



MOORPARK COLLEGE

Information Technology Operations Plan

2021-2022

Introduction

Technology support is a consolidated service through District Information Technology. Moorpark College maintains a full-time on-site Information Technology Services (ITS) department comprised of one Director and five technology support specialists. The College technicians support a collaborative framework, allowing the IT department to leverage skill sets between campuses. The District Administration Center (DAC) supports administrative computing, core fiscal and operational systems, and administers networked services district-wide.

OVERVIEW

Through active collaboration with District IT, Moorpark College has developed a Strategic Technology Plan that encompasses all aspects of technology. The plan is aligned with the Educational Master Plan and the Facilities Master Plan. The Strategic Technology Plan lays out the strategic goals and objectives for technology at Moorpark College and will be updated again during the 2018-2019 academic year.

This Technology Operational Plan will guide the development of tactical business plans, aligning with the District's and College's vision, mission, strategic initiatives, and prioritization criteria.

Resource prioritization and allocation are facilitated by College Facilities and Technology Committee on Accreditation and Planning (F/T CAP) committee and driven through the College's program review process. Currently, there is one technology committee and one workgroup at Moorpark College:

- The Facilities and Technology Committee on Accreditation and Planning (F/T CAP) which plans, monitors, and evaluates institutional technology including hardware and training needed to support student learning; the Technology Master Plan and Technology Inventory; funding for technology based on an allocation of at least 30% of instructional equipment funding dedicated each year to technology equipment, and hardware needs identified in the Technology Plan and annual program plans.
- A work group of F/T CAP is the Technology Resource Allocation Work Group (TRAWG). This group has been tasked with prioritizing purchase requests for new and replacement computers and related equipment and also working with other committees that need to have information relating to the College's use of technology. A standards and criteria document has been established to formalize the ranking of needs.

Mission

The mission of the Moorpark College Information Technology department is to serve the technology needs of the institution. The following objectives must be met to satisfy the growing technology and service support needs of the College:

Objectives

The following are guidelines to meet the growing technology support needs of the College:

- Maintain a high level of support services
- Use resources efficiently to better serve College
- Use a work order system to measure service levels and outcomes
- Enhance and maintain open communication with all users
- Facilitate innovation and planning in order to meet technology needs

Support Standards

Service Levels

The College ITS department will continue to maintain effective service levels through proper use of College committees, as well as collaborative relationships with other College groups and/or departments.

Service Level Agreements (SLA) are internal contracts that define the prioritization and timeframe for delivery of services. The agreements set expectation levels for support services. The following table briefly describes priority levels assigned to work orders and initial response time expectations.

Level	Description	Initial Response	First Contact	Escalation
1	Critical/Urgent	15 Minutes	Call xt.4660	1. Campus IT Director 2. Vice President of Business Services 3. Associate Vice Chancellor of Information Technology
2	Urgent/High	1 Hour	Call xt.4660	
3	Normal	4 Hours	mchelpdesk@vcccd.edu	
4	Low/Scheduled	1 Day	mchelpdesk@vcccd.edu	
5	Project Based	Scheduled	mchelpdesk@vcccd.edu	

Priority Level Detail Examples

Priority 1 – 15-minute response

Defined: Immediate impact upon instruction

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

Priority 2 – 1-hour response

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

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

Priority 3 – 4-hour response

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

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

Priority 4 – 1-day response

Defined: Low priority or scheduled requests

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

Priority 5 – Project-based requests

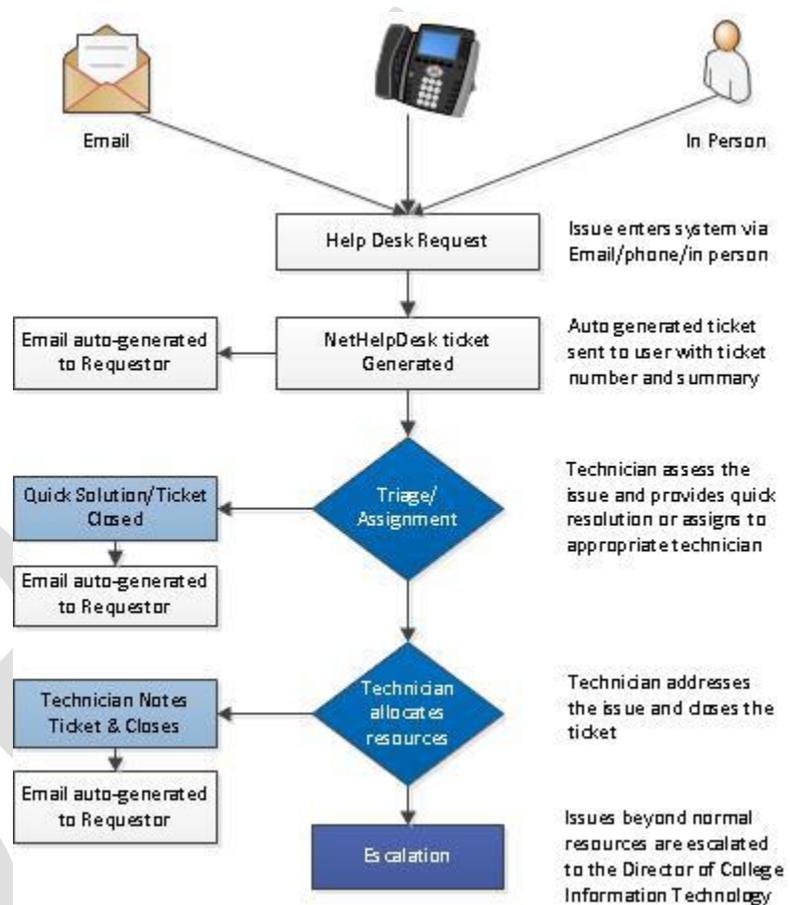
Defined: These requests are considered informational, or project-oriented, and will be addressed as part of larger projects or ongoing maintenance issues.

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

Work Order Tracking

Technology related work order requests are tracked via the NetHelpdesk work order system which is hosted by the ITS department. The NetHelpdesk system was implemented to capture work order requests and provide a mechanism for measuring efficiency and determining staffing level adjustments. Functionality includes call management and tracking, knowledge management, problem resolution, and self-help capabilities.

The Help Desk is currently maintained by a combination of student workers and ITS staff Monday through Friday and offers an alternate method for communicating service requests. The day-to-day supervision of the Help Desk falls under the Director of College Information Technology Services.



The College utilizes the NetHelpdesk application to manage work order requests in union with the District's TrackIT help desk system. The ITS department is committed to working closely with the District in this endeavor, as the NetHelpdesk application becomes crucial for ITS support tracking. Built-in reporting quantifies department activities in the validation of service level expectations.

Resource Sharing

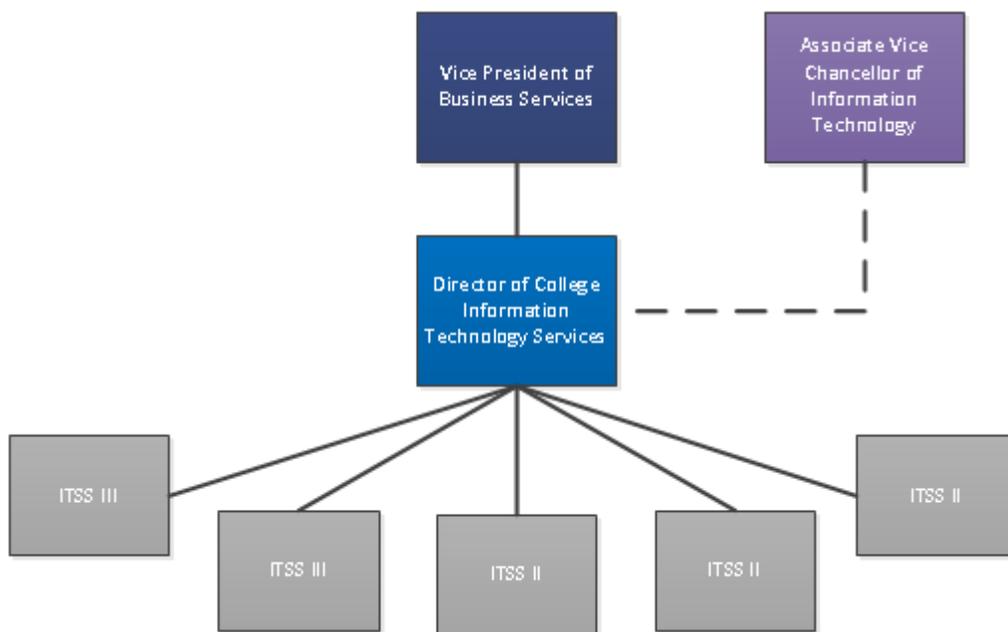
Resources for technology support (parts, vendors, tools) are centrally shared by College ITS staff. The College also depends on District IT for certain levels of repairs and support issues. This alliance creates an environment of shared resources and provides for greater efficiency.

Common Methodologies

Common methodologies and processes for implementing and maintaining technology on each campus within the District will be supported and actively cultivated to maximize efficiencies. This will allow for the training of staff and will allow flexibility in allocating staffing resources.

Staffing Levels

The Director of College Information Technology Services directs the day-to-day ITS operations. The department support staff consists of three Information Technology Support Specialist IIs and two Information Technology Support Specialist IIIs. Each staff member is dedicated to supporting technology needs across the College. Additional staffing is desperately needed but is dependent on hiring prioritization and funding. As a comparison, Ventura College has 7 full-time ITS staff members and one Director compared to the 5 full-time ITS staff members and one Director at Moorpark College.



College and District Responsibilities

District IT provides support in a number of key areas:

- Administrative applications, including Banner, GradesFirst, OnBase, DegreeWorks, and Outlook (email)
- College connectivity to other District facilities and the Internet
- College cabling infrastructure, to the wiring closet level
- College network backbone, including switches, firewalls, and routers
- Server and data storage management

Major Technology Projects for 2021-2022

Overview

The College has numerous technology initiatives each year that involve upgrades to existing technology and new technology deployments. There are many major technology projects for the 2021-2022 academic year. Some of the projects are district-wide initiatives and others are local projects.

Windows 10 / MS Office 2016

Microsoft announced that support and updates for Windows 7 ended in January 2020. The ITS department will increase the rollout of systems with the Windows 10 operating system and the Microsoft Office 2016 suite will be deployed for end users. All computer labs have had Windows 10 and MS Office 2016 installed since the Fall 2019 semester. The rollout of Windows 10 for staff and classroom labs will be performed with the use of disk imaging software and deployment applications with the goal to be complete the migration by the end of 2021. There are currently 120 staff systems that will need to be upgraded before the end of 2021. This project was delayed due to the COVID-19 pandemic.

Replace and Install Smart Classroom Equipment

The IT department will be replacing the smart classroom equipment in three classrooms. Those classrooms include AA-136, PS-134, and PS-135. The IT department will be replacing the projector, screen, speakers, document cameras, and adding Crestron controls to the rooms. Additional cabling will also be required to connect the necessary devices to make the room operate properly. The new projectors will be LED projectors that are 5000 lumens, they do not require bulb replacements, and are energy efficient. These projectors will be a great improvement over the current projectors.

Replace Skype for Business Phone System

The current phone system, Skype for Business, will become end of life on July 31, 2021. The phone system will continue to function normally, but Microsoft will no longer provide any updates to the system. The College and District have been testing alternative systems and will decide on a replacement phone system in the next few months. The College IT department will be responsible for the installation of the new phone system application on all users' computer systems. The College IT department will be responsible for installing any new telephony devices needed to maintain compatibility with the new phone system. This project is expected to be completed by the end of the 2021/2022 fiscal year.

Safety Initiatives

Information Technology continues to work closely with Campus Police to update and deploy technology to improve safety at the College. The technologies include on and off campus mass notification, video surveillance, emergency phones, and radio systems. Also included are systems and storage that has been deployed in a second data center, located at Ventura College, for disaster recovery of College mission-critical software applications.

The College and District IT departments worked with a vendor to install a new Emergency Notification System (ENS). This new system will provide emergency notification via text, telephone, sirens, and audio

and visual notifications in the classroom. The project consists of hardware devices and software solutions to be installed in every classroom for mass notification. All hardware devices have been installed. The remaining task is to finalize the installation of the client software to all staff and instructor stations. The project is scheduled to be completed by the end of the Fall 2021 semester.

Information Security

The College is currently working with the District office to complete the Payment Card Industry (PCI) compliance project. This project will help keep credit card information safe during transactions. Many components of the project have already been installed and implemented. The remaining component to complete our PCI compliance is to replace the pay to print stations in the LLR and FH buildings. The project is expected to be completed by the start of the Fall of 2021 semester.

The College IT department will work with District IT to continually upgrade the College's high availability (HA) pair of firewalls with the latest operating systems and threat prevention. This HA pair increases reliability, protects information assets, and provides business continuity. This is an ongoing project that will continue without end.

The College and District are continually updating the enterprise endpoint protection applications. The College and District IT departments made changes to the process of keeping the endpoint definitions updated. This is in response to the COVID-19 lockdowns that prevent users from coming on campus. The College IT department will continue to adjust these processes as necessary.

Uninterruptable Power Supply (UPS) Installation and Configuration

As part of the Emergency Notification System installation, the College installed a UPS in every wiring closet that contains network infrastructure. A UPS will keep infrastructure powered on in the event of a power outage. IT is in the process of connecting all networking equipment to a UPS. This will help ensure that Power over Ethernet (PoE) phones are functional during a power outage. The College IT department is also in the process of configuring each UPS to send an alert message if there are any power interruptions or any errors on the UPS. The UPS connection and configuration project is currently in progress. The project will be completed by the end of the Fall 21 semester.

Infrastructure

Some of the network infrastructure on campus is aging and will be replaced. The College IT department will be replacing the aging 10/100Mbps network switches with switches that provide 1Gbps throughput to each interface. The new network infrastructure equipment will be installed in FH, Admin, and others. The project to replace the aging network switches will be completed by the end of Spring '22.

Infrastructure upgrades also include installing additional wireless access points to provide greater wireless coverage on campus. Interior installations will occur in the Music, HSS, Tech, and AC buildings. An increase in exterior wireless coverage is also planned for the PA lot and the baseball and softball fields. Some of the outdoor installations will also require the installation of wireless bridges to provide service. The College IT department will install these devices prior to the start of the Fall 21 semester.

Tech Refresh

The College will refresh a total of 75 faculty and staff computers located throughout the campus. The College is also refreshing 210 laptops for student use in various computer labs. The College will be replacing the audio visual equipment located in classrooms in the AA and PS buildings. The replacement of these computers and audio visual equipment will take place throughout the 2021-2022 fiscal year.

Project	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Jun
Windows 10/Office 2016	Ongoing Process											
Smart Classroom Equipment												
Phone System	Implementation											
Safety – Emergency Notification client												
Information Security – PCI												
Security – Firewall Upgrades	Ongoing Process											
Security – Endpoint Protection	Ongoing Process											
UPS Configuration												
Infrastructure - switches	Implementation											
Infrastructure – Wireless Access Points and Bridges												
Tech Refresh - Computers	Ongoing Process											

Technology Refresh Plan

Overview

The College currently has a plan in place for replacing aging computer hardware. As technology continually evolves, there is a need to keep the computer equipment reasonably current. New technologies tend to require additional capacity and computing power compared to older systems.

The plan was created through the cooperation of the Facilities Technology Committee on Accreditation and Planning (F/T CAP). The plan will guide the College technology efforts as it relates to the College's growth and needs.

With the increase in new technology cycles, the baseline for technology requirements has been raised. New

technologies in the areas of information search and streaming video have significant processing requirements.

Existing Refresh Method

The current system for replacing aging equipment is a combination of new equipment and a “trickle-down” process. New equipment has been purchased using various funding sources, including IELM, CTE, Student Success, Infrastructure, and Equity. The equipment being replaced can be redeployed based on whether the equipment specifications are adequate. Eventually, older equipment is removed from inventory and cycled out.

Five-Year Computer Refresh Program

Most standards for organizations and white papers recommend a four to five-year refresh period for technology. The College has been very proactive over the last few years, via the Refresh Program. The ability of the Refresh Program to remain proactive will be greatly influenced by future budgets. While the California Community College Technology II Initiative in 2001 set a goal for state campuses to have a three-year program to refresh equipment, the College and District currently have adopted a five-year program. The current model of desktops purchased will last beyond the recommended five-year refresh period. During periods of budget constraints, in-place upgrades (hard drives and RAM) of existing systems will be adopted across the District as a means to extend the life of existing equipment beyond five years.

Peripherals

Monitors

LCD flat-panel monitors have a theoretical useful life of over ten years. Any systems purchased that are replacing systems with CRT monitors will include an LCD flat panel. A 19-22 inch LCD will be sufficient for classes that teach one application at a time. Computers that require the use of multiple applications simultaneously will require a 22 inch LCD or larger. These areas include all administrative offices, the Staff Resource Center (SRC), and the training room. Other exceptions include systems purchased for use by the visually impaired, and programs that require high-end graphics, such as the AutoCAD and Adobe Creative Cloud suite programs. LCD monitors will be replaced on an as-needed basis.

Printers

Printers are purchased on an as-needed basis, depending upon use, program needs, and changing technology. For purposes of better energy and consumables management, future purchases will prioritize the use of Ricoh workgroup printers, de-emphasizing the deployment of individual devices.

Smart Classrooms & Location Summary

Standard Components

Ceiling Mounted LCD Projector

The projector should have WUXGA or better resolution with high brightness to allow use under classroom lighting conditions; power zoom and lens shift, 2000 hour or better lamp life; dual HDMI and video inputs; the case should incorporate cover for cable connection panel; 3-year or better overnight replacement warranty. Current standard: Epson PowerLite 2250U.

Projector Mounting Bracket

Projector-specific mounting bracket, ceiling mounting bracket/plate. Projector mounts must have seismic bracing to prevent the unit from falling.

Self-Amplified Powered Speakers

Ceiling mounted speakers, connected through a projector for volume control.

Projector Control System

Smart panel programmable control system, mounted on instructor's station providing power and volume control, source selection, DVD/VCR transport Controls. Current standard: Crestron Digital MPS system and Crestron DM-Lite system. The College is currently looking at alternatives to the Crestron control system.

Document Camera

Digital presenters for physical demonstrations will be installed as needed.

Projector Installation and Cables

New projector installations will be either LED or Laser light sourced and cables will vary by installation and classroom use. These projectors do not have a bulb so that will reduce downtime.

Instructor's Multimedia Workstation

Teaching station with locking cabinets for audio-visual equipment and internally mounted computer and monitor. Projector control system panel mounted on the desktop surface. Cabling provisions for connecting a laptop to the projector can include VGA, HDMI, and DisplayPort depending on the room capabilities.

PC Workstation with minimum 22" LCD display

Standard Dell CPU mounted in instructor's workstation.

Moorpark College		
Smart Classroom Location Summary¹		
Building	Rooms	Total
AA	115, 124, 132, 136, 143, Forum	6
AC	101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 221, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310	34
Admin	138, PCR	2
CC	146, CCCR	2
CDC	114, 132	2
EATM	101, 102, 103, 208	4
COM	109, 122, 129, 150	4
FH	112, 117, 118, 120, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220	13
HSC	101A, 101B, 102A, 102B, 103, 104, 105, 109, 130, 202, 203, 204, 207, 208	14
HSS	100, 101, 104, 111, 121, 129, 140, 201, 202, 203, 204, 205, 206, 222, 223, 230, 238, 239	18
LLR	121, 122, 124, 126, 210, 301, 305, 322	8
LMC	121, 122, 123, 124, 125, 138, 139, 216, 217, 218, 219, 220, 227, 228	14
M	106, 105, 109, 114	4
PA	100, 107, 119, 128, 149	5
PS	102, 103, 104, 107, 110, 115, 134, 135, 202, 203, 204, 205, 207, 208, 209, 222, 224	17
SSA	111A	1
Tech	105, 108, 109, 114, 118, 119, 120, 205, 210, 211, 212, 215, 216, 217	14
ZOO	2	1
	TOTAL	163

Current Standards

To maximize purchasing and support resources, the District has established a standard for desktop and laptop systems. The configuration matrix outlined below describes the minimum specification for four configurations. Alternate platforms can be identified and implemented based on business or instructional need. The 2021-2022 standards:²

	Enterprise Laptop	Ultralight Laptop	Desktop	All in One	Thin Client
Processor	Intel Core i5	Intel Core i5	Intel Core i5	Intel Core i5	Intel Atom N280
Display	14" 1366x768 or better	11-13" 1366x768 or better	22" 1600x900 or better	22" 1600x900 or better	N/A
Video Card	Intel Integrated GMA	Intel Integrated GMA	Intel Integrated GMA	Intel Integrated GMA	Intel GL40
RAM	8.0GB	8.0GB	8.0GB	8.0GB	2.0GB
Primary Storage	256 GB SSD	256 GB SSD	256 GB SSD	256 GB SSD	4GB Flash RAM
Optical	None or external	None or external	None or external	None or external	N/A
Battery	Standard runtime	Standard runtime	N/A	N/A	N/A
Ethernet	1000Mbps or better	1000Mbps or better	1000Mbps or better	1000Mbps or better	1000Mbps or better
Wireless LAN	integrated AC	integrated AC	N/A	N/A	N/A

¹ Detailed break out of room equipment available in Appendix C

² Standard Spec is shown. Vendor proposals are currently under review to establish manufacture standard for purchase for FY 18.

Technology Infrastructure and Network

Overview

The network infrastructure at Moorpark College enables data and voice communications connecting all facilities on the College, plus connections to the other District locations and the Internet.

The District Information Technology Department has primary responsibility for network design, implementation, maintenance, and troubleshooting. The local IT group is responsible for local connections of desktop or server devices and works with District IT on resolving network problems.

Cabling Infrastructure

The District has adopted cabling standards that conform to industry standards, including TIA/EIA, ANSI, IEEE, and BICSI. All new facilities conform to these standards. Existing facilities have been retrofitted to the standards, as the budget has permitted.

Cabling inside buildings conforms to TIA/EIA standards.

Local Area Network Topology and Infrastructure

The local area network (LAN) is comprised of a mix of manufacturer switching equipment, both at the core and the edge. The current network core provides high scalability, performance, and redundancy for greater uptime.

The edge network devices located in each building mix of manufacturer switching equipment. The District and College IT will continue to replace aging edge switches with devices that have greater speeds and functionality on an as-needed basis.

The network has multiple segments segregated by virtual local area networks (VLANs). Instructional and administrative network traffic is separated on different network segments, providing greater security for information systems on the administrative network.

Wide Area Network

The primary wide-area network (WAN) connectivity to the other District sites is via a high speed 10 Gbps WAN circuit between Moorpark College and the other District sites. Secondary and tertiary circuits running at OC-3 speeds (155 Mbps) run through a district-owned RF microwave network. The connection from Moorpark College to the microwave WAN is connected via South Mountain in Santa Paula. The County of Ventura owns the South Mountain facility and the District rents space there.

AT&T is the provider of telecommunications circuits, T1 voice circuits, and Internet circuits (via CENIC). Level 3 provides the SIP (Session Initiation Protocol) circuit used for the College VoIP (Voice over Internet Protocol) unified communication system. The circuits are all provided on the state CalNet 2 contract at substantial discounts over commercial rates. The District also participates in the California Teleconnect Fund, which reduces some circuit costs by up to 50 percent.

Internet Connectivity

Internet connectivity is provided by the Corporation for Education Network Initiatives in California (CENIC). From their website, “CENIC designs, implements, and operates CalREN, the California Research and Education Network, a high-bandwidth, high-capacity Internet network specially designed to meet the unique requirements of these communities, and to which the vast majority of the state's K-20 educational institutions are connected”. The College currently has dual 10 Gbps Internet connections.

Wireless

The District uses equipment from the same vendor as a standard wireless network for all locations. The solution is easy to manage, is secure, and very scalable. Enhancements and expansion of the wireless network is part of IT's operational standard. The College currently has 125 access points installed across the College with plans to install more to provide greater coverage.

Access to the student wireless networks requires students to login with their student portal username and password for authentication. Authentication for access to the staff wireless requires staff members to login with their College username and password. A guest wireless network was created to allow guests to access the Internet while on campus. Separate networks are configured for mobile labs.

Voice Communications

District and College ITs maintain the voice network infrastructure. This system supports analog, digital, and IP phones on the College. The College's users are all using the Microsoft Skype for Business unified communications platform. Skype for Business uses special Voice over Internet Protocol (VoIP) based telephones and soft client software on computers to provide voice, video, conference calling, screen sharing, and instant messaging communications.

Currently, there is network connectivity to the other campuses and the District via dedicated dual 10Gbps Internet circuits, a single 10 Gbps WAN circuit, and a secondary WAN circuit running through a district-owned RF microwave network. The local and long distance service is provided by CenturyLink via a SIP circuit with failover to Ventura College.

Information Security

Overview

The District makes every effort to comply with all federal, state, and local security rules and regulations, including the Family Educational Rights and Privacy Act (FERPA), Health Insurance Portability and Accountability Act (HIPAA), and Payment Card Industry Data Security Standard (PCI DSS). Best industry practices are used to secure the information assets at all facilities.

Firewall

District IT provides firewall protection for the administrative and instructional networks. The District utilizes state-of-the-art next-generation firewalls from multiple vendors to protect the network from external and internal threats. Additional firewalls are being evaluated to protect the administrative segments of the College.

Antivirus

District IT maintains an anti-virus site license. The College uses an enterprise antivirus program for end user protection. The enterprise console provides a more comprehensive and easier way to manage the system and at a lower cost.

The College also uses an enterprise antimalware solution to combat the latest threats, including malware and phishing. Deployment of these newer defenses is ongoing.

Updates and Patching

The College IT department consistently updates all campus servers with security patches. End-user systems have security patches automatically installed in a controlled manner. These security patches help protect the servers and client stations from vulnerabilities.

Applications are updated to take advantage of new features and security measures. The updates are made as licensing permits. Updates are performed on a test set of systems and verified before larger scale implementation is performed.

Funding

Funding for network infrastructure projects will be funded from general funds, College and District Technology Refresh budgets, as well as other sources. The District will fund IT expenditures for District infrastructure projects including the WAN, core, and datacenter infrastructure needed to provide connectivity to the campus and District services.

Appendix C. Smart Classroom Status Detail

Key:

CPU means computer at the instructor workstation.

Doc Cam means a document camera which projects opaque materials.

Transparency Projector means an overhead projector.

Interface refers to the software and user panel which allows the instructor to control multiple pieces of equipment. These are indicated by company name such as “Crestron” and “Pixie”, or in the case of projectors controlled by a remote control the word “Remote”.

Rm	Projector or TV	Install Base and Existing Equipment -- AA					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
AA-115	√	√	√	√	None	None	Crestron	
AA-124	√	√	√	None	None	None	Crestron	
Forum	√	√	√	√	√	N/A	Crestron	
AA-132	√	√	√	None	None	None	Crestron	
AA-136	√	√	√	None	None	N/A	Remote	
AA-143	√	None	√	√	None	N/A	Crestron	

Rm	Projector or TV	Install Base and Existing Equipment -- AC					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
AC-101	√	√	√	√	√	N/A	Crestron	
AC-102	√	√	√	√	√	N/A	Crestron	
AC-103	√	√	√	√	√	N/A	Crestron	
AC-104	√	√	√	√	√	N/A	Crestron	
AC-105	√	√	√	√	√	N/A	Crestron	
AC-106	√	√	√	√	√	N/A	Crestron	
AC-107	√	√	√	√	√	N/A	Crestron	
AC-108	√	√	√	√	√	N/A	Crestron	
AC-109	√	√	√	√	√	N/A	Crestron	
AC-110	√	√	√	√	√	N/A	Crestron	
AC-111	√	√	√	√	√	N/A	Crestron	
AC-112	√	√	√	√	√	N/A	Crestron	
AC-113	√	√	√	√	√	N/A	Crestron	
AC-201	√	√	√	√	√	N/A	Crestron	
AC-202	√	√	√	√	√	N/A	Crestron	
AC-203	√	√	√	√	√	N/A	Crestron	

AC-204	√	√	√	√	√	N/A	Crestron
AC-205	√	√	√	√	√	N/A	Crestron
AC-206	√	√	√	√	√	N/A	Crestron
AC-207	√	√	√	√	√	N/A	Crestron
AC-208	√	√	√	√	√	N/A	Crestron
AC-209	√	√	√	√	√	N/A	Crestron
AC-210	√	√	√	√	√	N/A	Crestron
AC-221	√	√	√		√		Crestron
AC-301	√	√	√	√	√	N/A	Crestron
AC-302	√	√	√	√	√	√	Crestron
AC-303	√	√	√	√	√	N/A	Crestron
AC-304	√	√	√	√	√	√	Crestron
AC-305	√	√	√	√	√	√	Crestron
AC-306	√	√	√	√	√	N/A	Crestron
AC-307	√	√	√	√	√	√	Crestron
AC-308	√	√	√	√	√	N/A	Crestron
AC-309	√	√	√	√	√	√	Crestron
AC-310	√	√	√	√	√	N/A	Crestron

Rm	Projector or TV	Install Base and Existing Equipment -- Admin					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
A-138	√	None	None	None	None	None	None	Remote
PCR	√	√	None	None	None	None	None	Remote

Rm	Projector or TV	Install Base and Existing Equipment -- CC					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
CC-146	√	None	None	None	None	None	None	Crestron
CCCR	√	√	None	None	None	None	None	Crestron

Rm	Projector or TV	Install Base and Existing Equipment -- COM					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
COM-109	√	√	None	None	None	None	None	Remote
COM-129	√	None	None	None	None	None	None	Remote
COM-150	√	√	None	None	None	None	None	Crestron

Rm	Projector or TV	Install Base and Existing Equipment -- EATM					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
EATM-101	√	√	√	√	√	None	Crestron	
EATM-102	√	√	√	√	√	None	Crestron	
EATM-103	√	√	√	√	√	None	Crestron	
EATM-208	√	√	√	√	√	None	Crestron	

Rm	Projector	Install Base and Existing Equipment -- FH					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
FH-112	√	None	None	None	None	None	Remote	
FH-117	√	√	√	√	√	N/A	Pixie	
FH-211	√	√	√	√	√	N/A	Pixie	
FH-212	√	√	√	√	√	N/A	Pixie	
FH-213	√	√	√	√	√	N/A	Pixie	
FH-214	√	√	√	√	√	N/A	Pixie	
FH-215	√	√	√	√	√	N/A	Pixie	
FH-216	√	√	√	√	√	N/A	Pixie	
FH-217	√	√	√	√	√	N/A	Pixie	
FH-218	√	√	√	√	√	N/A	Pixie	
FH-219	√	√	√	√	√	N/A	Pixie	
FH-220	√	√	√	√	√	N/A	Pixie	

Rm	Projector	Install Base and Existing Equipment -- HSC					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
HSC-101A	√	√	√	√	√	None	Crestron	
HSC-101B	√	√	√	√	√	None	Crestron	
HSC-102A	√	√	√	√	√	None	Crestron	
HSC-102B	√	√	√	√	√	None	Crestron	
HSC-103	√	√	√	√	√	None	Crestron	

HSC-104	√	√	√	√	√	None	Crestron
HSC-105	√	√	√	√	√	None	Crestron
HSC-109	√	√	√	√	√	None	Crestron
HSC-130	√	√	√	None	None	None	Crestron
HSC-201	√	√	√	√	√	None	Crestron
HSC-202	√	√	√	√	√	None	Crestron
HSC-203	√	√	√	√	√	None	Crestron
HSC-204	√	√	√	√	√	None	Crestron
HSC-205	√	None	None	None	None	None	Remote
HSC-208	√	√	√	√	√	None	Crestron

Rm	Projector	Install Base and Existing Equipment -- HSS					Interface
		CPU	DVD	VCR	Doc Cam	Transparency Projector	
HSS-100	√	√	√	√	√	√	Remote
HSS-101	√	√	None	None	√	None	Remote
HSS-104	√	√	None	None	√	√	Remote
HSS-111	√	√	√	√	√	√	Remote
HSS-121	√	√	√	√	√	√	Crestron
HSS-129	√	√	None	None	√	None	Crestron
HSS-140	√	√	√	None	√	√	Remote
HSS-202	√	√	√	√	√	√	Pixie
HSS-203	√	√	√	√	√	√	Pixie
HSS-204	√	√	√	√	√	√	Crestron
HSS-205	√	√	√	√	√	None	Crestron
HSS-206	√	√	√	√	√	√	Crestron
HSS-222	√	√	√	√	√	None	Crestron

HSS-223	√	√	√	√	√	√	Crestron
HSS-230	√	√	√	√	√	√	Crestron
HSS-238	√	√	√	√	√	√	Remote
HSS-239	√	√	√	√	√	√	Remote

Rm	Projector	Install Base and Existing Equipment -- LLR					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
LLR-121	√	√	None	None	None	N/A	Remote	
LLR-122	√	√	None	None	√	N/A	Remote	
LLR-124	√	√	√	√	√	N/A	Pixie	
LLR-126	√	√	√	√	√	N/A	Crestron	
LLR-210	√	√	√	√	√	N/A	Pixie	
LLR-305	√	√	√	√	√	N/A	Pixie	
LLR-322	√	√	None	None	None	N/A	Pixie	
LLR-301G	√	√	√		None	N/A	Crestron	

Rm	Projector	Install Base and Existing Equipment -- LMC					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
LMC-121	√	√	None	None	None	None	Remote	
LMC-122	√	√	√	√	√	None	Crestron	
LMC-123	√	√	√	√	√	√	Crestron	
LMC-124	√	√	√	√	√	None	Crestron	
LMC-125	√	√	None	None	√	√	Remote	
LMC-138	√	√	None	None	None	None	Remote	
LMC-139	√	√	None	None	None	None	Remote	
LMC-216	√	√	√	√	√	√	Remote	

LMC-217	√	√	√	√	√	√	Remote
LMC-218	√	√	√	√	√	√	Remote
LMC-219	√	√	√	√	√	√	Remote
LMC-220	√	√	√	√	√	√	Remote
LMC-227	√	√	√	√	√	√	Remote
LMC-228	√	√	√	√	√	√	Remote

Install Base and Existing Equipment -- M							
Rm	Projector	CPU	DVD	VCR	Doc Cam	Transparency Projector	Interface
M-106	√	√	√	√	None	√	Crestron
M-105	√	None	None	None	None	N/A	None
M-109	√	√	√	√	√	N/A	Pixie
M-114	√	√	√	√	√	N/A	Pixie

Install Base and Existing Equipment -- PA							
Rm	Projector	CPU	DVD	VCR	Doc Cam	Transparency Projector	Interface
PA-100	√	√	None	None	None	N/A	Crestron
PA-107	√	√	√	None	None	N/A	Crestron
PA-119	√	√	√	√	None	N/A	Crestron
PA-128	√	√	√	None	√	N/A	Crestron
PA-149	√	√	√	None	None	N/A	None
PA-154	None	None	None	None	None	N/A	None

Install Base and Existing Equipment -- PS							
Rm	Projector	CPU	DVD	VCR	Doc Cam	Transparency Projector	Interface
PS-102	√	√	√	None	√	None	Crestron
PS-103	√	√	√	None	√	None	Crestron
PS-104	√	√	√	None	√	None	Crestron
PS-107	√	√	√	None	√	None	Crestron
PS-110	√	√	√	√	√	√	Remote
PS-115	√	√	√	√	√	√	Crestron
PS-134	√	None	None	None	√	√	Remote
PS-135	√	None	√	√	√	√	Crestron
PS-202	√	None	√	√	√	√	Remote

PS-203	√	None	√	√	√	√	Crestron
PS-204	√	None	√	√	√	√	Remote
PS-205	√	None	√	√	√	√	Remote
PS-207	√	None	√	√	√	√	Crestron
PS-208	√	√	√	None	√	√	None
PS-209	√	√	√	None	√	None	None
PS-222	√	√	None	None	√	√	Remote
PS-224	√	√	√	None	√	√	Crestron

Rm	Projector or TV	Install Base and Existing Equipment -- SSA					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
SSA-111A	√	√	None	None	√	None	Remote	

Rm	Projector	Install Base and Existing Equipment -- TECH					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
T-105	√	√	√	None	None	None	Crestron	
T-108	√	√	√	√	√	None	Crestron	
T-109	√	√	√	√	√	None	Crestron	
T-114	√	√	√	None	√	None	Crestron	
T-118	√	√	√	√	None	None	Remote	
T-119	√	√	√	√	√	None	Crestron	
T-120	√	√	√	None	√	None	Crestron	
T-205	√	√	√	None	None	None	Remote	
T-210	√	√	√	None	√	None	Crestron	
T-211	√	√	√	None	None	None	Remote	
T-212	√	√	None	None	None	None	Remote	
T-215	√	√	√	√	None	None	Remote	
T-216	√	None	None	None	√	√	Pixie	
T-217	√	√	√	√	None	None	Crestron	

Rm	Projector or TV	Install Base and Existing Equipment -- ZOO					Transparency Projector	Interface
		CPU	DVD	VCR	Doc Cam			
ZOO-2	√	√	None	None	√	None	Remote	