational priorities and system enhancements.
3. Recommend policies and priorities related to the selection, implementation, and operation of administrative information systems.
4. Assist in the development of the Information Technology Plan for administrative information systems.
5. Provide communication and administrative information system status reporting to constituent groups and existing councils and committees.
6. Coordinate the work of specially appointed Task Groups as required.
7. Recommend allocation of Information System Department resources to specific projects

Chair

Senior Director, Information Systems

Composition

Cuyamaca College representatives appointed by College President
Grossmont College representatives appointed by College President
Vice Chancellor-Business Services and appointed representatives
Vice Chancellor-Human Resources & Administrative Services and appointed representatives

Meeting Schedule

Third Friday of each month

Instructional Computing Advisory Committee (ICAC)

The Instructional Computing Advisory Committee (ICAC) provides recommendations concerning the application of technology for instructional programs, instructional computing support, acquisition of new instructional software and hardware, and related areas supporting instruction. The colleges have been assigned responsibility for the development of instructional software, supervision of computer labs, training for faculty, planning for instructional computing, and for instructional web content.

Charge

1. Provide recommendations to the Chancellor's Cabinet concerning the application of technology for instructional programs
2. Recommend standards and procedures for the implementation of instructional technology throughout the District
3. Recommend priorities to the Information Systems Department for instructional computing support
4. Recommend standards for the acquisition of new instructional software and hardware
5. Establish ad hoc committees to focus on specific topics as required: Internet, network, standards and procedures, computing ethics, software licensing

Chair

The Chair is selected by the group, and alternates between the two colleges.

Composition

Senior Director, Information Systems
Representatives of the two college instructional computing committees
Cuyamaca College representative appointed by College President
Grossmont College representative appointed by College President
Cuyamaca College Academic Senate representative
Grossmont College Academic Senate representative
Information Systems staff, as required

Meeting Schedule

As required, typically monthly during the academic year.

VI. Goals

The three major areas of technology in the District are Instruction, Administration, and Technology Infrastructure/Support Services. The goals for each area are:

A. Instructional Computing Goals

- A1- Support the integration of technology into instruction**
- A2- Support the application of technology for distance education**

B. Administrative Information Systems Goals

- B1- Provide student centered services**
- B2- Provide web-based services for students, faculty, staff and the public**
- B3- Provide appropriate services for administrative operations**

C. Technology Infrastructure and Support Services Goals

- C1- Maintain technology infrastructure functionality, reliability and performance**
- C2- Meet the growing demand for support services**

VII. Long Term Technology Directions

To achieve these goals, directions have been established by the Governing Board, District and College management, and appropriate advisory committees.

- Replace technology equipment and software as necessary to maintain currency. (Board Policy 6335). Systems and equipment include:
 - Servers and systems
 - Data communication
 - Telephone systems
 - Personal computers
 - Printers
 - Satellite receivers
 - Video conferencing equipment
 - Information systems
 - Appropriate technology from college technology plans
- Provide technology infrastructure to support the construction of new buildings and the modifications and renovations to existing buildings, including:
 - Grossmont College Learning Resource Center
 - Grossmont College Technology Mall
 - Cuyamaca Technology Building
 - Grossmont College Science Building
 - Appropriate technology from college technology plans
- Expand and improve network infrastructure including: software, hardware, Internet and district connectivity, voice, video and data communications capabilities. Including appropriate technology from college technology plans
- Evaluate, implement and support systems and services for faculty and students
- Procure and implement a new student information system
- Continue to develop and implement new functionality for major systems
- Continue to develop, purchase and modify web service components of major systems
- Develop solutions to provide technology support services in ways that reduce the need for additional staff

VIII. Technology Plan Achievements - 2003-2004

A. Instructional Computing

A.1 Objectives for- Integration of Technology into Instruction

1. Provided assistance and leadership in providing reliable technology access for all students and faculty
2. Explored ways to improve support for faculty and students using technology
3. Office 2003 is installed as appropriate in instructional labs
4. Displayed additional student information (e-mail account) on WebConnect
5. Planned a pilot to provide wireless access for students in both LRCs
6. Supported Cuyamaca grants
 - a. NSF
 - b. Title 3
 - c. Congressional
7. Windows XP installation is nearing completion for all faculty workstations
8. Supported addition of 3rd technician at Grossmont College to provide service for the new Technology Mall and growing needs of the campus

A.2 Objectives for- Integration of Technology for Distance Learning

1. WebCT Campus Edition was installed and is in use
2. Blackboard version 6.0 was installed and is in use
3. Provided assistance in planning for technology to support distance learning
4. Assist with pilot projects for distance learning course development applications
5. Provided technology support tools for faculty-developed distance learning courses
6. Assisted in the evaluation of third-party distance learning courses from publishers and vendors

B. Administrative Information Systems

B.1 Objectives for- Student Centered Services

1. The Colleague Student Instructional System was purchased and implementation commenced
2. Implemented processing for new financial aid year and improved financial aid system features
3. Expanded implementation of ImageNow document imaging system
4. Prerequisite checking was updated to reflect the current catalogs
5. Resource 25 room scheduling system
 - a. The new release was installed
 - b. Activity scheduling for display on web sites was installed and is near ready for rollout
6. Enhancements to the Degree Audit system were made and are being tested
7. Continuing enhancements to CCCApply have been made
8. Evaluated alternatives for the replacement of GEM system for job placement
9. Expand use of e-mail for student communications was deferred pending the Colleague installation
10. Library system (SIRSI)
 - a. The new release was implemented
 - b. I-Link, the 508 compliant web interface to SIRSI was implemented
 - c. Automotive materials check-out are being tracked using SIRSI and its
 - d. Other areas evaluated the use of SIRSI for equipment check-out
 - e. Purchased a license to create a test version of SIRSI
11. Improved processing for dropping students in sections with materials return flags was not implemented
12. Implement AACRAO Enrollment Services enrollment verification system was not completed
13. Use of the USPS change of address processing was deferred pending the Colleague implementation
14. New approaches to student tracking were not investigated pending the Colleague implementation.
15. TRA/1098T reporting for fees and financial aid was implemented for the first time
16. Supported ASGC on-line voting approach analysis
17. New enrollment fees were implemented

B.2 Objectives for- Web-Based Services

1. 1. WebConnect
 - a. The student representation fee for Grossmont College was implemented
 - b. Improved VTEA data collection was implemented

- c. Fee summary enhancements were made
- 2. Student evaluation for on-line courses was completed

B.3 Objectives for- Services for Administrative Operations

- 1. Financial systems:
 - a. Completed first phase of EFT project for Financial Aid students and check refunds
 - b. Expansion of electronic approval processing was deferred pending the 7i implementation
 - c. Implementation of a new version of IFAS and porting to new hardware were completed
 - d. Supported GASB 34, 35 changes
- 2. Human Resource systems:
 - a. Completed student evaluation of faculty for on-line courses
 - b. PFR enhancements were completed
 - c. Completed initial implementation of alternate ID#
 - d. Applicant system enhancements were made
 - e. Tracking for faculty evaluations was initiated
 - f. Added cart driver information to HR
 - g. Many documents for new employee orientation are available on the web
 - h. Leave accrual processing for full time faculty was completed
- 3. Instructional
 - a. Implemented improved decision support reporting for Instruction

C. Technology Infrastructure and Support Services

C.1 Objectives for- Technology infrastructure functionality, reliability and performance

1. Planned and implemented technology infrastructure for new buildings:
 - a. Grossmont College Technology Mall (complete)
 - b. Grossmont College Science Lab Building (under construction)
 - c. Cuyamaca College Science and Technology Building
 - d. Cuyamaca College Student Center
 - e. Grossmont Student Center/Student Services Building
 - f. Grossmont parking structure
2. Implemented new administrative systems application server to support SRS, SAM, IFAS, and HR.
3. New voice mail system:
 - a. RFP was issued
 - b. System purchased
 - c. Implementation was initiated
4. Continued creation of fiber optic redundant paths at both colleges
5. Internet connectivity
 - a. 4CNet was replaced by CENIC
 - b. District/Grossmont connection was increased to DS3
 - c. New, direct DS3 connection was provided to Cuyamaca
6. Full IP based video conferencing was implemented at the three GCCCD sites
7. Worked with GAFCON on new building planning and construction:
 - a. Planning/design review process
 - b. District standards have been implemented and are in use for new buildings
 - c. Support and expand technology infrastructure for: fiber optic network, voice, data, video and related systems
8. Air conditioning and power for computer center
 - a. New air conditioning was installed in the printer room
 - b. The analysis of the computer room requirements was completed
 - c. Request for quote for additional capacity was issued
9. Installed uninterruptible power supplies in
 - a. Cuyamaca G Building
 - b. Grossmont Tech Center

C.2 Objectives for- Support services

10. The move to the Grossmont Technology Center was completed
11. IS Staffing

- a. Filled a vacant Network Support, II position
 - b. Filled a vacant Network Support, I position
 - c. Converted a computer operations position to a Network Support, I position and began the hiring process
12. Help Desk and support services were reviewed and improvements initiated
13. Weekend "on call" procedures were implemented.

IX. Technology Plan Objectives - 2004-2005

A. Instructional Computing

A.1 Objectives for Integration of Technology into Instruction

1. Evaluate alternative positive attendance collecting systems to improve usability in large open labs
2. Complete the wireless pilot for student internet access in both LRCs
3. Explore ways to improve support of faculty and students using technology
4. Support the Colleges' Grants as required
 - a. NSF
 - b. Title III
 - c. Congressional
5. Support the addition of a third technician at Grossmont College
6. Help evaluate future technology support staff requirements for the District and both colleges

A.2 Objectives for Integration of Technology for Distance Learning

1. Continue routine upgrade of WebCT and Blackboard to assure current features are available to faculty and students
2. Improve support for faculty and students
 - a. WebCT
 - b. Blackboard
 - c. Roster loading for faculty
 - d. Students
 - i. Simplified access
 - ii. Improved instructions
3. Assist with pilot projects for distance learning course development applications

B. Administrative Information Systems

B.1 Objectives for Student Centered Services

1. Colleague implementation
 - a. Plan the Colleague Student Instructional System Implementation
 - b. Begin to implement the Colleague Student Instructional System
 - c. Complete the Degree Audit fit-gap analysis
 - d. Setup a Colleague system prototype
 - e. Plan automated interfaces between the Colleague SIS and existing systems
 - i. Financial system
 - ii. Financial Aid system
 - iii. Human Resources system

- iv. Room Scheduling system
- v. CCCApply
- f. Begin Colleague Degree Audit enhancement
- g. Evaluate the Colleague prerequisite function and plan for the support of soft blocks
- 2. Enhance WebConnect
 - a. Improve menu and screen formats
 - b. Improved lab log in information
 - c. Itemized fee information
 - d. Improve student benefit card sale processing
 - e. Improve parking permit sales
- 3. Student ID cards
 - a. Replace/upgrade equipment as necessary
 - b. Investigate alternate processes to track benefit card utilization
- 4. Student Accounts Receivable
 - a. Improve/standardize process schedules
 - b. Analyze student accounts with balances
 - c. Make improvements based on the analysis
- 5. Analyze and improve mailing processes for the registration process
- 6. Investigate the extent and complexity of the technical requirements for support of a compressed schedule with the existing systems.
- 7. CCCApply
 - a. Continue improvements to the CCCApply upload for A & R
 - b. Test/implement BOG Waiver web application form
 - c. Participate in the development of:
 - i. International application for admission
 - ii. Spanish language application for admission
- 8. Support for the proposed GTO enrollment fees waiver
- 9. Complete Degree Audit enhancements
 - a. University transfer (UTSD) evaluations function
 - b. CR/NC test scores should accept a modification of major
 - c. Problems associated with department name changes
- 10. Complete the AACRAO Enrollment Services development
- 11. Continue the evaluation of replacements for the GEM system for job placement
- 12. Support the installation of SARS-CALL
- 13. Library
 - a. Install new release of SIRSI
 - b. Consider expansion of the equipment check-out capability of SIRSI
 - c. Build a complete SIRSI test system
 - d. Complete the implementation of alternate ID#s for faculty and staff

- e. Investigate Easy Proxy to provide authentication for off-campus student access
- f. Improve off-campus access to e-books
- g. Expand the e-reserve system to support local or vendor sources and web access
- h. Install wiring to accommodate Cuyamaca LRC planned increase in OPAC workstations

B.2 Objectives for Services for Administrative Operations

1. Financial Systems:

- a. Continue expansion of ACH
- b. Implement positive pay
- c. Rollout the IFAS 7i client as appropriate
- d. Implement the IFAS work-flow for electronic approval process
- e. Explore the upgrade of the IFAS Students Accounts Receivable System

2. Financial aid

- a. Install the new version of SAM
- b. Implement the CCCApply BOG Waiver application
- c. Implement the new GCCCD BOG Waiver application

3. Human Resources, Risk Management, and Payroll

- a. Create department calendar for meetings, projects, schedules
- b. Support Risk Management workers' compensation processes, data maintenance and reporting
- c. Evaluate and implement equivalency based hiring for adjunct faculty
- d. Provide HR reports to instructional Deans
- e. Expand document imaging
 - i. Hiring process
 - ii. Rating submission
 - iii. Timesheets and payroll documents
 - iv. Additional document scanning
- f. Assess options to implement a web based application for employment
- g. Evaluate "employment center" kiosks in Personnel and at colleges
- h. Modify notice of employment (NOE)
 - i. Remove sensitive information
 - ii. Add step/longevity and advancement
- i. Complete the implement alternate IDs for faculty and staff
- j. Provide ability and support use of ID production equipment at Cuyamaca
- k. Enhance leave processing
 - i. Non-classroom hours
 - ii. Support entry of Workers Comp and long term sick leave entry by Risk Management

- iii. Replace banked leave spreadsheets
- iv. Capture and report other paid leave
- v. Automate leave accrual processing for adjunct faculty
- l. Explore integration of IFAS and HR department tables
- m. Support retro payroll processing
- n. Investigate/create a process to produce duplicate W2s
- o. Create pay level screen for level reporting
- p. Analyze process and reporting for non-resident W2s and 1099s
- q. Evaluate options to improve non-classroom reporting for academic hours, excluding summer and intersession hours
- r. Hire letters
 - i. Non-credit adult ed for Spring 2005
 - ii. Evaluate not for credit hires
 - iii. Evaluate electronic processing of re-hires and new hires
 - 1. Load pay rate
 - 2. Perform calculations
- s. Improve the applicant module
- t. Continue support of the PFS evaluation process
- u. Complete the driver data information collection project
- v. Explore student employee address change capture capability in HR
- 4. Instructional
 - a. Continue to support improved decision support reporting for Instruction
 - b. Implement the Resource25 Web Viewer for open space searches
 - c. Expand the faculty evaluation system to accommodate categorically funded faculty
 - d. Investigate web based process for master plan development and reporting
- 5. Campus Facilities and Operations
 - a. Upgrade the ACT system to the most recent release

C. Technology Infrastructure and Support Services

C.1 Objectives for Technology Infrastructure Functionality, Reliability and Performance

1. Fine tune the new hardware platform for administration systems
2. Continue to plan and implement the technology infrastructure for new buildings
 - a. Cuyamaca Science and Technology Building
 - b. Grossmont Science Building
 - c. Cuyamaca Communications Arts Building
 - d. Grossmont Digital Arts & Sculpture Buildings
 - e. Cuyamaca Student Center
 - f. Grossmont Parking Structure & Public Safety Office
 - g. Grossmont Student Services Building
3. Complete the Active Directory domain migration
4. Upgrade to Exchange Server 2003
5. Continue creation of redundant fiber optic paths at both colleges
6. Refine routing tables for the two colleges' links to CENIC
7. Voice mail system
 - a. Install Callware's Callegra voice mail system and related hardware
 - b. Work with departments to reform and re-record all voice mail menus and decision trees
 - c. Provide training
 - d. Implement new system
8. Install new air conditioning equipment in the District Computer Center
9. Install enterprise UPS equipment in the District Computer Center
10. Improve e-mail and network account creation and removal process
11. Enhance network monitoring, intrusion detection, and security update systems
12. Improve backup strategy in the District server farms
13. Complete the air conditioning upgrade in the fiber room

C.2 Objectives for Support Services

1. Provide improved Help Desk and support services
2. Evaluate providing technology support for the first hour of the evening instruction
3. Consider support staff requirements and make recommendations regarding technology support staff to support network growth and newly constructed buildings
4. Re-bid the personal computer contract and extend the warranty period to four years

1. Appendix 1- Standards

Standards for technology have been established as a way to provide the optimal balance between features, service, and equipment in an efficient manner. These standards are based upon the Total Cost of Ownership (TCO) standards recommended by the California Community College Chancellor's Office. The establishment and implementation of standards allows for:

- A cost-effective approach to planning and procuring equipment and software
- Optimizes resources through volume pricing discounts
- Allows focus on standard products to provide better support and training
- Encourages interoperability, resource exchanges and communication

Appendix 1a- General TCO Standards

1. Provide computers for:
 - a. Students- 1 for each 20 FTES
 - b. Full-time faculty- 1 for each
 - c. Part-time faculty- 1 for each 4 FTEF
 - d. Administrators and classified staff
2. Provide disabled access for ten percent of workstations
3. Provide sufficient printers for students, faculty and staff
4. Coordinate implementation for the scheduled replacement of computers and technology infrastructure as required by Governing Board Policy
5. Provide on campus access to local area network and Internet connectivity for all students, faculty and staff
6. Provide access to library databases, web sites and web based student services
7. Provide standard office software for each computer including word processing (Word), spreadsheet (Excel), presentation software (PowerPoint), Internet browser (Internet Explorer), and anti-virus software (McAfee)
8. Provide web-based email for students (Exchange)
9. Provide e-mail (Outlook) and e-mail web access (Exchange) for faculty and staff
10. Provide network software management for inventory and software release installation (SMS)
11. Provide staffing as recommended by the TCO standards
 - a. One network and systems administrative (NT, etc. including wiring personnel) support staff person for every 300 PCs
 - b. One technical management support staff for every 500 PCs
 - c. One Web administration support staff for every 12,000 FTEs
 - d. One administrative systems support (web, user development applications) staff per 12,000 FTEs
 - e. One level support staff for every 150 PCs

- f. One application development staff for every 6,000 FTES
- g. One network staff person for every 12,000 FTES

Appendix 1b- Instructional Computing Standards

1. Provide standardized distance learning/course development software (Web CT and Blackboard)
2. Provide a Help Desk function to assist faculty
3. Support departmental and general-use computer labs at the two colleges
4. Provide web page development software (FrontPage)
5. Provide technical support and administration on web services for faculty
6. Provide maintenance and repair services for hardware and network equipment
7. Provide appropriate network capacity for the campus network
8. Technical support for distance learning
9. One scanner for every 100 faculty

Appendix 1c- Administrative Systems Standards

1. Support administrative information systems including library (SIRSI), human resources (Bi-Tech), finance (Bi-Tech), financial aid (SAM), classroom scheduling (Resource 25), and student services (SRS)
2. Provide software and technical support for the use of web technology
3. Provide training for staff in developing, maintaining and using the web, including Cuyamaca College, Grossmont College, and the District
4. Provide document-imaging capability (Image Now)
5. One laser printer for every 50 staff

Appendix 1d- Technology Infrastructure/Support Service-Standards

1. Provide telephone services and voice mail
2. Provide Web management, reporting (WebTrends), capacity and functionality
3. Provide technology infrastructure equipment as required
4. Provide category 5 and fiber optic cabling services
5. Perform computer equipment repair services
6. Provide operations and support for server operating systems standards, including HP/UX and Windows
7. Provide maintenance for Microsoft Windows 2000 Servers, supporting TCP/IP, capacity capability, and redundancy
8. Provide analysis and programming services
9. Provide help desk services