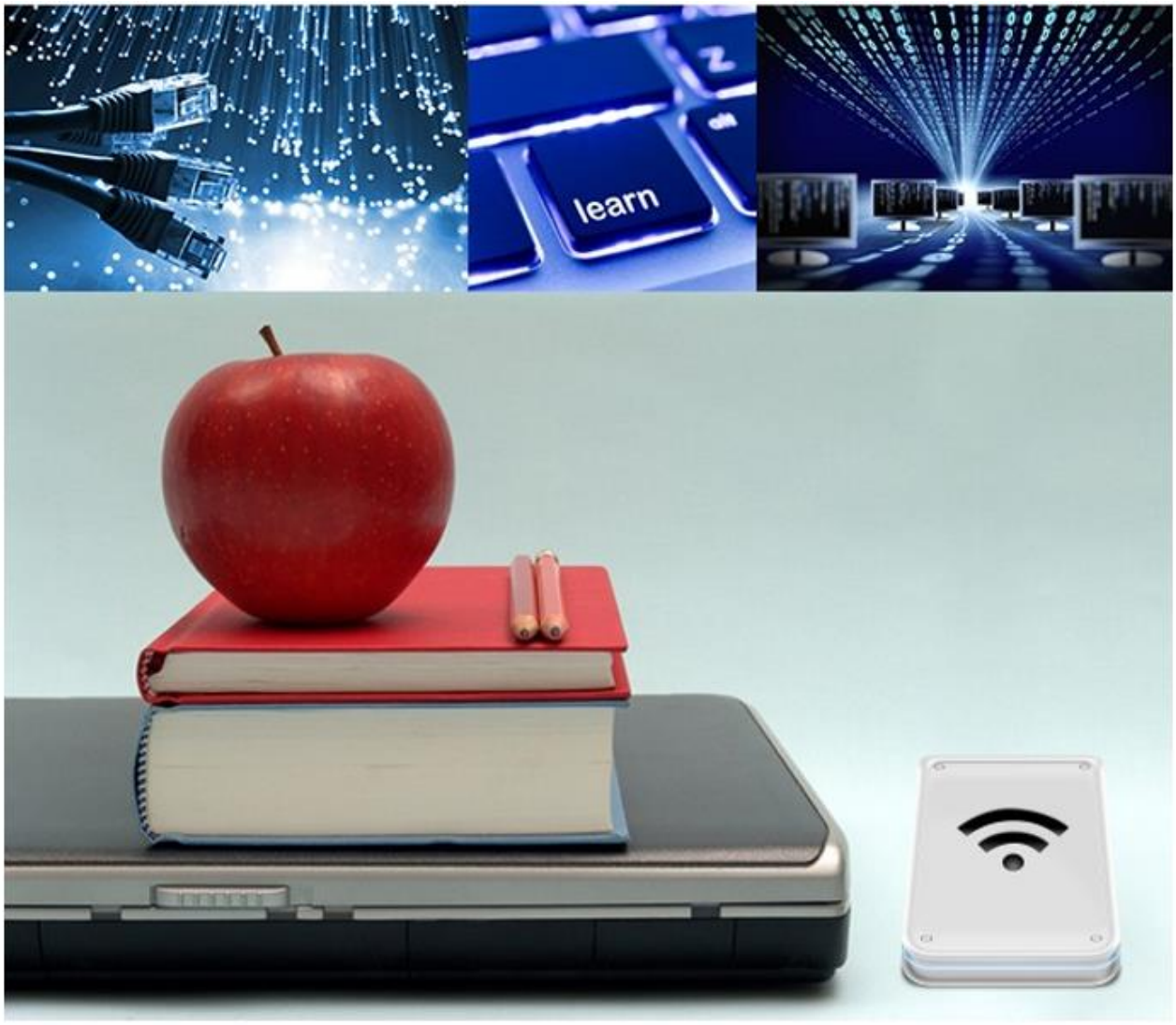
ROSA JUNIOR COLLEGE

Strategic Master Plan for Technology

2018 and Beyond



SANTA ROSA JUNIOR COLLEGE

This document was developed by the

INSTITUTIONAL TECHNOLOGY GROUP (ITG)

Scott Conrad (Co-chair)	Senior Director, Information Technology
Alicia Virtue (Co-chair)	Senior Dean, Learning Resources and Educational Technology
Catherine Williams	Dean, Instruction & Enrollment Management, Petaluma Campus
Li Collier	Dean, Student Success, Equity and Retention, Student Services
Laura Rivera	Director, Purchasing & Graphics, Purchasing
Jeff Diamond	Faculty, Computer Studies
George Sturr	Faculty, Mathematics
Matthew McQuaig “Q”	Director, Media Services & Learning Technologies, Media Services
Robert Ethington	Dean, Student Affairs and Engagement Programs, Student Affairs
Matt Pearson	Manager, Media Services, Petaluma Campus
Mike Roth	Manager, Instructional Computing
Greg Wycoff	Supervisor, Technical Services/Media Services
Dan Exelby	Manager, IT Infrastructure
Juan Rios	SRJC Student Representative

COMMITTEE FUNCTION:

This group will provide recommendations and input regarding Districtwide needs and be advisory to the Superintendent/President as these needs relate to the integration of technology. The group is responsible for making recommendations in the following areas:

- Planning and coordination
- Policy development
- Acquisitions
- Implementation

Within these four broad areas it is envisioned that this group will provide overall leadership and direction to our efforts throughout the District. Specific duties include:

- Serve as a representative body of primary technology stakeholders.
- Develop a strategic planning model that identifies and ranks District technology needs.
- Establish specific goals and implementation guidelines.
- Create and publish District standards for technology purchase and support.
- Approve purchases of equipment to ensure compliance with standards.
- Evaluate the impact of technology on instruction and the provisions of support services.
- Update and review technology-related planning documents as appropriate.

COMMITTEE STRUCTURE:

5 Administrators (permanent), 4 faculty, 6 Ex-officio, 2 Classified, 1 Student

Executive Summary

The Strategic Master Plan for Information Technology at Santa Rosa Junior College defines critical needs and technology trends for the next five years. As such, it represents a roadmap of where we need to go with information technology implementation. To draft this plan the Institutional Technology Group, composed of key personnel involved in the planning, implementation, and support of various technologies, was formed as a presidential advisory group. It is the responsibility of this group to project five years into the future and produce the "Strategic Master Plan for Information Technology."

Basic Assumptions

The Technology Master Plan is a five-year perspective and identifies ongoing technology trends and needs for the District. The following assumptions are of particular significance:

- The focus is comprehensive, Districtwide, and inclusive of multiple instructional sites.
- Adequate funding levels need to be identified to successfully implement the plan.
- Baselines for technology, support, and training need to be established.
- The plan is a "living document" and will be reviewed and adjusted on an annual basis, as technology and District needs evolve.
- The plan is modular in nature and most of the initiatives can be implemented independent of the whole.

Technology Themes

The items described in this document cover a broad range of technologies. The following bulleted list is a simple summary of the common themes that appear throughout the full report.

- ✉ Student success and access to current technology are synonymous.
- ✉ The quality of our learning environments depends on technological currency.
- ✉ Our students and staff expect technology to become smaller, faster and mobile.
- ✉ Our installed technology base has greatly expanded and needs to be maintained.
- ✉ Wireless technology has become a mature technology able to support learning everywhere.
- ✉ The infrastructure that delivers and supports technology must be constantly improved.
- ✉ Connectivity, security and bandwidth are the gating factors to end users' experience with IT.

Santa Rosa Junior College Strategic Master Plan for Technology

2018 and Beyond

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1.0 INSTRUCTIONAL COMPUTING LABS AND CLASSROOMS

Instructional Computing provides support for approximately 3,000 computer systems (desktops, laptops, tablets and servers) in a diverse variety of instructional environments throughout the District. Students are provided with access to digital resources required by specific curricula as well as to tools that enhance teaching and learning across all disciplines. Resource tools include a comprehensive offering of computer software titles, and local networked services such as file sharing and printing.

1.1. INSTRUCTIONAL COMPUTING SYSTEMS REPLACEMENT FUND

Current Environment

Instructional equipment is refreshed on a seven-year cycle. Instructional Computing no longer replaces old equipment with used refurbished equipment as this was determined not to be a cost-effective strategy over time. All current Instructional Computing equipment is being replaced with new equipment, the specifications of which are intended to provide adequate performance over the planned seven-year cycle.

Replace Instructional lab computers on an average seven-year cycle.

Future Plan

Recognizing that it is difficult to predict what hardware specifications will be required to adequately support instructional programs five to seven years in the future, our proposal is to augment the yearly Instructional Computing Systems replacement fund above the minimum requirements for a seven-year replacement cycle to allow for flexibility to replace equipment in high demand areas on a five-year cycle. Some additional augmentation will be required to account for the on-cycle replacement of new equipment added to the already deployed Instructional Computing inventory through grant and IELM-funded expansion.

Strategies/Resources

The focus will be to maximize equipment life over the entire group of instructional computers Districtwide. When appropriate and cost effective, component level upgrades could at times be implemented, as well as the redistribution of equipment.

- $650,000 average annual allocation is needed. This averages approximately 400 computer systems (desktops, laptops, tablets, servers and instructional printers) with related peripherals replaced per year.

- Note: Expanded District facilities, and sites currently under construction and being acquired, are listed in the Facilities Plan over the next several years.

- Included are instructional computing environments that will require an expansion in this allocation to accommodate scheduled replacement of associated new computer equipment.

1.2. DISTRICT ACADEMIC AND OPERATIONAL SOFTWARE SITE LICENSE FUNDS

Current Environment

Since the District has determined that, with very few exceptions, bond funding cannot be used to purchase software, past practice of delegating a portion of the ITG budget to software acquisition is no longer an option. In the current environment there are two categories of software funding. The first is a small list of software that has been deemed to be essential to District operations (Microsoft, Adobe, etc.) These are paid for with General Fund revenue through the IT budget. The second category is department or cluster-specific software, which is funded on a yearly basis through the Program Review and Planning Process (PRPP) document.

Maintain annual funding to purchase essential District software

1.3. NEW COMPUTER LAB CLASSROOMS

Current Environment

The need for computers to be used by students as part of curriculum delivery in the classroom has been steadily increasing over time. The development of needed new computer lab classrooms to accommodate teaching objectives (as opposed to drop-in computers lab for independent assignment work) as well as labs used for computerized assessment testing is currently being addressed through scheduled and planned construction projects.

Develop additional computer lab classrooms for teaching and assessment.

Future Plan

We will continue to assist with planning for implementation of new computer labs at new sites and facilities. In the meantime, we are also endeavoring to assess the viability of repurposing existing facilities to accommodate the growing need for access for particular programs like Digital Media, Water Resources Technology, ESL, CS, BA, English, College Skills, and Graphic Design.

Strategies/Resources

- Initial cost for new computer equipment for new computer lab facilities has been covered in building projects costs via associated Furniture, Fixtures & Equipment (FF&E) lists. Considering the current trend in state funding shortfalls it may fall back on the District to fund related FF&E for some future projects.

- Ongoing equipment replacement costs for new labs will be covered under the Instructional Computing Systems Replacement Fund in Section 1.1. This replacement fund will need to be augmented to cover these additional computers.

1.4. ADDITIONAL COMPUTER TECHNOLOGIES FOR ALL LABS AND CLASSROOMS

Current Environment

New technologies will be needed to accommodate evolution in curricula and program growth.

The Instructional Computing Systems Replacement Fund in Section 1.1 does not specifically address the ongoing instructional need to provide additional technologies to support the growth and evolution of approved curricula. The Petaluma Cisco Networking Program/Academy, Water Resources Technology, Help Desk, expanded Chemistry offerings, the Petaluma Digital Media Lab, Applied Technology's CAD program, and Doyle Library's Center for New Media are noteworthy examples where curricula must accommodate changes in technology to remain relevant program offerings.

Future Plan

To set aside funding annually for acquisition of additional computer technologies as needed for all labs and classrooms.

Strategies/Resources

- $50,000 average annual allocation will be needed to cover additional computer technologies for all labs.

1.5. INSTRUCTIONAL COMPUTER SUPPORT FOR UNSUPPORTED INSTRUCTIONAL AREAS

Current Environment

Many instructional computing environments across the District have no onsite technical support. Recent growth in the deployment of instructional computing equipment at various District sites including PSTC, South West Center, and Shone Farm, has significantly impacted the ability of existing staff to adequately support existing equipment.

Several instructional computing areas lack adequate technical support. An additional staff resource is needed.

Future Plan

To complete development of a shared, centralized instructional computer support service provided by Instructional Computing that addresses the computer technical support need for instructional labs and classrooms in all District locations.

Strategies/Resources

What is required is an additional full-time technical position to fulfill this objective. $85,000 (plus benefits) annually for an additional Instructional Computer Systems Coordinator.

2.0 LIBRARY AND INFORMATION RESOURCES

2.1. INFORMATION RESOURCES & INSTRUCTIONAL COLLECTIONS

Current Environment

The Library strives to be the hub for campus learning-centered activities for the diverse SRJC community by providing physical and online access to quality print, electronic, and multimedia resources. The Library's reach has expanded far beyond physical collections of books and journals to encompass millions of licensed digital and multimedia objects in a variety of formats. The Library also supports embedded supplemental class materials used within the campus Learning Management System, Canvas. These materials provide SRJC students with access to online resources that support student and faculty learning and teaching goals.

Future Plan

The Library will continue to offer access to a wide variety of materials and services to help students learn and grow in this increasingly technologically complicated world. Online access to streaming videos, media and digitally archived materials will become a standard expectation as embedding these materials into the classroom experience becomes the norm. In addition, electronic course reserves and Open Access materials will expand the ability for students to use course related titles not physically housed in the District Libraries. Interactive and mobile technologies such as location-based services will improve student access to library resources, provide real-time alerts to availability of physical materials, and increase successful engagement within the Library by guiding students to resources, activities and services.

The Library will need to continue to support a growing variety of access services as well as be flexible enough to allow the incorporation of unforeseen technology trends in the future.

Strategies and Resources

- $110,000 annually for digital resources.

2.2. FACILITIES AND EQUIPMENT

Current Environment

Pedagogical changes toward technology and evidence-based learning are expanding information use from the confines of the physical library into more flexible, interactive, and collaborative learning spaces for students engaging in shared knowledge creation. Library space is being used to foster dynamic and creative learning environments that are technologically, intellectually and culturally stimulating.

Future Plan

Library space will be revitalized to include a learning commons with classrooms and innovation lab, as well as integration of collaborative technologies in designated group study rooms. Also included are plans to reorganize library reference areas to accommodate changing requirements for student support.

Strategies and Resources

- $322,880 Mahoney Library learning commons, reference area revitalization and group study room upgrades (includes FF&E and construction).
- $295,178 for Doyle Library learning commons, reference area revitalization and group study room upgrades (includes FF&E and construction).

2.3. LIBRARY SERVICES PLATFORM

Current Environment

The SRJC Libraries are operating with outdated software that was designed to manage print collections and is reaching obsolescence. The existing enterprise software that runs the libraries cannot accommodate changing academic research needs. This deficiency has caused the Library to cobble together multiple vendor systems to support new data formats, operations and search interfaces. A new architecture is needed to provide students with a single, integrated interface for research and discovery as well as to simplify back-end operational workflow.

Future Plan

A new Library Services Platform is needed to allow greater operational efficiency and provide students with a single framework for seamless access to currently fragmented collections. The new system will integrate library resources of all formats in a single search interface and link directly with Canvas.

Strategies and Resources

- $70,000 one-time implementation cost.
- $350,000 for five-year subscription/maintenance.

3.0 DISTANCE EDUCATION

Distance Education (DE) focuses on the delivery of quality instructional offerings via technology at SRJC. Within this general charge, DE directly supports the online learning program and provides training and support for the instructional program.

Current Environment

In fulfilling its mission, Distance Education performs the following:

- Acts as the central portal for DE and maintains the necessary infrastructure, including hardware and software, to support online instruction.
- Provides training in the effective integration and use of educational technology within the instructional program.
- Provides support for the use of educational technology within the instructional program.

- Provides necessary instructional systems and software to ensure that faculty and instructional departments have appropriate tools.

- Investigates and implements emerging technologies relevant to meeting the needs of the instructional program.

- Works collaboratively with other campus service providers, such as Media Services, Instructional Computing and Information Technology to ensure the quality of the services that it provides.

3.1. COMPLETE THE MIGRATION TO A NEW DISTRICT CMS

Current Environment

It is now a common practice for colleges and universities, as well as many K-12 institutions, to adopt a single course management system (CMS) for all of their online instructional content. This simplifies and homogenizes the instructional environment for both students and faculty. The State of California, in its efforts to improve both access to and quality of the online courses for CCC students, investigated and vetted all currently available CMS versions, and deemed Instructure's Canvas CMS to be the best on every specified criterion.

All California Community Colleges now have the opportunity to adopt Canvas at no cost for at least four years. Canvas also represents the common platform for the integration of many resources being provided by the Online Education Initiative (OEI) including an Online Course Design Rubric, QUEST online learner readiness, and a variety of professional development options. To date, more than 90 of the 113 CCCs have begun or completed the process of adopting Canvas as their sole course management system (CMS).

SRJC is currently using three CMSs to deliver instruction to our students. In addition to the newly adopted Canvas, we also support CATE (the original system developed in-house) and Moodle (a newer system implemented in the 2011). As part of the agreement to adopt Canvas at no cost, the College agreed to stop using the other two CMSs within 18 months. Distance Education has been working with faculty for the past 16 months to migrate all course content out of CATE and Moodle and into Canvas, as well as training them to use Canvas to effectively offer their online course content. The use of both CATE and Moodle will cease at SRJC by the end of December, 2017.

Future Plan

Currently, more than 60% of all sections in the SRJC Schedule of Classes appear to have no online presence. Beginning in January 2017, all instructors were encouraged to use Canvas to offer students at least a minimal amount of course information for each

section. This will require the Distance Education Department to help those non-using faculty determine what content to display in Canvas, and to teach them how to use the minimal components of Canvas that will be required.

In addition, we are fully aware that many faculty will use Canvas for the first time in January 2017, and will continue to need significant training and support as they learn to use that system to support their students and offer high-quality online resources.

Strategies/Resources

- STNC faculty assistance through first half of 2017:
  $20/hour x 100 hours/week x 24 weeks = $48,000

3.2. EXPAND SUPPORT STAFF AND SERVICES FOR AN EXPANDED ONLINE LEARNING PROGRAM

Hire a full-time Educational Technology Specialist.

Current Environment

During the process of helping faculty migrate from CATE/Moodle to Canvas, the Distance Education team has discovered that faculty have a strong desire to improve the quality of their online course materials by including a variety of new technologies and multimedia components. In addition, certain elements of the older systems do not have counterparts in Canvas, making it difficult for faculty to find ways to offer the same content in the new system. Two examples of this are a time-keeping system used by the Music department and a flash-card tool used by many faculty to help students study for an exam.

The current DE staff is helping these faculty to find and implement new and innovative instructional tools. This has increased the number of faculty choosing to adopt new and engaging technologies. These have included the use of H5P and Storyline for the creation of interactive learning modules, Screencast-o-matic for the creation of instructional videos, and Office Mix for adding interactivity to PowerPoint presentations.

The team has also developed new tools to help faculty accomplish tasks such as creating test banks from Word documents, perform peer evaluations in Canvas, and train faculty in the use of “apps” to use in their Canvas courses such as Quizlet, Kahoot!, Google EduApps, and Scribd. They have also established accounts with social networking platforms such as Pinterest, Twitter and Blogger. Finally, they have created resources for faculty who want to add multimedia to their courses such as a complete list of file types and their associated options for file storage, and extensive documentation regarding the selection of accessible, high-quality, and copyright compliant multimedia.

Future Plan

Change in STNC Staffing

The funding for the STNCs who are providing the majority of this work with educational technology will end sometime in 2017. Therefore we will need to find a way to replace the work they currently do with faculty with regard to helping them find and use these innovative instructional tools, and to assist them with the various educational technology projects that ensure we are offering our students high quality online course materials and experiences. In addition, the systems being implemented, such as H5P, Storyline, and test bank conversion tools, will need to be maintained and upgraded over time.

Change in Workloads

The other full-time staff in the Distance Education Department could be called upon to help with this, but they are all taking on greater responsibilities in other areas.

- The Assistive Technology Specialist is experiencing a greater workload in her accessibility review duties as the number of online and hybrid courses has greatly increased. In addition, she has taken the lead role in maintaining the DE website which has needed, and probably will continue to need, a great deal of work to maintain and update in order to keep up with the rapidly changing scope of the department. Finally, as part of her funding comes from the Disabilities Resources Department, she has been asked to take on the project of creating an accessibility "portal" from which students, staff and faculty can find the resources to accommodate their specific needs.

- The Instructional Designer is stretched thin as she meets with many instructors to provide her expertise with course design, as well as functioning as the primary trainer, scheduler, Online College Project coordinator, and support for instructionally-related Canvas questions.

- The Instructional Systems Administrator currently has his hands full reviewing and responding to requests for help with Canvas (by faculty, staff and students), requests for new course shells, requests to cross-list sections, requests to add new users to Canvas, etc. He also is the primary department resource for all issues regarding file storage, integration of software, services, LTIs, and apps into Canvas. He is our primary liaison with publishers and other vendors about faculty system needs.

Change in Faculty Use of CMS

The Distance Education Department is predicting an even greater need for CMS support as it reaches out to faculty who currently do not use a CMS to try to encourage them to maintain at least a minimal presence in Canvas. We have seen and heard that students have begun to expect to see all their courses listed on their Canvas dashboard, and that they go there to find each course syllabus, links to resources, instructor contact information, office hours, gradebook, etc. In order to increase instructor presence in the SRJC online environment, DE will reach out to all faculty who are not currently using a CMS (approximately 500) and offer them training and support, as well as individualized options for creating an online presence. If only half of those faculty agree to create online content and learn to use Canvas, the department could see a 50% increase in the need for faculty support and training.

Change in Competitive Environment

The OEI estimates that the first 24 colleges will begin exchanging course enrollment with each other's students by Fall 2017. By Spring 2018 all 113 CCCs will be allowed to participate in the course exchange. This new system will serve to encourage students to look at the whole CCC system in order to find and enroll in the courses they need. Added to the currently available California Virtual College system, which allows students to search for online courses offered by any higher education institution in California, the new exchange system is set to dramatically alter the way students choose their online courses. The predicted result is that students will begin enrolling in online courses based on where they can find open seats and the reputation of the college's online program, rather than on what courses are being offered at their "home" college.

If SRJC hopes to be competitive in this new environment it will need to increase both the number of online classes it offers as well as the quality of those courses. Students will surely find ways of sharing their "ratings" of courses and programs, and which colleges have better reputations for high-quality, engaging online courses. In order to accomplish these goals, the Distance Education Department can play a significant role in helping faculty create new online courses (either through the Online College Project or on their own), and improve the quality of their courses by adding new, cutting-edge, interactive, engaging course content. Having an Educational Technologist on staff to help them do that will be key.

Accreditation

The new Distance Education accreditation standards require that DE programs ensure:

- All courses offered in a Distance Education modality include regular and substantive contact between instructor and students.

- Distance Education courses and programs are part of the conversations regarding academic quality at the institutional level.

- Distance Education courses and programs are reviewed for rates of success and retention, compared to those of the whole institution, and the results are communicated with the public.

- The institution considers whether Distance Education courses are meeting the needs of students with various learning styles, and include multiple methods of assessment.

- Distance Education students are offered the same learning support services as other students, including library, counseling, tutoring, etc.

Strategies and Resources

- Hire a full-time Educational Technology Specialist
  Yearly cost: $4,098 x 12 months = $49,176 (plus benefits)

Salary.com says “The median annual Instructional Technology Specialist salary is $55,246, as of September 30, 2016, with a range usually between $47,452 and $64,191.”

4.0 MEDIA SERVICES

Media Services is a Districtwide service department that is situated within the Learning Resources and Educational Technology (LRET) area of Academic Affairs. Its diverse team of audiovisual professionals has broad responsibility for providing educational technology solutions, services and support across the District.

Media Services' primary units include technical, production, event & circulation services—together offering a rich synergy of creative and technical elements. Collectively, these teams design learning spaces, implement media solutions, and support faculty and student use of educational technology. Further, they provide comprehensive conferencing, production and technical support for myriad campus meetings and events, manage media projects in technology refresh cycles using industry-recognized standards, and assist with audiovisual infrastructure and related digital systems to support District business.

Such efforts are carried out in full alignment with LRET's priorities and in constant collaboration with campus service providers, including Distance Education, Library & Information Resources, Instructional Computing & IT Infrastructure, Facilities/Operations and capital projects teams to ensure the quality of services rendered.

Summary

In fulfilling its mission to support media-rich instruction and audiovisual services for District business, the Media Services portion of this revised ITG strategic master plan for technology has been designed to parallel a three-year bond spending plan originally set forth in July 2016 in tandem with the passage of Measure H. Thus, it is organized into five (5) sections which correspond to our Measure H fiscal accounts and initial allotments:

Summary: Measure H 3-Year Allocation for Media Services			
Quick Ref	*Budget Code*	*Category*	*1st Allocation*
#1	44-00-31-0000-8571-6411.00	Learning Spaces	$1,793,442
#2	44-00-31-0000-8572-6411.00	Large & Special Venues	$510,000
#3	44-00-31-0000-8573-6411.00	Conf/Collab/Signage	$365,000
#4	44-00-31-0000-8574-6411.00	Event/Production Support	$375,000
#5	44-00-31-0000-8575-6411.00	Digital Asset Management, etc.	$290,000
			$3,333,442
#1 (Pet)	44-60-31-0000-8571-6411.00	Learning Spaces	$750,000
#2 (Pet)	44-60-31-0000-8572-6411.00	Large & Special Venues	$155,000
#3 (Pet)	44-60-31-0000-8573-6411.00	Conf/Collab/Signage	$46,000
#4 (Pet)	44-60-31-0000-8574-6411.00	Event/Production Support	$27,500
			$978,500
		Media Services combined initial allocation:	**$4,311,942**

4.1. LEARNING SPACES: CLASSROOMS, TEACHING LABS AND OTHER INSTRUCTIONAL VENUES

Current Environment: Movement toward Total Mediation

Over the past decade Media Services has striven to mediate all learning spaces across the District, moving from an era of portable carts to one of permanent systems in each classroom. By 2016, almost 95% of the District's classrooms, labs and instructional spaces were outfitted with some form of mediation, most commonly typified by an installed LCD projector, screen, and instructor's station with a resident computer and an IP-based control system (Utelogy) for AV switching and more.

These systems have served the District well in the past, but in recent years the electronics and media industry has shifted at an alarming rate. Our current systems are now well beyond due for refresh to meet the current teaching and learning needs of the instructors. The backbone analog technology with which our mediated classrooms are built no longer supports the digital content and equipment our instructors and students need.

The majority of the AV infrastructure across the District is 8-12 years old, as recent investments have not been made to these systems. The District is now at a point where major reinvestments must occur to maintain services, and comply with state-mandated and consumer-demanded methods of delivering instruction. Whereas hybrid classes, online instruction, technology-rich immersive teaching and learning pedagogies, and collaborative mediated spaces are now some of the most sought-after methods in higher education today.

Future Plan: A Comprehensive Media Refresh in Learning Spaces

A comprehensive digital refresh of learning spaces across the District will be the primary focus of Media Services' spending plan for Measure H bond monies, as called out in a special funding request to ITG in summer 2016. Phased over five to six years, all mediated classrooms, teaching labs, meeting rooms, and specialty/large venues where teaching and learning take place will be updated to a new baseline AV standard which is: fully digital, intuitive, dynamic and scalable to accommodate future changes in pedagogy and anticipated evolutions in educational technology—all in support of this institution's mission. Beyond a robust digital infrastructure, key features will include simplified AV touch controls, wireless presentation capabilities, student collaboration tools, and more; design components will factor in ease of use, flexibility, and reliability, along with a lower total cost of ownership (TCO). The media design, integration, faculty training and ongoing support of these instructional spaces continues to be a top priority; over a three-year period, Media Services will refresh approximately 50% of the District's mediated learning spaces. This upfront funding will allow a critical conversion of these venues, after which point refresh spending will taper in the latter years.

Strategies and Resources

- FY 2016-17 - $920K for Learning Spaces refresh (phase 1) – 46 rooms
- FY 2017-18 - $920K for Learning Spaces refresh (phase 2)
- FY 2018-19 - $920K Learning Spaces refresh (phase 3)

4.1.1. MEDIA SYSTEMS REPAIR & MAINTENANCE: COVERS OUT-OF-WARRANTY REPLACEMENT OF EQUIPMENT

Current Environment

While Media Services has made progress implementing new technologies within the District, the repair and installation processes must be kept current in order to preserve the equipment. We have begun to acquire the necessary tools to maintain these newer technologies and must continue to fund test equipment.

Future Plan

Actively replace test and repair equipment to keep pace with newer technologies. Provide adequate support staff to keep equipment in good working condition.

4.2. LARGE & SPECIALTY VENUES: AUDITORIA, GYMNASIA, DINING COMMONS, OUTDOOR SPACES, STUDIOS, MEDIA TEACHING ROOMS, ETC.

Large Venue Spaces

In addition to classrooms, teaching labs, and meeting rooms, several large venues are in need of dedicated funding. These include Newman Auditorium on the Santa Rosa Campus and Ellis Auditorium on the Petaluma Campus. An initial investiture of capital funds will bring these spaces up to usable states again to meet academic programming needs, as well as handle the requirements for internal constituents and outside groups as key event space/rental facility. In particular, failures in the lighting/dimming system in Newman in 2016 have compounded the inadequate media system and highlighted the importance of channeling funding into this next year to refresh the auditoria; this need will be exacerbated by increased facility use during the years when Burbank Auditorium is being remodeled.

Other large venue and specialty spaces in this funding category for future funding consideration include a production studio, media teaching rooms, dining commons, athletic fields and KAD facilities, gymnasia, etc.

Newman Auditorium Refresh

Current Environment

In past years minor modifications were made to the auditorium that allow for lectures to be taped and transmitted via videoconferencing to other sites. There is currently no ability for presenters to see remote sites. Additionally, this year the components of the lighting system failed requiring a complete system replacement as the current system is past its serviceable life.

Future Plan

This ongoing room conversion will provide equipment to outfit Newman Auditorium allowing it to become a room for video-based remote instruction and distribution of Districtwide events.

Strategies and Resources

- FY 2016-17 - $250K one-time funds for Newman media refresh (presentation support systems).

Carole Ellis Auditorium Refresh

Current Environment

The Carole Ellis Auditorium includes 5,100 square feet of space converted from the former campus library into a spectacular 257-seat lecture hall and cultural venue with extensive technological capabilities, including active distance learning and teleconferencing, cinema, small theater, and musical performance space with superb acoustics. The hall also has a green room, storage, dressing areas, and a box office.

Future Plan

Changes in the digital copyrights standards in how media is distributed is not supported by the current equipment in Ellis. This will require a replacement of the projector in the room and all of the video infrastructure. Additionally the need to be able to support streaming of live events and reduce the setup time for hosted events requires new resources.

Strategies and Resources

- FY 2017-18 - $150K one-time funds for Ellis Auditorium media refresh.

4.3. CONFERENCING, COLLABORATION & SIGNAGE: CONFERENCE ROOMS, HUDDLE SPACES, VIDEOCONFERENCING & MEETING SPACES, AS WELL AS DIGITAL SIGNAGE.

Conference & Huddle Rooms

Beyond the walls of traditional learning spaces (classrooms, teaching labs, and the like), small conference and meeting rooms are of great import for District business, ad hoc group collaboration, impromptu learning, team presentations, and tutorial uses, to name a few. Conference spaces, reservable meeting rooms and open huddle spaces

scattered throughout the District offer unique places to continue teaching and learning activities on a college campus. While many of these spaces require little more than basic furniture (table and chairs), others can be enhanced by the addition of analog tools such as whiteboards as well as digital tools including flat-panel displays and collaborative technologies.

Group Videoconferencing Systems

Current Environment

There are 18 spaces within the District that support small and large group videoconferencing capabilities between Santa Rosa and Petaluma Campuses. These standard-definition systems are out-of-warranty and are no longer supported by the manufacturer; their ongoing technical limitations and system failures make for poor quality experiences during instructional and business uses of these systems. Additionally, videoconferencing is not currently available at Shone Farm, Public Safety Training Center (PSTC), or the Southwest Center.

Future Plan

Provide equipment to outfit two additional conference room spaces to allow them to become videoconference-capable for College meeting locations. Building planning has been accomplished that will provide future space in the Bertolini Student Services building. However there is a short-term need to outfit one additional meeting room in Petaluma as well as adding the ability in Windsor (PSTC) to participate in videoconferences.

Upgrade existing spaces to meet current standards of interconnectivity while providing greater functionality and a lower operating cost and total cost of ownership (TCO).

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $125K over the next three years for conference room upgrades.

Video IP Media Distribution System

Current Environment

The current broadband video distribution systems on the Santa Rosa, Petaluma Campuses and Windsor (PSTC) each have a bi-directional broadband distribution system (cable TV). These are used to transmit network television, satellite programs and locally generated programming within the District. These systems do not support HD or many features that are now considered standard. The ability to transmit HD content requires

new hardware. In Santa Rosa, much of the failed hardware/infrastructure needs to be updated.

Future Plan

Replace equipment/services.

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $80K over the next three years for video IP media distribution

Digital Signage

Current Environment

As part of the planning process for many of the newer facilities in the District, infrastructure accommodations and equipment have been put in place for public display digital signage. As a temporary implementation, Media Services is currently manually loading PowerPoint presentations created by individual departments to serve as the content on the existing systems. This solution requires staff time for an area not directly determined to be a Media Services responsibility. There is no ability to implement Districtwide marketing messages or potentially “push out” emergency information.

Future Plan

Replace equipment/services, accounting for both newer signage displays and the hardware/systems needed to drive and control a modern Districtwide signage solution.

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $90K replacement hardware.
- Commitment of college staff to investigate this technology.

4.4. EVENT & PRODUCTION SUPPORT: PORTABLE SUPPORT GEAR FOR LIVE EVENTS, CHECKOUT EQUIPMENT INVENTORY, ETC.

Support of Campus Events

The operation and documentary capture (recording) of small, large and high-profile events and conferences across the District is a burgeoning field. Increased demand for media support in all forms has created a need to expand significant staffing and resources in this area in future years. The lack of centralized event management or a formal events team contribute to chaotic and problem-plagued atmosphere for campus

events. Future strategies will entail the implementation of an Event Management System and ongoing discussions regarding organizational structures, resource allocations, revenue generation streams, and added staffing to support events and conferences.

Event Production & Distribution

Current Environment

The college generates many locally produced videos each year. These are used to support instruction, allow for increased communication with college governance entities, and are used for public outreach. The cameras, audio and video production equipment, and supporting hardware for editing and post-production are used in this effort.

Future Plan

There is a need to keep production capabilities current. Some of the hardware is past its prime.

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $250K replacement equipment and systems for event production and distribution.

- Each college site will have a content server available.

Portable & Circulation Equipment (including checkout items)

Current Environment

The department maintains a central collection of portable media systems (projectors, digital cameras, HD camcorders, small PA systems, etc.) that are borrowed by District users for departmental needs.

Future Plan

Commit an annual amount to the replacement of circulation equipment to keep it current and in good working order.

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $125K replacement hardware equipment and solutions to support live events.

- Commitment of District to hire staff resources to adequately support these events.

4.5. DIGITAL ASSET MANAGEMENT & MORE: LECTURE CAPTURE SYSTEMS & DELIVERY; DISTRIBUTED MEDIA ACCESSIBILITY, CAPTIONS, CONVERSIONS/DIGITIZATION, STREAMING & DISTRIBUTION; DIGITAL MEDIA ASSET ADMINISTRATION, ETC.

Digital Preservation of Media Collection.

Purchasing replacement titles or preserving existing titles thru digitization/dubs.

Current Environment

The current physical collection is a blend of VHS and DVD titles. VHS is an obsolete format and DVDs are not the preferred way to access content. Faculty would be better served if they could access remotely from a central server.

Future Plan

Where possible convert physical media to digitally stored and distributed content. Purchase streaming rights and hardware to offer the collection to authorized users of the instructional collection.

Strategies and Resources

- FY 2017 thru FY 2019 - $115K for streaming hardware, VHS-to-DVD or digital format conversion, access, and collection preservation and replacement

Media Collection Accessibility and Universal Design

Current Environment

The College collection of recorded media content now exceeds 9,500 titles. The collections are housed in two locations with a courier service providing the transportation of shared items. Less than half of these titles comply with Section 508 accessibility standards.

Future Plan

The department has several collections still circulating. Captioning of existing titles is done only if it is needed by a Deaf/Hard of Hearing (DHH) student. The central collection should be fully accessible. For media not covered by DECT and other grants, will use services like Rev.com and Automated Sync Technologies to caption and make titles more broadly accessible.

Strategies and Resources

- FY 2016-17 thru FY 2018-19 - $95K for captioning, accessibility and universal design investments.

Future items to be included in category #5 with final version of this tech plan:

- Lecture capture systems and delivery, etc.
- Digital media asset administration.
- Distributed media accessibility, captions.
- Conversions/digitization, streaming & distribution.

  Prices not set for all items in Section 5 at this time.

5.0. DISTRICT ACCESS FOR STUDENTS WITH DISABILITIES

Current Environment

The District provides students with disabilities equal access to community college education through assistive technology, ergonomic and assistive hardware, specialized instruction, disability-related support services, and advocacy. In addition, District faculty and staff participate in the District's ADA and 508 plans via the District Accessibility Committee and the Distance Education Accessibility Committee.

District Access Stations

Currently there are:

- 87 access stations on the Santa Rosa Campus available in the Access Technology Center (ATC), instructional computer labs, classrooms and libraries.
- 24 access stations on the Petaluma Campus available in the ATC, instructional computer labs, classrooms and libraries.
- 7 portable video magnifiers for District use.
- 6 desktop video magnifiers located in Doyle and Mahoney Libraries, the ATC, and all Disability Resources Department (DRD) testing offices.
- 6 handheld video magnifiers for District use.
- 6 Ubi Duos for deaf students to communicate with staff.

- 31 Alternative Listening Devices.
- 2 electronic stethoscopes.

Future Plan

The following is a compilation of foreseeable disability-related technology needs based on current enrollment trends as well as state and federally mandated compliance regulations.

- Continue to upgrade computers across the District to assure sufficient memory and RAM to run the accessibility software simultaneously with other District and academic software.
- Increased number of access station software licenses to assure compliance as the number of access stations increases across the District. Explore concurrent use and site license options to increase accessibility compliance.
- Continued compliance with Section 504/ADA with regard to its "5% accessible workstations" in all computer labs on both campuses.
- Stay current with technological advances.

Strategies/Resources

- In order to formally integrate accessibility into the District the funding must come from the same funding sources used for the various technologies across the District. Example: CCTVs are included in the Instructional Equipment Budget.
- Estimated cost for replacement of ATC computers ~ $20,000
- Continued support from IT for access station software installation on lab computers and on the servers.

6.0. STUDENT SERVICES

Information Technology Vision

Student Services (SS) wants to be an active collaborator in the District's efforts to provide students with the best and most appropriate technology available to support their learning and success. We realize that our technology applications and resources will need to evolve to meet the changing demands of students and staff. Student Services personnel will also need access to technology that most efficiently delivers

support and services to students. In addition to providing better recruitment and retention strategies for students, this will serve to enhance staff performance, satisfaction and professional development. In order to continue carrying out the vision of the District's 2014 Strategic Plan, Student Services will need to align appropriate technologies with IT support, staff training and the financial resources to deliver student success.

In addition, the vision of SS tech needs and plans will need to strongly consider the Student Success & Support Program (SSSP) data collection and reporting guidelines, as well as providing tools for effectiveness evaluation of numerous student support initiatives to ensure equitable student access and success.

Finally, SS will need to be strategic in our vision so that the Facilities Master Plan and Measure H bond funding can be used to support SS technology goals and activities.

6.1. STUDENT SERVICES EQUIPMENT

Current Environment

Student Services has over 350 PCs and Macs assigned to its various departments in both Santa Rosa and Petaluma, as well as the Southwest Center. Student Services provides assessment, financial support, counseling, student engagement activities, advising, enrollment services, health services, and technical record-keeping services for SRJC students.

Future Plans

Student Services will continue to monitor computer and printer inventory so that replacements and upgrades happen on a seven-year cycle.

Student success, equity, and retention continues to be the priority since the passage of the Student Success Act of 2012. The implementation of the mandates includes special attention on student support services delivery in orientation, assessment, counseling and advising for student educational planning, and follow-up services. These services need to continue being integrated with all other student support services provided throughout the District. There will be greater needs for technology support to help service integration and coordination in order to deliver the support to students more effectively and efficiently. The District will also need to invest in current technologies to communicate with and deliver these services to students.

In addition to service delivery, there will also be more rigorous requirements at the State level for service data collection and reporting. The District needs to review current practices and invest in technology support that will ensure compliance to state guidelines and rigorous support for both credit and noncredit students.

The implementation of Student Equity Program started in 2014/15 and has brought in the spotlight the achievement gaps that currently exist for certain student populations. Innovative approaches including technologies are needed to address these populations that have been identified as disproportionately impacted. We anticipate greater needs for online support resources via the various technology platforms to be implemented to achieve District Student Success and Equity goals.

Student Services should begin working with IT to prepare for the time when most of our students are using a mobile device for educationally related activities, including enrollment management and classroom activity. This is called Mobile Device Management (MDM). There should be a Bring Your Own Device (BYOD) add agent on each device that gives students access to protected resources, but still allows IT to verify it's a safe device by registering with IT.

Strategies & Resources

Student Services will continue to advocate for the integration of appropriate hardware and software applications throughout its diverse programs, services and activities. The priority will be technology that supports the access, engagement, retention and success of our students throughout the District.

It is estimated that Student Services will need 150 new or replacement computer systems over the next three years.

6.1.1. SUPPORT THE DEVELOPMENT OF TECHNOLOGY APPLICATIONS FOR STUDENT SERVICES

Current Environment

Currently, students and staff have access to numerous Student Services applications, documents and information through the college's digital information system. This is a combination of both personal and public online information. Student Services is committed to encouraging student responsibility and success through technology. Student Services will continue to strive for 100% accessibility, and parity in both our online and in-person information.

Future Plans

Continue to explore, develop and evaluate the best practices for Student Services in providing technology applications to support student access, engagement, retention and success. This baseline suite of student support systems and services should be available to District staff and to all students where appropriate. It should include:

- Online systems that give students access to District administration, faculty, classes, and learning resource centers, in compliance with the requirements for accessibility identified by the Office for Civil Rights and other federal and state regulations.

- Degree Audit System: Expand Degree Audit to include functions using Assist.org and other "Sherpa" like functions that will enable students to explore degree and career options as well as monitoring and tracking their completion status.

- Smart Card/Reader system at all Student Services departments and at academic departments that provide student support services.

- Online support (conferencing capabilities to broadcast and archive quality Student Services workshops).

- Districtwide wireless access.

- Portal-based communication (MyCubby, etc.)

- Current technology for communicating with both prospective and enrolled students, including CRM tools, social media applications, texting services, etc.

- New SIS ERP software system that allows for greater functionality for Student Services departments, including applications for student access, engagement, retention and completion.

- Online counseling, advising, and other critical support services.

- Electronic transcript exchange

- Event management software that supports the events and activities of both internal departments and external users of our facilities.

- It is important to note that at this time parts of the Student Information System (SIS) do not deliver service efficiently, nor do they support the efficient use of staff time. Although some enhancements came with SIS, some functionality was lost and there is no current plan or timeline to recoup that functionality.

Strategies and Resources

It is estimated that software development and acquisition would cost anywhere from $15,000,000 to $25,000,000.

6.1.2. DISTRICTWIDE COMPUTER ACCESS STATIONS

Current Environment

SRJC's public kiosks and access stations continue to be a primary method of delivering information to on-campus students. At this time, students can receive up-to-date information such as important registration dates. Students can also access their own personal District records, file a college application for enrollment, register for classes, check email, and surf the web for important educational information. There are presently approximately 45 access stations at strategic locations on the Petaluma and Santa Rosa Campuses.

Future Plans

Student Services will continue to evaluate optimal quantity of and locations for access stations.

Strategies and Resources

Estimated cost for new and replacement technology over the next three years is ~$20,000.

6.1.3. SUPPORT SOFTWARE UPGRADE & MAINTENANCE COSTS

Current Environment

Presently, Student Services has approximately 16 software packages that require annual maintenance:

- Three (3) in the Career Center: Career Cruising ($850), categorically funded; EUREKA ($1,900), categorically funded; College Central Network – Job Board & Virtual Career Center ($1,300), District funded. (Total = $4,050)

- Four (4) in Student Success and Assessment: Student Right To Know ($1,300), COMPASS ($28,000), California Test English Placement (CTEP) ($3,300), SARS ALRT ($1,500). All categorically funded. (Total = $34,100)

- Four (4) in Counseling: SARS Grid ($2,700), and SARS MSG (2,200), Twilio Service ($2,000), SARS TRAK ($1,500). All categorically funded. (Total = $8,400)

- Three (3) in A&R: Constant Contact ($3,330), 1/3 categorically funded & 2/3 District funded; College Source ($15,000), categorically funded; ImageSource/ATI Filer ($5,550), categorically funded. (Total = $23,878)

- One (1) in Financial Aid: PowerFAIDS FAM, ($30,000), categorically funded.

- One (1) in Student Health Services: MediCat, ($13,000), categorically funded.

Future Plan

Continue to integrate the current system of institutionally developed and maintained software and vendor-supported software applications. This hybrid approach should be developed to offer a seamless delivery system that addresses the needs of our diverse student population and allows staff user-friendliness, speed and multi-dimensional access.

Strategies and Resources

Annual maintenance costs: ~$115,000. See section above for funding sources.

6.2. ADMISSIONS, RECORDS & ENROLLMENT DEVELOPMENT AND INTERNATIONAL STUDENT PROGRAMS

Current Environment

The Admissions, Records & Enrollment Development (ARED) offices are located on both the Santa Rosa and Petaluma Campuses. The Santa Rosa Campus office is located in Plover Hall. The Petaluma Campus office is located on the first floor of Jacobs Hall. ARED services provide critical support for the matriculation and instructional goals of District students including admission to the college, registration, residency determination, official transcripts, awarding of degrees and certificates, transcript evaluation, international student admissions, and enrollment and degree verifications.

On the Santa Rosa Campus there are currently:

- 28 personal computers located in the office.

- Two personal computers located in the Dream Center.

- Two laser printers.

- Four multifunction printer/faxes for printing official college transcripts, student certificates, and diplomas.

- 15 kiosks located in the lobby area, each equipped with a desktop PC.
- One copy machine in the office.
- 19 document imaging scanners as ARED is responsible for the imaging of all student records for Districtwide accessibility to counselors and other college staff.
- Ten Google Chrome laptops for outreach activities.
- Three PC laptops (two managers and one for outreach).
- One Verizon mobile hotspot.

On the Petaluma Campus there are currently:

- Nine personal computers.
- Four laser printers.
- One document imaging scanner located in the ARED office.
- Five kiosks located in the lobby, each equipped with a desktop PC and a laser printer.
- One copy/fax machine located in the office.

The International Student Program Office is located in the ARED office on the Santa Rosa Campus utilizing:

- Eight personal computers.
- Two PC laptops.
- Three iPads for outreach.
- One mini projector.
- One personal mini amplifier microphone.
- One camera.
- One multifunction color laser printer.

The current Degree Audit program does not include transfer coursework and therefore does not provide a complete academic record for our students. SRJC is part of the statewide Education Planning Initiative sponsored by the California Community Colleges Chancellor's Office. SRJC is one of the nine pilot colleges working with the Hobsons/Starfish degree audit, educational planning and early alert tools. ARED staff are part of the team working on this pilot project. ARED staff are also heavily involved in the implementation of the Workday Student Recruitment tool.

Future Plans

A comprehensive degree audit continues to be a high priority for the ARED staff. Therefore, we will continue to play an integral role in the piloting, development and implementation of student recruitment and degree audit tools. SRJC will consider an RFP for a new SIS in the coming months, and ARED staff will be a part of this project.

Continued development of the electronic submission of college forms into the student records system (SIS) (e.g. petitions, requests for transcripts, etc.) is also a high priority for ARED. Currently, students are able to complete forms online, but they must print some of them out and then submit manually to ARED. Some forms are now submitted online using Sharepoint, However this is not the most efficient process. A forms submission similar to how applications are electronically submitted is needed to better serve students and streamline the workloads of staff in ARED.

Development of a noncredit online application for admission. Since Fall 2009, nearly all student applications for admission have been completed online via CCCApply. Currently, both credit and noncredit students complete the same application. However, the online application has proven to be too difficult for the noncredit Older Adult Program and the ESL population of students due to length and content of questions, and may be a barrier to enrollment. Therefore, ARED is working collaboratively with the CCCApply Steering Committee to investigate the feasibility of implementing a noncredit online application that is more appropriate for noncredit enrollment but also meets state and federal reporting criteria for noncredit. The application would have both English and Spanish versions.

Strategies and Resources

As the official keepers of all student records for the District, ARED staff and managers will play a critical role in assisting the District to research a new SIS. As part of that process, the current student services products being piloted (Hobsons, Workday) will be carefully evaluated to determine the viability of those products. ARED staff will continue to be an integral member of these evaluation teams. The current SIS has many features that ARED staff and other District staff spent years developing and customizing, and therefore the RFP process should bring about a fair analysis of our current product compared to technology in the field. District staff will then have the ability to review an

in-depth analysis and make a determination as to whether the current SIS needs to be replaced or enhanced. The current products on the market that are being piloted at SRJC do not seem to give staff and students the tools comparable to or better than the tools that the current homegrown SIS provides. ARED staff need to continue to be committed to their role to carefully review and compare all products, including the current SRJC SIS.

6.3. ASSESSMENT & STUDENT SUCCESS

Current Environment

Student Success

There are currently in motion student success and retention projects that require technology. A Student Success Team on both campuses is exploring the use of Hobsons/Starfish as a retention tool and platform for tracking and communicating student success activities. The platform is at no cost through 2019, however there are current costs associated with outside IT consultants, and backfill of personnel funded by SSSP. As part of a three-year plan it should be noted that funding beyond the 16/17 fiscal year is unknown and is expected to decrease with enrollment and related services.

Assessment Services

Santa Rosa Junior College has three Assessment Testing Centers. The Assessment/GED Services Centers are located in Plover Hall at the Santa Rosa Campus, in the Jacobs Hall Building at the Petaluma Campus, and in the Student Services Office at the Southwest Santa Rosa Center.

The services offered at the Santa Rosa and Petaluma Assessment Centers are as follows:

- Placement for English, math and ESL (for credit and noncredit programs).
- GED
- Distance learning proctoring services.
- Chemistry Diagnostic tests.
- ACE and GMCT (mathematics competency exams).
- Placement by EAP.

The services offered at the Southwest Santa Rosa Center are designed to place students into noncredit ESL courses and are as follows:

- Placement test for noncredit ESL.
- Pre-registration and registration services.
- Orientation
- Counseling

The technology within the Santa Rosa Campus assessment center is as follows:

- Seven workstations for the Director and Assessment staff.
- Four printers (one is copier/scanner/printer for large capacity).
- Scantron scanner accompanied by compatible Windows XP computer.
- One GED administration station (computer/camera/signature pad).
- Three testing labs equipped with media technology and furniture containing hydraulic arms which allows monitor and keyboard to be lowered, leaving the table surface clear and ready for paper and pencil test administration if needed.
    - Plover Hall 530 – 48 computer stations and one proctor station
    - Plover Hall 535 – 12 computer stations and one proctor station
    - Plover Hall 558 – 48 computer stations and one proctor station

The technology within the Petaluma Campus assessment center is as follows:

- Two workstations for Assessment staff.
- One printer (copier/scanner/printer).
- Scantron scanner accompanied by compatible Windows XP computer.
- One GED administration station (computer/camera/signature pad).
- Video camera used to monitor testing lab.
- Two testing labs equipped with media technology and furniture containing hydraulic arms which allows monitor and keyboard to be lowered, leaving the table surface clear and ready for paper and pencil test administration if needed.

- Richard Call Building, PC 641 – 50 computer stations/one proctor station.
- Jacobs Hall Building, PC 128 – 24 computer stations/one proctor station.

The technology within the Southwest Center is as follows:

- Four workstations (three for enrollment services, and one used by academic counselor to assist students with career and educational goals).
- One printer.
- One scanner.
- Two computer kiosks (for student use to submit application and registration).
- Scantron scanner accompanied by compatible Windows XP computer.
- One testing lab equipped with media technology and furniture containing hydraulic arms which allows monitor and keyboard to be lowered, leaving the table surface clear and ready for paper and pencil test administration if needed. This lab is used for assessment, a program orientation (students learn how to apply online, register for classes, etc.) and by students during open registration week.
    - Southwest Center Room 15 – 25 computer stations/one proctor station.

Effective November 2016, the math, credit ESL and English placement exams will be administered through the CAPP (Computerized Assessment & Placement Programs) platform. The use of CAPP is temporary until the CCCAssess tool is ready for use. With the delay of the CCCAssess implementation it is expected that we will administer via CAPP through 2018 and potentially the early part of 2019. The use of CAPP requires software licensing and has a per unit test cost. Because the technology of this temporary tool is unstable, we have to be prepared to administer paper and pencil tests if necessary. We are in the process of purchasing a scanner that will read Scantron tests for scoring and uploading to SIS. This purchase will replace one of the three aging scanners amongst the three sites.

The noncredit ESL Placement Test will remain in paper and pencil form until the full implementation of CCCAssess, therefore the Scantron scanner will continue to be in use for that purpose.

For the Southwest Center, a second computer lab will be installed during winter break 2016 to deliver assessment, orientation and other core services to noncredit students. This computer lab will have 32 computers, one computer for the smart station and a computer projector. The intent is to also offer English and Math placement tests, besides ESL, when the CCCAssess instruments are approved.

In addition, the Southwest Center staff delivers core services to off-campus locations. In order to meet this demand, two laptops computers were assigned by IT to provide mobile access. One Jetpack (hotspot) for WiFi access was purchased to provide Internet access at these sites.

Future Plan

Student Success

As part of the plan to enhance services to distance learners for the purpose of retention and meeting accreditation standards, a need for a conference room that will allow for broadcasting/streaming and archiving various student services workshops has been identified. This will support students to both be engaged and receive equitable services. The specific location has not yet been determined but a cost range is noted below. The cost is dependent on the size of the room and its existing technology.

Assessment Services

A vast amount of IT resources have been invested in the early adoption of the State Common Assessment tool. The CCCAssess tool is Internet-based and will have no ongoing cost associated with test administration once launched, however internal programming costs to facilitate local processes, such as retake policies, and transfer scores to SRJC's SIS at the point of implementation is still unknown. Upon full launch, math, English and both credit and noncredit ESL placement tests will be administered through the platform.

The Internet-based platform creates an opportunity for SRJC to administer placement tests off-site as pre-enrollment services for high school students. We anticipate needing two laptops to allow testing staff to access college databases off site, and 60 Chromebooks (or comparable light-weight notebooks) for placement test administration at off-site locations that do not have sufficient computer labs. This will allow both the Santa Rosa and Petaluma Assessment Centers to have a supply to take to their feeder high schools.

CCCAssess Internet-based placement tool also allows us to explore online placement test proctoring for out-of-state students. The OEI has selected Proctorio as their vendor of choice, and non-pilot colleges may benefit from their services. It is estimated that a

maximum of 50 students per year would utilize this service at this time although the effort would remove the barrier of in-person testing for this small group.

The current Petaluma Testing Center location is cumbersome for students and staff. It is not optimal for providing assessment services nor for integrating assessment into other key student services functions at Petaluma. To increase assessment service efficiency, the testing location needs to be relocated to be adjacent to other service areas and staff. The testing room capacity will be 35 seats instead of the current 24.

For outlying locations, the Southwest Center noncredit SSSP is in need of two mobile computer projectors, two mobile printers and two laptops. Often, we are scheduled to be at two off-campus sites on the same day or evening. Furthermore, six computers and three laser jet printers for six workstations are needed for the administrative office (Room 14); completion of this project is expected in early December 2016.

Strategies and Resources

Santa Rosa Student Success

- SARS Early Alert ($1,500)
- Student Right to Know ($1,300)
- Shared Student Services Online Workshop conferencing equipment. Cost between $5,000-15,000 depending on quality and location selected.

Santa Rosa Assessment

- California Test English Placement (CTEP) $3,300, Math Diagnostic Testing Project (MDTP) $800, Combined English Language Skills Assessment (CELSA) $1,190, and an estimated per usage cost for all placement tests $9,600, SARS $1,500. Categorically-funded total = $17,690.
- Scantron scanner must be maintained with a service contract annual fee of $1,291.
- Computer replacement costs for the existing computers at Santa Rosa and Petaluma testing centers (86 in total for testing delivery) is about $90,000. However, both labs are within the first two years of their replacement cycle with five years still to go.
- The cost of one laptop and 30 lightweight notebooks for off-site assessment tests is approximately $7,500.
- The approximate cost of four webcams for online proctoring is $400.

Petaluma Assessment Center

- Petaluma testing center relocation is about $30,000.
- While MDTP, CELSA and CTEP are in use, the Scantron scanner must be maintained with an annual service contract fee of $1,291.
- The cost of one laptop and 30 lightweight notebooks for off-site assessment tests is approximately $7,500.

Southwest Center Assessment Center

- Cost of computers for Southwest Center assessment room is about $33,000.
- Cost of computer projectors for assessment room and off-campus locations is about $6,000.
- Cost of laptop computer for off-campus locations is about $2,000.

6.4. COUNSELING & SUPPORT SERVICES

Current Environment

The Counseling Department has 62 computers (five laptops) and 38 printers for its counselors, support staff and student use, including the Petaluma Campus. Technology demands have increased since the writing of the last Technology Master Plan. Areas of programmatic growth have occurred in online counseling and orientation, storage and retrieval of resource information for both students and counselors, integration of the SARS appointment system with the Matriculation data reporting system, and the need to provide access for students to an increasing array of Internet-based services. Additionally, there has been greater coordination between the different Student Services departments than in the past.

In an effort to provide consistent and accurate information to students, and to encourage group counseling initiatives, the Counseling Department has been active in the development of media-based presentations for use both on and off campus. These initiatives have required the purchase of additional equipment.

Future Plans

- Provide regular technology training for classified staff.
- The department will need IT support to continuously improve the delivery of orientation services and educational planning tools.

- Student Services will continue to monitor computer and printer inventory so that replacements and upgrades happen in a seven-year cycle.

- Development of the Early Connect Program for early intervention when students are experiencing problems in the class will require monitoring of follow-up services.

- Expand Degree Audit to include functions using Assist.org and other "Sherpa" like functions.

- Purchase software for Live Chat option in addition to more cameras for SKYPE options.

Strategies and Resources

- It is estimated that new and replacement technology hardware will cost ~$24,000. (Estimated cost of eight new systems is $8,000.)

- Improving the delivery of orientation services may cost $50,000.

- Software upgrades and maintenance costs: ~$25,000.

6.4.1. SCHOOLS RELATIONS AND OUTREACH

Current Environment

Schools Relations and Outreach is well-appointed with equipment for staff use in the office and at outreach presentations:

- Three PC desktop computers.

- Three PC laptop computers.

- One HP Color Laser Jet Printer.

- Two LCD projectors.

- Two portable speakers.

- One digital display.

- One mobile hotspot.

Future Plans

- Online platforms or smartphone apps for virtual campus tours are critically needed. The recent decision to no longer fund the You Visit online virtual tour was a step back in this regard.

- Workday (a new platform for collecting prospective student contact information) is being piloted in several programs including Schools Relations & Outreach, but its current format does not have an app which allows students to download and self-register or log in. Texting is also not a feature currently available, yet critical for communication with one of our main target audiences (high school students).

- Attain the following equipment for use in outreach activities:
  - Three iPads with cases.
  - Three Kensington locks for security.

Strategies and Resources

Schools Relations and Outreach collaborates with the Counseling Department to provide high school students with access to information about SRJC and the transition from high school to college. Many of today's students use laptops, smartphones and tablets to do a wide variety of things over and above social networking. Recent endeavors to integrate Workday into outreach efforts points out the need to have different types of devices and options available in terms of equipment. To provide outreach services to tech-savvy students on platforms they can relate to, Schools Relations and Outreach needs to be equipped with iPads in order to create a positive experience for students who are college-shopping and considering SRJC as a top college destination, and to facilitate the use of Workday or some other similar platform in the future.

- It is estimated that the cost of three new iPads with cases is $3,000.

- It is estimated that the cost of three Kensington locks is $200.

6.5. STUDENT FINANCIAL SERVICES

Current Environment

Student Financial Services has a total of 35 PCs and nine student kiosks (seven in Santa Rosa, two in Petaluma). Two networked printers support Financial Aid, one supports Scholarship, one supports Veterans Affairs with seven desktop printers in SFS for special usage. The newly-implemented PowerFAIDS FAM financial aid processing software runs on two servers in Information Technology, one for the database and one for the application. SRJC's Financial Aid system also communicates electronically with the federal Department of Education. The Department of Education last published minimum

standards in 2009 and updates these every four to five years. PowerFAIDS FAM provides basic aid delivery on SRJC's new Windows-based platform. Student service standards support the need for web-based student financial aid inquiry through myFinancialAid, and the California Student Aid Commission has developed Web Grants, a soon-to-be required Cal Grant electronic data exchange. FAM updates and database support are provided by various members of the IT Department: updates by the Network Technicians, database changes by the Programmer Analyst, Senior, backups and corrections by the Network Technician, etc. Each year there are significant changes to federal financial aid regulations, and there continue to be challenges to meet the growing and changing workload. Work with PowerFAIDS and SRJC's IT Department to further develop functionality and interfaces for FAM will continue to be a high need for the Financial Aid Office to speed up processing, communicate better with students and to support student success. Foundation Scholarship application processing is now fully within PowerFAIDS and is updated as needed. The web-based Scholarship online bulletin board in SIS is working. These enhancements have helped with growing workload in the Scholarship Office as the Foundation, Business & Community scholarship programs are growing, and the Doyle Scholarship program has returned (at a smaller level than it was before).

The Veterans Affairs office makes extensive use of student lookup in SIS, transcript lookup and SARS (for counseling appointments). In addition, two PCs in this office must maintain compatibility with the Department of Veterans Affairs (VA Once) to certify GI Bill recipient enrollments. Recent MIS reporting changes (optional summer 2011, mandatory summer 2012) requires student Veteran identification and tracking in SIS. In addition, as we move to a service model of providing a Veterans Resource Center, grant applications will be submitted and donations will be solicited. Detailed data on whom our student Veterans are, and how they are doing, will be needed for these efforts.

Future Plans

- Maintain minimum PC standards as directed by the federal Department of Education and Veterans Administration; replace/upgrade as needed.
- Implement CCCBOG and interface with FAM and SIS.
- Online Doyle Scholarship application submission, with electronic transcripts from high schools, and would require programming and testing.
- MIS programming for student Veterans identification and tracking is required.
- A Scholarship contact and award detail management database is needed to support the growing Business & Community scholarship program.
- All items listed above will be functional Districtwide.

- Strategies and Resources
- Cost of PowerFAIDS FAM enhancements and some local programming, covered in part by BFAP/SFAA funding if Chancellor's Office approval is secured.
- Cost of CCCBOG program to be covered by BFAP funds.
- Cost of online Doyle scholarship application submission projects will be programmer costs and time.
- Cost of Veterans data programming will be programmer costs and time.

6.6. EOPS/CARE

Current Environment

All workstations in the Extended Opportunity Programs & Services (EOPS) Office in the Bertolini Student Center (13 PCs, including two kiosks) at the Santa Rosa Campus and in the EOPS counselor's office at the Petaluma Campus (one PC) are dependent upon computer technology to provide effective and efficient services to EOPS/CARE students.

Except for the students contacted by the EOPS Outreach Specialist, all EOPS/CARE student tracking is done through the nine EOPS/CARE screens in the Student Records System (SIS), created and maintained by the Information Technology Department.

In addition, the EOPS and CARE programs use "lookup only" links to assessment, registration, counseling, matriculation, articulation, and financial aid databases.

EOPS and CARE funding is dependent upon accurate and timely reporting of term end program data to the Chancellor's Office through the Management Information System (MIS).

Future Plans

EOPS and CARE computers at the Santa Rosa and Petaluma Campuses need to be updated to current technology according to the District's seven-year cycle.

There is still a need for two more computer stations in the EOPS lobby for student use (Bertolini Student Center Room 4703). The EOPS Conference room in Bertolini 4703 needs all of the technology support available in a media-enhanced classroom.

As EOPS programs throughout the state move to a "paperless" system of tracking services to students, this may become a viable option for SRJC.

EOPS will continue outreach services to the English Language Learners (ELL) community throughout the District Service Area. This requires the appropriate technologies for digital access and multimedia presentations. The District laptop computer assigned to the EOPS Outreach Specialist needs to be upgraded to an iPad to facilitate presentations about EOPS and SRJC throughout the District Service Area.

The EOPS Office would like a method of tracking students who have received assistance from the EOPS Outreach Specialist from the time they complete their SRJC applications in CCCAPPLY until they turn in their applications to EOPS. This request would probably include creating an EOPS Outreach screen in SIS and producing new outreach reports.

Strategies and Resources

None at this time.

6.7. STUDENT HEALTH SERVICES

Current Environment

In addition to standard network connections to the College's Outlook, Escape and Student Information (SIS) systems, the Student Health Services Department also utilizes a secured intranet and software system (MediCat) specific for healthcare information processing, including a secure electronic medical records system. A dedicated server for MediCat is housed in IT. All permanent employees, contractors, student workers and psychology interns utilize the system for appointment management, to document student visits and services rendered, tracking for clinical case management purposes, and to access internal reporting, analysis and program evaluation functions. The software system interfaces with the College's student database and via a regular schedule of uploads, demographic student information populates selected fields.

45 separate users share the Department's 35 desktop computers and five laptops, located in three different facilities on two campuses. The current District policy is to replace hardware every seven years, averaging about six to seven computers needing replacement in SHS each year. The MediCat server also has required replacement periodically.

Technology challenges exist to link our staff and facilities effectively to conduct needed confidential group meetings and dialogue that are inclusive of Santa Rosa and Petaluma staff. Several pilots/options are being explored.

Student Health Services provides weekly didactic trainings to two cohorts of students: eight mental health interns (graduate students) and 15-16 student employees. This requires the associated technology for educational activities within the department, in the Plover and Race facilities. Video recording of Student Psychological Services therapy sessions is needed to provide/enhance the required supervision of the mental health interns.

Discussion

SHS's software system is 16 years old and the dedicated server model is rapidly becoming obsolete. The majority of the healthcare industry information systems now utilize cloud-based, password protected and HIPAA-compliant technology systems. MediCat offers this system, and currently over 90% of the college health centers in the U.S. with MediCat are hosted through their secure web portal, providing increased access for both providers and students/patients to communicate. SHS's case management data show over a third of high risk students are "lost" to lack of follow up communications. Having providers access data from outside the office setting can be critical in emergencies, e.g. athletic concussion injuries, acutely suicidal students. The increased online access to health services for students is in alignment with the SRJC objectives to improve upon this accreditation standard. This technology shift significantly improves the quality of health care being given.

The MediCat software upgrade has been noted in the SHS PRPP for many years along with the establishment of Self Check-In kiosks/computer stations in the health centers. Self Check-In allows for both greater efficiency, increased capability to track health and demographic data, and improved confidentiality. Yet being a self-funded department, with declining revenue due to enrollment drops, the internal financial resources have not been forthcoming. The expense of migrating and adding the online services is about $15,000, and the ongoing annual costs are quoted at $22,000/yr. All non-student health fee funding sources are being requested to accomplish this much needed improvement.

Future Plans

- Upgrade the existing MediCat software system to a cloud-based hosted server model, to meet healthcare industry standards, and improve healthcare services for students.

- Procure intake/Self Check-In stations for each health center for students to provide information in a confidential method and improve efficiencies and data analysis.

- Identify best methodologies and implement tech enhancements as needed to support increased online health education engagement by SRJC students, including a broader selection of video materials/products and learning resources.

- Maintain and improve the SHS website, and explore the use of applications specific to mobile devices that may support student health.

Strategies and Resources

- Assure adequate hardware and software resources, including media, are on site to support specialized healthcare operations with the highest standard of care for students and support the ongoing teaching/learning activities provided.

    - Establish, replace and maintain workstation hardware and technology. Estimate $12,000/yr.

    - Work with MediCat software consultants, Information Technology, and ITG to purchase and implement software upgrades and migrate the database to their cloud-based product. Estimate one-time cost $10,000, ongoing annual cost $22,000/yr.

- Provide ongoing staff development activities specifically addressing technology, to assure appropriately trained staff are on site to perform critical department functions and maintain the District's health records.

- Maintain and develop an increasingly complex database within Student Health Services and support compliance with healthcare regulations and records management.

    - Database management/development needed for possible new revenue generating function: *MediCal Local Education Agency Direct Billing program.*

Resources

We plan to evaluate the cost effectiveness of chosen technology applications to maximize services to students and minimize negative impacts on the budget longitudinally.

- Health Fee revenue – as noted above, this fund is vulnerable, as the department's expenses currently exceed health fee revenue at this time, and the reserve fund will be depleted within one to two years. Work with the Student Health Services Advisory Committee will help determine priorities within the budget development process.

- Equity Funding - One-time funds in 2016-2017 will be used to upgrade software, rollover funds will be used to support video recording equipment for SPS sessions.

- Bond Funding - Requested to support establishment and replacement of needed hardware.

- Instructional and Non-Instructional Equipment - Funds from this revenue source are being requested as appropriate to support teaching/learning activities in the department and administrative technology needs.

- District - Seeking funding for MediCat annual costs of $22,000/yr. Maintenance of a record-keeping system is included on the list of mandated functions for the District to carry if and when the Health Fee revenue cannot support it.

- Mental Health Services Act - This currently supports annual contracts with Student Health 101, Online Mental Health Screening. State MHSA funding to maintain online Kognito training modules is available through 2017.

- Private Funds/Donations - Strategies and targeted purposes are in development for a SHS Foundation account. This type of funding could possibly offset other expenses to help offset the Health Fee revenue deficit.

6.8. STUDENT AFFAIRS & NEW STUDENT PROGRAMS

Current Environment

Student Affairs & Engagement Programs (SA&EP) includes many diverse programs and services for students located on both the Santa Rosa and Petaluma Campuses. The Student Affairs area includes all of student life for both campuses, including leadership development and student activities. The Student Affairs Office delivers support, guidance, advice and information to the students of SRJC. These services include the Center for Student Leadership training program, the Associated Students, the Off-Campus Housing program, the Student Resource Center, the Student ID card service, and campus event management. Engagement Programs includes the Tours program, the Welcome Centers, Student Ambassadors, orientation events and activities, and other transitional support services.

Currently, there are approximately 50 separate users sharing the department's 29 PCs and three Macs that deliver a combination of staff and student support on the Santa Rosa Campus, Student Affairs area; this includes the Student Resource Center. On the Petaluma Campus there are three PCs, including the Student Resource Center.

Future Plan

Student Affairs will continue to develop new and more efficient ways to deliver information through technology with the support of the IT Department. Our goal is to make all of our services currently available in-person, also available online. It will also be imperative that we learn more effective ways to communicate with our technology-savvy students including social networking, texting and other technologies.

Continued maintenance and upgrade of the Off-Campus Housing database and website by Information Technology staff or a third party is a priority.

The Student Resource Centers on each campus will continue to maintain and upgrade technology resources with the support of District technology funds. The student/staff photo ID system will need to be maintained and upgraded with support from Information Technology and District funds.

The Student Affairs Office will continue to research and advocate for the use of Smart Technology in the student/staff ID cards. This technology will allow students to use their ID cards as a debit card as well as photo ID and library/computer lab usage. The cost of this endeavor is still being determined. Smart Card technology will apply to both campuses and all District sites. This card will be used to track student attendance and retention at education planning workshops, student engagement programs and other appropriate events and activities.

Currently students are able to receive both a hard copy and electronic transcript of all courses taken at SRJC. In order to provide a parallel record of all student extra- and co-curricular activities, events and trainings, the Student Affairs Office would like to work with Information Technology to develop an online Co-Curricular Transcript using a secure SQL server database. This would apply to students on both campuses and all District sites.

The Dining Commons (DC) and Student Activities Center (SAC) need important upgrades to media technology including:

- New digital displays for advertising in the DC.
- Permanently installed LCD projector and automatic drop down screen in the DC.
- Raised projector screen in the SAC.
- Updated media closet in the SAC; equipment needs to be more user-friendly.

Student Affairs will continue to do its part in launching the newly acquired Event Management System software so that both small and large events can be managed online using a single interface accessible by multiple departments responsible for

planning and implementing events. This should save both staff time and paper products.

Continue to develop and implement new web-based conduct management system called Maxient. This includes modules for complaints/grievances, academic integrity, student conduct, Title IX complaints and CIRT cases.

Upgrade the current Center for Student Leadership room (4643 Bertolini) and the 2nd floor Conference Room (4733) to include videoconferencing. Room 4643 also needs a secondary LCD projector and screen installed in order to allow seated students to see around the beam in the center of the room.

For Petaluma Campus the following is needed:

- Purchase digital video display sign on Sonoma Mountain Parkway to advertise Petaluma Campus events and activities ~$100,000.
- Replace digital display in the current Student Center.
- Portable event stage with lighting and sound system, with permanent power. This would be located in the new Student Center, location TBD.

In the "dream big" category, the Associated Students (A.S.) are proposing:

- Software that allows student leaders to have access to their account information in real time including A.S. accounts and club trust accounts.
- Software that allows the A.S. and clubs to accept and track donations.
- The adoption of a communications application that includes student engagement calendars, announcements, opportunities, etc. The current Ohlala app that is being used in Petaluma is under consideration for implementation in Santa Rosa.

Strategies and Resources

- The estimated cost of software and hardware needed over the next three years is ~$35,000.
- The estimated cost of creating and implementing a Co-Curricular Transcript software suite is unknown requiring mainly IT staff resources.
- The estimated cost of adding videoconferencing to Bertolini Student Center, Room 4643 is ~$25,000.

- The estimated cost of adding videoconferencing to Bertolini Student Center, Room 4733 is ~$25,000.
- The estimated cost of upgrading current Off-Campus Housing website is ~$6,000.
- The estimated cost of outdoor video display on the Petaluma Campus is ~$80,000.
- The estimated cost of outdoor video display on the Santa Rosa Campus is ~$80,000.
- The estimated cost of a portable event stage with lighting/sound for the Petaluma Campus is $120,000.

6.9. DISABILITY RESOURCES DEPARTMENT

Current Environment

The Disability Resources Department (DRD) is located on both the Santa Rosa and Petaluma campuses. The DRD provides disability intake and accommodation services for students on the 3rd floor in the Bertolini Student Center, and access to DRD student programs in Pioneer Hall. Over 30 faculty and staff utilize desktop computers, inkjet printers, FileMaker Pro software, SARS software, Microsoft Office software, Adobe Creative Suite software and SIS. In addition two laptops are available for staff use throughout the District and in the local community. Three Kyocera printers are located on the Santa Rosa Campus, one in Bertolini, on the 3rd floor, one in Pioneer Hall, and one in Analy Village, Building D. The DRD has two SARS kiosk stations, one located in Pioneer Hall and one located in Bertolini on the 3rd floor. There is one Timekeeper log-in station located in Pioneer Hall.

The DRD suite located in Jacobs Hall on the Petaluma Campus provides disability intake, testing, and assistive technology services to DRD students. Five faculty and staff members utilize Desktop computers, Inkjet printers, FileMaker Pro software, SARS software, Microsoft Office software, Adobe Creative Suite software and SIS. There is one SARS kiosk station and one Timekeeper log-in station on the Petaluma Campus.

Specialized Instruction the Disability Resources Department provides specialized instruction in a variety of classroom locations on both the Santa Rosa and Petaluma Campuses.

DRD Student Support Services: DRD Support Services provide accommodations for students taking course and placement exams, coordinate note taking and mobility assistant accommodations, and oversee accessible furniture requests for the District. The DRD support services are currently located in Analy Village, Pioneer Hall, and

Bertolini Student Center on the Santa Rosa Campus and Jacobs Hall on the Petaluma Campus. There are currently 10 accessible student testing stations available on the Santa Rosa Campus, and three accessible student testing stations on the Petaluma Campus. Each accessible student testing station includes Dell Desktop All-in-ones with Assistive Technology software and Assessment software installed. In addition there seven portable video magnifiers, and six desktop video magnifiers available on both campuses in the testing centers for students to utilize during exams. The Assistive Technology Center also includes the following inventory for students requiring accommodations in the classroom:

- Digital Recorders: 92
- Tape Recorders: none
- MP3 Players: none
- Assistive Listening Devices: 29
- Smart Pens: 72
- Franklin Dictionary/Thesaurus: 13
- Talking Calculators: 4
- Electronic Stethoscope: 1
- Victor Readers “Stream”: 3

Future Plan

The following is a compilation of foreseeable disability-related technology needs based on current enrollment trends as well as state and federally mandated compliance regulations.

DRD: Technology demands have increased since the last Technology Master Plan. With the implementation of the Student Success Act, programmatic growth in online orientation, electronic assessment, and online disability accommodation service delivery are anticipated. Students’ increased usage of Internet-based services via mobile devices has forced the department to reorganize their efforts to deliver essential student services in a timely manner. To facilitate efficiency in serving students and to support sustainability in the work environment Disability Specialists require:

- Student Access Software: Interactive software to allow students and faculty independent and timely access to accommodations and supports.

Strategies and Resources

In order for the Disability Resources Department to fully support students' access throughout the District, funding for accessible equipment and support can be distributed equally by District programs and departments:

- It is estimated that the cost of Student Access Software is $69,500.

6.10. CALWORKS

Current Environment

The CalWORKs Program is currently located in the Bertolini Student Center, 3rd floor. There are 13 computers and 14 printers utilized by the staff and students: nine printers are All-in-one printer/copier/fax machines, 4 are laser and 1 is a color laser; the All-in-one printers are not installed as fax machines at this time. This includes two student access stations, each with a printer and a computer dedicated to Timekeeper, for training purposes only. In addition, the department has one laptop and a fax machine. A copier is also provided by the District.

Additional tech usage includes the SARS appointment scheduling software, MIS, SIS and an in-house Access database used for case management. CalWORKs began to "flag" eligible students in the new Student Information System with its launch beginning in November 2008. However, the "CalWORKs pages" in the SIS are not sufficiently comprehensive to track all of the MIS and case management needs of the program; staff will continue to utilize the Access database and submit "flat files" to Information Technology for conversion and submission to the Chancellor's Office. A CalWORKs module is being worked on to provide access to necessary reports like midterm and final grades.

Future Plans

The CalWORKs staff will continue to have access to the Career Center's computer lab for job search workshops and other group activities. If funding allows, the CalWORKs staff may have a small presence on the Petaluma campus if CalWORKs student numbers increase with the growth of the campus. Petaluma Campus students need access to a timekeeper program for CalWORKs supervised study hours. This may be accomplished with a second dedicated computer on the Petaluma Campus. In addition, CalWORKs needs a replacement fax machine since the current one doesn't work. CalWORKs faxes are routed to the Counseling Office for the time being.

Strategies and Resources

The CalWORKs staff computers and printers will continue to need replacement as a part of the District's replacement cycle; the new equipment noted above will need to be purchased. At this time CalWORKs has no categorical funds available for equipment and purchasing guidelines from the Chancellor's Office are fairly restrictive. This could possibly change in the future. Estimated cost of new equipment is ~$6,000.

6.11. CAREER DEVELOPMENT SERVICES (CAREER CENTER & STUDENT EMPLOYMENT)/TRANSFER CENTER

Current Environment - Santa Rosa

The Career Center and Student Employment are located in the Bertolini Student Center. They are co-located with the Transfer Center and Work Experience and are adjacent to the Disability Resources Department.

Computer Lab Room 4876

The Career Center lab is shared with the Transfer Center and contains 18 computer stations and one laser printer. There is one workstation accessible for students with disabilities that is adjustable for wheelchairs. There is also a video/DVD player. This lab is utilized by students for both Career and Transfer purposes.

Career/Transfer and Student Employment Reception Areas.

There are two kiosk computers in the larger reception area. One is designated to Student Employment job search functions. The second one is allocated to the Work Experience program. There are two computer workstations and one printer in the front reception area utilized by student employees. These workstations are used to check students in for appointments or visits to the Career Center/Student Employment and Transfer Center, as well as processing work in the area. Student Employment also has a one computer kiosk for students looking for employment, applying for jobs, or accessing the SRJC student job board. There is also one Discovery copy machine located in the front reception area.

Waiting Area

Replace kiosk computer when it reaches replacement age.

Student Work Area

The Student Work Area has two computer work stations with two ink jet printers and one laser printer. One workstation is allocated to Student Employment for processing

student timesheets and related work. The second workstation is allocated to the Transfer Center for student projects.

Staff Technology

Staff work areas consist of two Administrative workstations, one office for the Career Services Advisor, one office for the Student Employment Coordinator, the Transfer Rep office, the Transfer Director Office and one for the Career Development Services Manager. Each work area has a designated printer and all computers are networked to the laser printer in the Student Work Area in addition to the Discovery copy machine.

Software

Students visiting the Career, Transfer or Student Employment areas are logged in using the SARS roster function, allowing for the capture of data regarding specific reasons for student visits. SARS appointment scheduling software is also used to make appointments for counselors and the Career Services Advisor who works in the Career Center.

Online resources assist self-directed students with Career Planning and Job Placement, key components to student success outlined in the Student Success Initiative. Current technology used for Career Development and Student Employment includes three computer web-based career guidance programs: EUREKA $1,900, Career Cruising $850, and College Central Network (CCN) $1,300. These programs enable students to research occupational and academic information, do some career assessment and view future career trends data. Student Employment utilizes CCN to host the Student Employment Job Board. This site assists students with jobs, internships, resumes and portfolio development and has a large database of career/employment articles for students and alumni to use. The addition of the CCN program has also made it possible for the department to conduct Virtual Career Fairs in addition to its annual Career Expo and Job Fair.

Seminar Room 4875

The area also includes a seminar/classroom, which has an LCD projector and is set up for a media-enhanced classroom installation.

Future Plans

As outlined in the Student Success Initiative, student access to and the utilization of technology are key components of improved student success. “Scaling up the use of technology is one of the few viable approaches to reach substantially more students, many of whom prefer navigating their pathway through community college in an online environment” (p.23, Rec #2, 2013). The following new and improved technology requests are in response to the Student Success Initiative commentary that there are

students “who lack access to technology or are not adequately prepared to utilize it and those who need more complex interactions.” This request is also in alignment with the District’s Strategic Planning Goal B4, “Identify and implement responsive instructional practices that increase the learning and success of our diverse students.”

- Upgrade staff, student workstation and computer lab computers approaching replacement age to current models and with uniform operating systems.

- Request for staff computers to be upgraded with webcams to facilitate online face to face appointments.

Seminar Room 4875

This room is used for seminars by the Career Center, Counseling, Work Experience, New Student Programs, Scholarship, MESA, College to Career, and CalWORKs.

Computer Lab Room 4876

- Request to purchase one digital monitor. Currently there is no electronic screen in Area 3 East. Research shows that students are responsive to new technology. More programs are creating videos for their programs including CTE programs. These videos could be looped on the screen and would expose students to more career possibilities.

- Request to purchase 25 iPads or tablets and a locked cabinet for storage of equipment. The computer lab has only 18 computer stations. The Intro to

  Career Development classes are not taught in a room with computer access. Class sizes have at least 40 seats. Currently students need to share computers or the instructor needs to divide the class and come to the lab on two separate occasions.

Strategies and Resources

- Estimated cost for new and replacement technology over the next three years is ~$50,000.

- Estimated cost of GO PRINT designated computer ~$1,500.

- Estimated cost of 25 iPad/tablets ~$11,250.

- Estimated cost of Locket Storage Cart ~$1,000.

- Estimated cost of digital monitor ~$3,000.

- Estimated annual software costs are ~$4,000.

Current Environment – Petaluma

On the Petaluma Campus, Career Development Services is located in Jacobs Hall, Room 116, as a part of a shared Resource Center. Also located within this space are the Financial Aid Office and the Work Experience Office. During the academic year, the main room is used for a career resources library, seminar room, computer stations and waiting area for appointments. This area includes three (3) computer stations for student use in Career, Student Employment or Work Experience program use. They are all loaded with the career software packages (Career Cruising, Eureka) and have MS Office Suite and Internet capability for students wishing to access our online job board and other resources. There is one station for student check-in and SARS, located behind the main counter. The CDS staff office has a computer also, and all four (4) computers (student kiosks + office) share the same laser printer in the reception area. This main room is re-purposed during the summer as a Welcome Center for new students, with all existing technology being used.

The seminar area is equipped with a LCD projector and drop-down screen. There is also a small Discovery tabletop copier for the offices in the area to use, which was re-purposed from a program that was relocated onto the Santa Rosa Campus. All software in this area is mentioned in the Santa Rosa section as they are licensed for use throughout the District.

Future Plans

The technology in the Resource Center is limited and is approaching replacement age; all five computers (three student kiosks, one office, and one reception) and the laser printer will need to be replaced in the next three years. Also, one disability accessible computer workstation should be made available in the Resource Center. All computers should be upgraded with the same operating systems for the installation of disability accessible software.

- Request for staff computers to be equipped with webcams to enhance student access with online appointments.

- Request for 25 iPads or tablets and a locked cabinet for storage of equipment. Students will be able to use these tablets during Career Center, Counseling, Transfer, Work Experience, Financial Aid seminars and workshops.

- Request for one digital monitor for the Resource Center. Currently there is no electronic screen available. Research shows that students are responsive to new technology. More SRJC department are creating videos for their

programs including CTE programs. These videos could be looped on the screen and would expose students to more career pathways and possibilities.

Strategies and Resources

- Estimated cost for completion of media technology in Resource Room is ~$3000.
- Estimated cost for new and replacement technology for the next three years is ~$12,000.
- Estimated cost for a disability accessible workstation is ~$2,000.
- Estimated cost of digital monitor ~$3,000.
- Estimated cost of 25 iPad/Tablets ~$11,250.

7.0. BUSINESS SERVICES, HUMAN RESOURCES, & DISTRICT POLICE

7.1. BUSINESS SERVICES PETALUMA

Current Environment

The Faculty Support Office functions as a copy center/mailroom/Scantron grading and homework drop-off area and faculty work area for Petaluma Campus. It is utilized by faculty and staff.

Future Plan

Improve the efficiency of the faculty support business office operation through the purchase of needed equipment.

Strategies/Resources

- Replace multifunction copiers, heavy-duty shredder, and Scantron equipment, and update workroom technology.
- Estimated cost of $150,000.
- No additional staff required.

7.2. BUSINESS SERVICES PETALUMA – SECURITY CAMERAS FOR CASHIERING

Current Environment

Accounting and Admissions & Records staff take student payments in the form of cash, check, and credit card. Currently there aren't cameras that show transaction activity. The existing cameras are positioned towards the door and are intended for security purposes only.

Future Plan

Improve the security of the administrative and business office operation through the purchase of needed equipment.

Strategies/Resources

- Video cameras to monitor cashiering areas.
- Estimated Cost of $30,000.
- No additional staff required.

7.3 BUSINESS SERVICES PETALUMA – EVENT TICKETING SOFTWARE

Current Environment

The Box Office is located in the front of the Carole L. Ellis Auditorium, which has seating for 249. The Auditorium is used for events throughout the year and for the Cinema Series, every Fall and Spring Semester. The current box office software is slow to process ticket sales, is not set up for taking credit card payments, and does not easily accommodate Will Call sales.

Future Plan

A Districtwide software system integrated with the Santa Rosa Campus theatre software that includes box office ticket sales, credit card sales and Will Call option, and possibly tie into Facility Operations and event planning software.

Strategies/Resources

- Estimated cost not determined, probably to be part of a larger initiative on a District level for an integrated Event Planning software system.

8.0. FACULTY, ADMINISTRATOR, & STAFF COMPUTERS

Current Environment

The District provides all full-time faculty, administrators, and staff with a desktop or portable computer, with software, as appropriate.

There is currently a seven-year replacement rate for these computers.

The process to replace systems is initiated by faculty, staff and administrators through the Information Technology website equipment request form.

https://it.santarosa.edu/purchasing

A review process is in place to validate equipment requests.

Full-time faculty and administrators can choose either a desktop or portable computer, and may request either Macintosh or Windows.

Staff are required to use a Windows computer except in very rare cases when a Macintosh is required to perform their regular work duties.

The basic desktop computer is currently either an Apple iMac or Dell Optiplex All-in-one model; the exact model is kept current on the IT website.

The basic portable computer is an Apple MacBook Air or Dell Latitude; the exact model is kept current on the IT website.

https://it.santarosa.edu/purchasing/configurations

When upgrades to the basic model are desired or necessary, the requesting department must provide the funds to cover the cost difference.

Any ergonomic peripheral equipment must be approved by the Environmental Health & Safety Department.

Adjunct faculty are provided with access to shared computers at a rate of approximately one computer per four adjuncts.

Other employees without an assigned computer have access through open labs or shared computer resources.

Strategies and Resources

- Estimated cost to renew desktop technology every seven years:

  1200 x $1,500 = $1,800,000 for a seven-year cycle. So our cost per year should be under $300,000, but last year we spent over $400,000 due to the large number of machines currently reaching their age limit.

- IT will acquire and install new desktops and laptops at an estimated 75 systems every three to four months for the next few years in order to catch up with the large number of machines currently reaching their age limit.

- IT would like to draw attention to the non-instructional areas of the District where it is necessary to have more than one computer per staff, with a goal of having those departments include those additional computers in their own department's PRPP budgeting process.

- IT will continue to evaluate new operating systems and software applications and update our standard installation image as appropriate. Recent examples of this evaluation process include Windows 10 and Adobe Creative Cloud.

- IT will continue to evaluate new mobile computing options including Mobile Device Management solutions and integration of BYOD mobile devices.

9.0. IT INFRASTRUCTURE

We are currently in the second year of our three-year, six million-dollar infrastructure refresh project. In Year 1, we purchased and deployed $1.8M in new core networking equipment and a new virtual server and SAN environment. Mid-way through Year 2 we have purchased and are in the process of deploying $1.5M in access-layer networking equipment, including switches and wireless access points Districtwide. Our plans for Year 3 include improvements to the District's structured cable plant, specifically the fiber-optic backbone cabling, and necessary improvements to many insecure and inadequate network racks and closets. Other infrastructure issues that have emerged since the original plan was drafted include a need for more robust firewall infrastructure, an enterprise-class disaster recovery solution, and the need for a back-up solution for the cloud-based email and productivity tools.

9.1. STRUCTURED CABLE PLANT

The existing Ethernet structured cable plant of the District is a patchwork of multiple generations of construction stretching back over 20 years. Now that the Facilities Master Plan has been completed, the District has a roadmap for buildings that will be

either demolished, undergo major renovations, or remain largely intact and undergo minor renovations. The District has engaged an engineering firm to begin designing the necessary improvements to the Santa Rosa Campus fiber-optic backbone cabling. It is also anticipated that project will include the removal of legacy copper-pair and coaxial cabling which is no longer in use due to the convergence of voice and video networks with IP-based networks running over Ethernet.

The Measure H guidelines document contains the following recommendations for structured cabling:

Backbone Cabling | Major Renovations & New Projects

Inter-Building Backbone Cabling:

- Provide singlemode and OM4 multimode fiber optic cable from the Campus MDF to the BDF. At a minimum, 48-strand singlemode and 48-strand OM4 multimode fiber optic cables are recommended to each BDF in order to support 10/40/100 Gb/s data rates in the backbone.

- Provide Category 3 UTP cable from the Campus MDF to the BDF. At a minimum, 50-pair Cat. 3 cable is recommended to each BDF to support analog line requirements for connections such as fire alarm control panels, elevator phones, BMS, etc.

- Inter-building backbone cable should be run in a star topology, originating in the Campus MDF to each BDF.

Intra-Building Backbone Cabling:

- Provide singlemode and OM4 multimode fiber optic cable from the BDF to each IDF. At a minimum, 24-strand singlemode and 24-strand OM4 multimode fiber optic cables are recommended to each IDF in order to support 10/40/100 Gb/s data rates in the backbone.

- Provide Category 6 cable from the BDF to each IDF. At a minimum, four Cat. 6 cables are recommended to each IDF. Terminate Cat. 6 cables on rack-mounted patch panels on both ends.

- Provide Cat. 3 UTP cable from the building BDF to each IDF only as required to support analog line requirements.

- Intra-building backbone cable should be run in a star topology, originating in the BDF to each IDF.

Minor Renovation Projects

Intra-Building Backbone Cabling:

- Provide singlemode and OM4 multimode fiber optic cable from the BDF to each IDF. At a minimum, 24-strand singlemode and 24-strand OM4 multimode fiber optic cables are recommended to each IDF in order to support 10/40/100 Gb/s data rates in the backbone.

- Provide Cat. 6 cable from the BDF to each IDF. At a minimum, four Cat. 6 cables are recommended to each IDF. Terminate Cat. 6 cables on rack-mounted patch panels on both ends.

- Intra-building backbone cable should be run in a star topology, originating in the BDF to each IDF.

Horizontal Cabling

All Project Types Cabling

- Provide Cat. 6 cabling for typical outlets, with a minimum of two cables per outlet.

- For Classrooms, provide Cat. 6A cabling for the following locations, at a minimum:

    - Two two-cable outlets above ceiling at opposite corners of the room.

    - One four-cable outlet at the media rack location.

- Terminate horizontal cable on rack-mounted patch panels at the BDF/IDF end, and on 8P8C modular jacks at the outlet end.

- Provide horizontal cable managers above and below the rack-mounted patch panels for management of patch cords.

- Run horizontal cabling in a star topology, originating from the BDF/IDF to each outlet.

Manufacturers

Due to the complexities of supporting multiple manufacturers and product sets for horizontal cabling, it is recommended that the District standardize on a small (no more than three) selection of cabling manufacturers and product sets to allow for more streamlined support of the horizontal cabling system in the future.

Upgrading for the Future

Category 6A Horizontal Cabling

Due to the lifespan of the buildings, the infrequency of upgrades, and the future demands of technology, we recommend Category 6A for horizontal cabling to all typical outlets. Cat. 6A supports data rates of 10 Gb/s which may be required by future applications. At a minimum, we recommend planning for Cat. 6A cabling to all wireless access points to support the current 802.11ac Wave 2 standards. Cat. 6A cabling should also be planned for select locations in classrooms, as discussed in the horizontal cabling section above.

Planning for 40/100 Gig Backbone

Due to the lifespan of the buildings, the infrequency of upgrades and the future demands of technology, we recommend planning for backbone cabling to support 40 and 100 Gb/s. This can be achieved either through singlemode fiber optic cabling or OM4+ multimode fiber optic cabling. Building flexibility to support 40 and 100 Gb/s into the backbone now will help prevent additional upgrades as technology demands increase. Building flexibility to support 40 and 100 Gb/s into the backbone now will help prevent additional upgrades as technology demands increase.

Since the above was adopted the District recommends a single vendor solution for structured cabling, (see attached specifications document) To simplify both backbone and high bandwidth datacenter fiber-optic connections the District recommends that all new fiber construction use single mode (OS2) fiber only.

9.2. NETWORK SWITCHING

The current environment is designed for speed, dependability and security. The District has standardized on an Ethernet network with Cisco Systems as the single vendor solution. We are currently in Year 2 of a three-year server and network infrastructure upgrade. At the end of the project our goal is to have increased the speed of most connections by at least tenfold. Our WAN connection has already been upgraded from 1 Gigabit to 10 Gigabits. New building to building backbone fiber-optic connections are being increased from 1 Gigabit to 2x10 Gigabits and the capacity to increase to 4x10 Gigabits. To improve dependability, we are providing dual, fault-tolerant core switching in our District datacenter and dual-10Gig links from MDFs to the main building IDFs. We have also standardized on access-layer switches with dual power supplies, which are being deployed with Uninterruptable Power Sources (UPS). To take full advantage of this functionality we are working closely with Facilities to make sure all IDF locations have 2 dedicated 20A circuits. To improve network security, we have purchased the Cisco Identity Services Engine (ISE) software which will be deployed in tandem with Public Key Infrastructure (PKI) in Year 3 of the infrastructure upgrades. The software, equipment

and construction projects currently under way will be expected to last for the duration of this current plan, 5-10 years at a minimum.

9.2.1. CAMPUS SWITCHING ENVIRONMENTS

The core switching equipment at the Santa Rosa and Petaluma Campuses was replaced during Year 1 of our three-year network refresh project.

In the main datacenter on the Santa Rosa Campus, the routers, core servers, firewall, wireless controllers, fabric extenders, distribution layer switches and other mission-critical, core infrastructure systems are now connected to an HA pair of Cisco Nexus 7K switches for fault tolerance. Top of Rack network distribution to legacy servers is provided by Cisco 2K fabric extenders which are logically controlled by the Nexus switches. Buildings are typically connected to an HA pair of Cisco Catalyst 6K distribution layer switches, with multiple cross connections for high availability and fault tolerance. During Year 2 of the infrastructure refresh project, building IDFs are being upgraded with Cisco Catalyst 3850 access layer switches, with dual power supplies, Power over Ethernet (PoE) on every port, 4x10Gigabit backbone ports and Gigabit access port speeds.

At the Petaluma Campus a single Nexus 7K switch provides both core connections to the site router, legacy servers and Cisco UCS servers, and also serves as the distribution layer switch to connect to other buildings on campus. Building IDFs are currently being upgraded during Phase 2 with Cisco Catalyst 3850 access layer switches, with dual power supplies, Power over Ethernet (PoE) on every port, 4x10Gigabit backbone ports and Gigabit access port speeds.

At the Shone Farm, and the Public Safety Training and Southwest Centers, the site router will connect directly to Cisco Catalyst 3850 access layer switches, with dual power supplies, Power over Ethernet (PoE) on every port, 4x10Gigabit backbone ports and Gigabit access port speeds.

9.3. WIRELESS LOCAL AREA NETWORK (WLAN)

Current Environment

Providing ubiquitous wireless access for both employees and students has become an expectation that is challenging to maintain. In the Year 1 core upgrade, the District recently added a fault-tolerant pair of Cisco 8500 Wireless Access Controllers and is currently in the process of replacing all legacy Cisco Wireless Access Points (WAPs) and deploying additional WAPs to cover all instructional spaces. Our wireless network is configured for access serving both staff and faculty in a secure manner and serving students and guests of the College in a more open and accessible manner. In Year 3 the WLAN will be integrated with Public Key Infrastructure (PKI) and Cisco Identity Services Engine (ISE) to improve security.

9.3.1. MOBILE DEVICE MANAGEMENT (MDM)

The Instructional Computing team recently purchased the Meraki MDM solution, primarily for the management of the District's hundreds of instructional-use iPad tablets. It is now clear that a more robust solution that can support not only iPads but mobile Android and Windows devices as well as MacOS and BYOD devices will soon be necessary.

Future Plan

IT will continue to expand, where appropriate, the use of wireless technology for the staff and faculty that need to connect mobile devices to District resources and for students and public access users looking for Internet access. The use of MDM is bound to grow and the costs are currently unknown.

9.4. WIDE AREA NETWORK (WAN)

The District's WAN connects the five major geographic locations of the District to each other and the Internet. The WAN is comprised of circuits provided by AT&T and Comcast. The majority of these circuits are funded by CENIC (the Corporation for Education Network Initiatives in California). The one exception is the Southwest Center, which is currently being leased and therefore is ineligible for CENIC funding.

9.4.1. INTERNET CONNECTIVITY

Internet connectivity is provided exclusively by CENIC via a 10 Gigabit (10,000 Mb per second) AT&T DecaMAN connection from Santa Rosa to San Francisco and a 1 Gigabit (1,000 Mbps) Comcast Enterprise Fiber connection from the Petaluma Campus to Oakland, for failover. Both primary and backup circuits terminate on District premises in CENIC owned and managed Cisco 9K routers. The Petaluma to Oakland circuit is scheduled for an upgrade to 10 Gigabit in Spring 2017. All remote sites connect to Santa Rosa to access the Internet and cloud services.

9.4.2. CORE SITE-TO-SITE CONNECTIONS

The Petaluma Campus connects to the Santa Rosa Campus with a Comcast Enterprise Gigabit connection and a backup AT&T T1 (1.5Mbps) for failover. The Public Safety Training Center (PSTC) connects to the Santa Rosa Campus with a 1Gb AT&T GigaMAN and a backup T1 for failover. Shone Farm connects to the Santa Rosa Campus with a 1Gb AT&T GigaMAN circuit. Southwest Center connects using Comcast Enterprise 100Mb service to the Santa Rosa Campus. The Petaluma to Santa Rosa Comcast circuit is scheduled for an upgrade to 10 Gigabit in Spring 2017.

Future Plan

As services continue to move to a cloud-hosted paradigm, more attention to a robust and resilient network environment becomes critical. With this in mind, both higher speeds and carrier-diverse, multiple network paths are desirable. Campus to campus connectivity with traditional carriers (AT&T and Comcast) should be upgraded from gigabit speeds to 10 Gig and beyond as needed. Copper based back-up circuits should be replaced with diverse and scalable fiber-optic connections to every campus. One possible scenario to provide this level of service would be the purchase of a 20-year, Indefeasible Right of Use (IRU) dark-fiber network, to connect all District sites.

Strategies and Resources

The District works with CENIC to maintain the WAN connections at all locations except the Southwest Center, since the site is being leased. The current monthly cost for the 100Mb connection is $1,250 per Month or $15K annually. Increasing the existing circuit to a 1Gb would push the cost to $2,000 per Month or $24K annually. The cost of an IRU is being researched but at this time it appears unlikely that the District will have such an agreement in place within the five-year life of this plan.

9.5. STORAGE AREA NETWORK (SAN) AND BACKUP

Current Environment

The District's two Nimble storage arrays are configured as replica partners, with one residing in Santa Rosa and one in Petaluma. Replication means that the active data on one is copied to the other (and vice versa) at intervals we have established. Each virtual server and its corresponding data is placed into a storage volume depending on the level of critical importance. How important one service or data set is compared to another is determined by several factors which include the frequency of data change and the scope of the service (i.e. is it Districtwide or department-specific.) The replication intervals (also known as protection profiles) have been classified into the following categories:

Platinum:

- Snapshot & replication every hour (24 times per day).
- Retain hourly snaps (48 snaps, 2 days' worth).
- Retain daily snaps (30 snaps, 30 days' worth).
- Retain weekly snaps (52 snaps, 52 weeks' worth).

Gold

- Snapshot & replication every 6 hours (4 times per day).
- Retain “6 hour” snaps (8 snaps, 2 days’ worth).
- Retain daily snaps (30 snaps, 30 days’ worth).
- Retain weekly snaps (52 snaps, 52 weeks’ worth).

Silver

- Snapshot & replication every 12 hours (2 times per day).
- Retain “12 hour” snaps (4 snaps, 2 days’ worth).
- Retain daily snaps (30 snaps, 30 days’ worth).

Bronze

- Snapshot & replication every 24 hours (1 time per day).
- Retain daily snaps (30 snaps, 30 days’ worth).
- Retain weekly snaps (52 snaps, 52 weeks’ worth).

The District is currently researching enterprise class Datacenter Backup and Disaster Recovery (DR) tools. To date we have evaluated offerings from Veeam and Zerto with plans to look at Commvault in the near future.

Future Plan

Our initial research puts the annual cost of enterprise class DR in the $50K to $100K range annually. Since the District has never had this service this is currently unbudgeted. As we continue to grow our virtual environment, storage requirements will move away from SAN technology and towards the virtual environment. We will investigate the feasibility and cost of cloud backup solutions where it is deemed appropriate.

9.6. Institutional Servers: Current Environment

In Year 1 of our three-year infrastructure refresh project, the District purchased two Cisco Unified Computing System (Cisco UCS) B-Series Virtual Server Chassis. We recently purchased additional resources for those systems to increase their capacity. These have been deployed in the Datacenters of the Santa Rosa and Petaluma Campuses to improve fault tolerance and recoverability of our core data system servers. The College now has

more than 90 virtual servers running the Windows and Linux operating systems in the new, mirrored, Cisco UCS/Nimble SAN/VMWare environment.

In addition to the new Cisco UCS virtual server environment, the District will continue to maintain its legacy stand-alone servers and virtual-server environment. Some systems may never be virtualized. With the exception of those systems, we anticipate that by January of 2018, all production servers will be migrated to the new, mirrored, UCS/Nimble platform.

Future Plan

Current trends in higher education are moving away from premise-based IT systems and toward cloud-based resources. Both Software as a Service (SaaS) and Infrastructure as a Service (IaaS) are currently in use and will grow for the foreseeable future. The District has moved to SaaS systems such as Microsoft's O365 cloud-based email and productivity tools and has also has recently purchased SaaS systems for outreach, discipline, procurement and event management. At the state level, the Chancellor's Office has purchased Canvas, as an SaaS-based Learning Management System (LMS) for the entire California Community College system. The District has also begun using IaaS. We moved from off-site storage of back-up disks and tapes, to the Amazon Glacier deep storage service for our long term archival storage of digital information and have begun a few pilot projects in the Microsoft Azure cloud.

Over the next year we will continue to migrate server systems away from stand-alone hardware and the legacy Hyper-V/HP SAN environment and into the Cisco UCS/Nimble platform.

The continued success of both our on-site and cloud-based virtualized servers is dependent on technical staff whom are trained and available to maintain and support the servers as well as the virtual environments. Our site-based virtual servers must get upgrades to the hardware, operating system software, and applications to remain reliable. We anticipate that the recently purchased on-site systems will last at least five years before needing to be replaced and that by then many of the systems currently housed on-site will have migrated to cloud-based datacenters.

Strategies and Resources

Having mirrored virtualized systems allows us to continuously analyze the performance of institutional servers.

Based on the system performance reports, we will continue to make upgrades and adjustments as necessary.

We will continue to evolve toward cloud-based software and infrastructure.

Purchase/replace an average of four host blades per year for the mirrored systems, two each at Santa Rosa and Petaluma Campuses: Estimated cost: $40,000 annually. (Hardware: $30,000, Software: $5,000, Labor $5,000.)

The need to constantly assess performance levels of the primary Student Services and Business Services server was a primary motivation for the migration to mirrored virtualized systems. There is a high expectation that performance will always be responsive to the demands of the institutional users. In order to provide this response, there has been, and will continue to be, appropriate resources applied to the primary administrative systems.

9.7. VOICE AND FAX NETWORKS

Current Environment

Santa Rosa Junior College utilizes a Cisco VoIP phone and voicemail system. Voice-over Internet Protocol (Voice-over IP, VoIP and IP telephony) is a group of technologies for the delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet. The Cisco system offers many advantages, including the utilization of existing network infrastructure (data and voice traffic over the same wires), offers high call clarity, the ability to move/add/change phones in-house without vendor support, ease of phone relocation by end-user, as well as all support handled by Network Technicians and the Telecom Technician. The Cisco Unity Connection voicemail system adds additional flexibility with its integration with the VoIP phone and SRJC email systems, providing a unified (single) inbox experience where voicemail routes to staff email accounts.

Additionally, the VoIP system offers many add-on application packages, such as Enhanced 911 (Cisco Emergency Responder), integration with emergency call towers, teleconferencing and emergency paging systems. Santa Rosa Junior College has implemented the Cisco Emergency Responder application, which provides the 911 Public Safety Access Points and onsite District Police with detailed information of the 911 caller, including building, floor location, phone number and phone description.

Future Plan

The Cisco Unified Communications Manager (VoIP Phone) and Cisco Unity Connection (voicemail) systems have now become the primary mechanism for managing voice communications. Both the Cisco phone and voicemail systems have been fully adopted and allow for a highly unified environment with our existing active directory, email and network infrastructure. The legacy Mitel phone and voicemail systems have been completely retired and removed from the District.

Emergency paging is a key component for emergency preparedness and should be implemented. The Santa Rosa Junior College has implemented a Singlewire, InformaCast paging system. Informacast is a full-featured emergency notification solution that enables District Police to reach an unlimited number of Cisco IP phones, speakers, and other devices with text and live, ad-hoc, pre-recorded, or text-to-speech audio. While the system has been installed, it still needs to be fully tested with the cooperation of District Police and Environmental Health & Safety.

IT has also initiated a project to add telephone handsets to all District teaching spaces (~200) to allow for improved communication between faculty and technical staff as well as emergency paging.

To provide a more seamless and unified video and teleconferencing experience, the IT and Media Services departments should evaluate the possible integration of Cisco voice/video systems.

Strategies and Resources

- Implement recently purchased paging system to allow emergency broadcast messages using VoIP phones and speakers.
- Expand network infrastructure to support IP speakers and VoIP telephones in classrooms for emergency paging.
- Install IP Speakers and VoIP handsets in all District teaching spaces.
- Integrate/upgrade with Media Services' Cisco teleconferencing systems to provide a more seamless and improved video and teleconferencing experience.
- Provide solution for off-campus phone users who need to utilize the District phone system while working remotely, on sabbatical, tele-worker, disability, etc. The Cisco Expressway pilot system is in place, but needs to be fully implemented and tested.

9.8. NETWORK SECURITY

9.8.1. FIREWALL

Current Environment

An HA pair of SonicWALL firewalls provides a hardware redundant solution with next generation features such as intrusion and threat prevention. The location of a backup Internet link to Petaluma requires that additional equipment be purchased to maintain the same level of security if this link becomes active in a failover situation. With the incredible expansion of mobile computing and increased demands for network access

from both employees and students with their own devices, as well as the increased threats that are currently resulting in data breaches at many of our neighboring districts, more robust security is necessary to ensure the privacy of protected information housed by our systems. Additional firewalls and security appliances are necessary to meet these security needs. The District also has concerns that SonicWALL, which was recently sold by Dell after the EMC merger, can no longer meet these needs. Recently, after a software upgrade of the SonicWALL system, unacceptable levels of latency forced us to roll-back to a less secure version of the software. It is clear that we cannot continue to place the security of the District on such a shaky security platform.

Future Plan

We are currently in conversations with two of the firewall market leaders, Cisco Systems, our preferred networking vendor, and Palo Alto Networks (PAN).

Palo Alto Networks was identified as the far and away leader in last year's Gartner Report. The majority of our neighboring districts and the entire CSU system also use PAN. The CSU Chancellors Office infrastructure team chose PAN after an extensive bake-off style competition in which PAN scored highest in both technical ability and ROI.

Strategies and Resources

- Complete evaluations and comparison testing of the Cisco and PAN solutions.
- Develop budgetary requirements for selected solution. This will be a substantial increase in current costs with annual cost over 10 years in the $50K to $100K per year range.
- Complete the procurement process.
- Obtain professional services to migrate our existing settings and develop policies built on user and application groups.
- Provide training for IT staff.
- Implement cut-over to new solution.

- Develop a testing and verification process

Source: Gartner (May 2016)

9.8.2. DATACENTER PHYSICAL SECURITY

Current Environment

The main District datacenter is housed in Bussman Hall. The CCure Keycard Access and video monitoring system provides monitored and logged physical access to the datacenter systems.

Future Plan

As our reliance on computers and access to sensitive data continues to grow, our need to protect the datacenter from unauthorized access continues to fall under stricter guidelines. These guidelines dictate accountability measures that serve to consistently authenticate, authorize, and account for daily operations in the secure environment. We will continue to evaluate the need to strengthen our physical defenses as well as our

cyber-security infrastructure to maintain the necessary levels of data security required for due diligence.

10. HELP DESK & SUPPORT SERVICES

Current Environment

ServiceDesk Plus, the IT's new ticketing software, was implemented in July 2016. Of the 100 available seats initially purchased, 76 have been occupied by staff from Information Technology and Media Services. Some of the key benefits identified with the new system include; streamlined communication with the customer, templated web forms, email notifications for customers and technicians. Since inception, a total of 909 tickets have been created, of which 757 have been closed.

The successful adoption of the software has generated interest from multiple departments, leading towards a single application for a majority of service requests. By the end of the Spring 2017 semester, Facilities, Distance Education, Disability Resources and Public Relations will be utilizing ServiceDesk Plus to manage the intake of service requests. The inclusion of these departments will require an increase in the number of technician seats by approximately 10. Aside from the initial setup costs, the annual cost per technician will be $145 per year.

Future Plan

The three big challenges facing this area are staffing, training, and technology. First, we need to increase the number of staff to provide dual coverage from 8 a.m. to 5 p.m., Monday through Friday. Second, we need to provide software and hardware training to the Help Desk staff so they deliver knowledgeable answers to end-user questions. Third, we need to provide new computers and software tools to improve the effectiveness of the Help Desk staff.

Strategies and Resources

Need to fairly share costs of ServiceDesk Plus across the District as new licenses are required and renewed annually.