

# **TECHNOLOGY VISION & MISSION**

## **Technology Vision Statement**

The Santa Cruz Valley Unified School District #35 Technology Program supports the district's vision, "Educate Everyone, Every Day." We provide the opportunity for students to utilize their technology skills to access, manipulate, integrate and communicate information.

Successful students of the 21st century will be able to utilize technology skills to locate and access critical information using a standards-based curriculum in all content areas to promote academic achievement and technology literacy in an evolving global environment.

Students and teachers will use technology resources, receive training, and participate in project-based learning to share with the district and community.

## **Technology Mission Statement**

Through technology literacy, students and teachers will experience successful learning every day and the technology program will promote academic achievement.

Santa Cruz Valley Unified School District #35 presents a strong commitment to promoting the integration of technology education for all students, staff and parents through the academic curriculum.

Santa Cruz Valley Unified School District #35 will support an environment that encourages standards-based learning by providing:

- Tech support personnel for installation and maintenance of hardware, software, and identification of network resources
- Support for integrating technology in the classrooms
- Teacher training in technology integration in the classrooms
- Implementing and supporting cutting-edge technological tools

The ultimate goal of technology education is to promote and support students who are confident, critical thinkers. Students will identify appropriate resources for the purpose of research by utilizing both online and hosted software programs. The use of technology is a key classroom component used to engage and meet the needs of our diverse student population and their learning styles. Teacher professional development is essential in the promotion of technology integration in the classroom. Technology provides efficient and effective communication amongst all district stakeholders through online resources.

## **Overview**

Developing a technology plan requires an overview of what services the Technology Department currently supports and what new services the District wishes to implement in the future.

Security of the hosted applications has become a high priority item for the upcoming year. Hosting and publishing our financial databases and asset inventory databases on the Internet makes our network ripe for attack from hackers on the outside. It is our recommendation that these content-sensitive databases be moved to the cloud and hosted by the companies who create and maintain these software packages as soon as possible to help avoid any further hacking attempts to the local network.

Moving these databases to the cloud will eliminate the need for purchasing local servers, will help to reduce the load on our backup services, reduce power requirements, decrease support needs, increase security significantly, and eliminate the concern of restoring services in a catastrophic event.

## **Security and Compliance**

Security has become its own separate category for yearly review. In the past security meant keeping just the data hosted on the local network safe from Malware and viruses. Now with the push of data into the cloud and the proliferation of hacking and phishing worldwide the emphasis now is on protecting the user's data both on the local network and the data hosted by the various applications used here in the cloud.

Hosting our databases locally and publishing their location publicly on the Internet draws attention to our hosted resources and has made our network more vulnerable to hackers from the outside. It is our recommendation that the databases that contain sensitive data be ported over to their cloud version as soon as possible to remove this threat to our staff and students personal data specifically and our local network in general.

Following an analysis of the Google Cloud environment, it was determined that a method of securing this cloud environment was necessary. After evaluating the tools available, it was our recommendation to implement Syscloud to monitor and remediate any document sharing that occurs outside of the district. This software package, implemented in September 2018, is monitored daily for any violations of district policy.

Social Media and Website Archiving for a response to open record laws was reviewed and a recommendation to implement a solution by PageFreezer is recommended. PageFreezer offers a complete solution for website, blog and social media archiving to meet open records compliance requirements. PageFreezer Software, Inc. is the sole source provider for social media open records compliance archiving in WARC format (ISO 28500:2009) which is the only acceptable file format for the long-term preservation of website & social media records according to NARA's Bulletin 2014-04, "Format Guidance for the Transfer of Permanent Electronic Records".

With ADA compliance for our web presence a concern, the district leveraged the services of Site-Improve to help identify areas of concern in our websites currently managed and hosted by SchoolWebmasters. We will use the data gathered from these analyses to negotiate terms with SchoolWebmasters for ADA compliance in the 2019-2020 school year.

## **Telephones, Printing, and Fax Lines**

Telephone services are hosted by the district and were purchased with the assistance of an E-Rate grant in 2012. Individual telephone handsets purchased by the district continue to be supported using district funds.

Approximately 40% of the current phones are analog. To complete a crossover to a digital telephone system these phones will need to be replaced.

Servers for the CISCO telephone system were replaced in the Fall of 2018 and the software was updated to Version 12.0.1. With the upgrade of this telephone backbone the district telephone system can anticipate an expected life of another 5 years.

The crossover from Windows based PCs to Chromebooks for staff necessitates a review of the printing capabilities of the Xerox machines purchased by the district. The Calabasas School successfully completed a pilot of a Chromebook compatible Xerox printer this year. Based on the results of that pilot it is recommended that each site be equipped with a Chromebook compatible Xerox printer when these printers are refreshed.

Fax lines for the school sites and District office were migrated from the analog domain to encrypted digital fax lines. These digital fax lines allow the district to choose up to 5 employees who can receive the fax and are saving paper costs by allowing staff to print out only those faxes that they deem worthy. In addition, these encrypted faxes are more secure than the previously used analog fax lines.

## **Core/Edge Switching, Routers and Firewalls**

Core switching refers to the main switch located at the center of each school. The role of this core switch is to accept and deliver data from all of the endpoints at each campus. As such, core switches are the heartbeat of each campus and must be as fast and as reliable as possible. The core switching at Rio Rico High School and Calabasas were replaced in the Fall of 2018. The core switching at Mt. View Elementary and San Cayetano are over 10 years old and are scheduled for replacement in the 2020-2021 E-Rate wave.

Edge switching refers to the switches located in each pod that connect back to the main core switch. The majority of our edge switching is reaching end-of-life support and will need refreshing in the 2020-2021 E-Rate wave. With the current year of E-Rate funding, we have begun the process of replacing the edge switching at the school sites.

An increase in Internet speed from 250 Mbps required an upgrade to the current firewall in the 2018-19 school year that protects the district from outside hackers and malware. This

firewall is projected to be replaced in the 2021-2022 school year when it is anticipated an increase in Internet access will be needed.

With the installation of the new 10 Gbps fiber network each of the 11 distinct district sites were outfitted with new routers to properly route these fiber connections. These connections are projected to be replaced no sooner than the 2023-2024 school year.

## **Internet**

Internet access is currently hosted by Simply Bits and was increased from a speed of 350 Megabits per second (Mbps) to 1 Gigabit per second (Gbps) or 1000 Mbps in the Fall of 2018. The 1 Gbps firewall that manages this connection was installed and licensed for 3 years. Using current usage statistics, we can expect this connection to be sufficient until the 2021-2022 school year at which point we will reevaluate and make recommendations for the hardware needed for an increase in speed.

## **Internet for Buses**

A mobile filtered and secure Internet connection needed for students travelling outside of the district by bus which allows **students who are travelling for sports and academic events to work outside of the district safely** was implemented in the 2018-2019 school year for sports teams travelling outside of the district. Using 2 T-Mobile hotspots that employ a CIPA qualified filter, up to 30 students at a time can access the Internet while travelling.

## **Local Network (Intranet)**

Conterra Ultra Broadband installed a new fiber backbone that connected 11 distinct sites in the district at a speed of 10 GBPs. Each site is connected using CISCO routers procured using E-Rate funds. This change in network topology brings complete equity of bandwidth to all sites and allows for a consolidation of resources in the future, saving the district in support costs. The entire cost of this construction project, \$1.1 million, was paid by grants received by The Universal Service Administrative Company (E-Rate) and a grant by the Arizona Broadband for Education Initiative.

## **Closed Circuit TV (CCTV)**

The district currently has one school, Rio Rico High School, with CCTV and that system is currently reaching end of life. In the Fall of 2017 quotes were obtained from ECD Systems, a state approved vendor under the Mohave contract, for the installation of CCTV at all sites. A summary of the quotes is below.

Mt. View Elementary	\$21,161.63
Calabasas School	\$41,909.71
San Cayetano Elementary	\$23,199.68
Rio Rico High School	\$94,410.76
Coatimundi Middle School	\$23,860.19
<b>Total</b>	<b>\$204,541.97</b>

## **Intercoms**

Intercoms at Mt. View Elementary, San Cayetano Elementary, and Rio Rico High School are end-of-life for support.

The Intercom at Calabasas was replaced with a digital internet-based system in the Fall of 2018. This allows for the control of the intercom from any computer connected to the district network. It is the recommendation that similar systems be installed at the sites listed above.

The most recent estimates for replacing the head ends at each site are as quoted below.

Mt. View Elementary	\$35,000
San Cayetano Elementary	\$35,000
Rio Rico High School	\$45,000
<b>Total</b>	<b>\$115,000</b>

## **Mobile CCTV for Buses**

A need for surveillance footage as expressed by several site principals this year. The district has piloted an inexpensive solution using dashcams as video recorders in both the front and back of the bus. The district currently owns 45 buses. To outfit all of the district buses with this solution would cost \$6,500.

## **Servers and Applications**

Bandwidth restrictions between our three campuses in the past required a diversification of resources such as print servers, application servers, user data servers, and backup servers between these campuses. One benefit of the current project to upgrade to bandwidth connection between these campuses is that these services once diversified in the past can now be centralized in one location instead of three. The overall trend for the next 3 years is to decommission and migrate the database servers to the cloud and to consolidate all remaining services at the server room at Rio Rico High reducing the number of outlying servers at each of the 3 campuses. The cost to run these servers will drop by a factor of three and help to justify the increased cost of moving some of the hosted applications to the cloud.

### **Mealtime CLM**

Mealtime CLM, the food service database, reached end-of-support for the hosted version this year. It is our recommendation that Mealtime CLM, used for Food Service Point-of-Sales, be migrated to the cloud for the 2019-20 school year. Benefits for using the cloud version of Mealtime versus the locally hosted version are:

- No user-software to install, no updates to worry about, no desktops to maintain.
- Gives you the ability to quickly set up a rogue serving station for overflow or for a special event.
- MealTime mPower enables any device with a web browser to be added to the system quickly including low cost devices such as Chromebooks.
- Gives the managers the ability to access reports in the system from home, or while travelling off-site.
- Real-time updates for POS and online transactions.
- No need to backup onsite. Auditors will appreciate the fact that data is not warehoused on-site. Provides an always-up database that is impervious to hacking.

### **Tyler Visions**

The server hosting Tyler Visions, used for district accounting, reached the end of factory warranty in the 2016-2017 school year. Extended warranties were purchased in each of the last 2 school years. It is recommended that the current Tyler Visions software package be ported over to the Tyler Technologies cloud-based version which will result in increased security, faster recovery time in the case of a cyber-security incident, savings of the purchase of a new server, the installation of the software, and the maintenance of the backup Tyler server.

### **Follett Destiny**

It is our recommendation that this database which houses the inventory asset records for the district be moved to the cloud version hosted by Follett which will result in increased security, faster recovery time in the case of a cyber-security incident, savings of the purchase of a new server, and the installation and maintenance of new software.

### **Application Server**

We currently have three application servers used to host user mapped drives. All three of these servers are over 5 years old and have reached the end of their usable life.

The current Conterra Intranet upgrade project allows these user folders to be mapped to a single server to be hosted at the main server room at Rio Rico High School. Upon the approval to move Visions and Destiny to the Cloud one of these servers will be used to replace the server hosting the X-files and the other applications hosted on the current servers.

### **Backups**

A Dell Tape Backup that is 9 years old and is reaching end of life currently handles backups of the data stored on the network. Upon approval to move the Financial and Library databases to the Cloud the remaining files hosted on the network will continue to use this backup solution for the 2019-2020 school year as we explore options for backing up this data to a cloud-based backup solution.

### **User Devices**

The district added an approximately 400 new Chromebooks and 15 additional Windows PCs this year. During the 2018-2019 School year, 10 Chromebook carts (\$ about \$87,000) were purchased from the CTML budget for instruction. An additional \$10,000 was invested in updating computers for non instructional purposes. For the 2019-2020 school year, \$35,000 will be purchased from the CTML budget for instruction. An additional \$10,000 will be invested in updating computers for non instructional purposes

Currently the district hosts approximately 1400 Chrome active devices and 1450 active Windows machines. A Windows Deployment Server (WDS) is being currently being piloted with a deployment date of Summer 2019 that will allow for the conversion from Windows 7 to Windows 10 at the desktop of the user.

## Timeline Summary

Project	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
<b>CISCO Phone Upgrade</b>	Ongoing	through	the	year	2023
<b>Telephones</b>	Ongoing	through	2022		
<b>Core Switch RRHS</b>	Completed Fall 2018	Ongoing	through	year	2023
<b>Core Switch Calabasas</b>	Completed Fall 2018	Ongoing	through	2023	
<b>Core Switch Mt. View</b>			2020/21 E-Rate		
<b>Core Switch San Cayetano</b>			2020/21 E-Rate		
<b>Core Switch Coatimundi</b>			2020/21 E-Rate		
<b>Edge Switching</b>		2019/20 E-Rate	Ongoing through 2020/21		
<b>Firewall Upgrade</b>	Completed Fall 2018	Valid	through 2021		
<b>Internet for Buses</b>	District funded	District funded			
<b>Intercoms</b>	Calabasas replaced Fall 2018	2018/19 District funded	2020/21 District funded		
<b>Mobile CCTV for Buses</b>	2018/19 District funded	2018/19 District funded			
<b>Application Server</b>	District funded	District funded			
<b>Visions - Tyler Server</b>	District funded	Cloud Migration			
<b>Mealtime</b>	District funded	Cloud Migration			
<b>Follett Destiny</b>	District funded	Cloud Migration			