Technology Services Department Plan
Firebaugh-Las Deltas Unified School District
July 1, 2017 - June 30, 2020

County Name:	Fresno County
District Name:	Firebaugh-Las Deltas Unified School District
CDS Code:	10-79809
District Phone Number	(559) 659-1476
Ed Tech Plan Contact Name:	Manuel Perez
Contact Title:	Director of Technology
Contact Address:	1976 Morris Kyle Drive
Contact City, State, Zip:	Firebaugh, CA, 93622
Contact Phone Number:	(559) 659-1145 x 1308
Contact FAX:	(559) 659-2355
Contact Email:	mperez@fldusd.org

Introduction

This document contains the Technology Services Department Plan. The plan is a three-year plan that would shape the direction of the department as the technology expands within the district. The goal of the Plan is to provide recommendations for improvements to the Firebaugh-Las Deltas Unified School District Technology Department and the District's overall Technology Presence in the classrooms and Workspaces. This plan includes different areas from throughout the District.

The Technology Plan was developed by gathering feedback from many of the district's stakeholders.

The Stakeholders include:

Director of Educational Services	Debie Wood
Firebaugh High School Technology Committee	Gerrett Suarez
Maintenance, Operations and Transportation	Danny Barragan, Ruben Rangel and Adriana Ruiz
Food Services Supervisor	Debby Anderson
Safety, Security and Administrative Services	Terry Anderson

Planning and Implementation

In order to ensure that Technology Services can be more a Customer Relations team instead of a Customer Service team, it is critical that the department is included in all project planning. Because so much revolves around technology it is key that we can ensure functionality and compatibility with all areas. Networks are now the platform for computers, wireless devices, paging, telecom, video, curriculum, surveillance, energy management, building automation, system control, mission-critical application, Audio Video peripherals, door access control, and so much more.

Because a large footprint of our curriculum revolves around technology, the District will work closely with the Technology Services Department to ensure that a proper plan is thought out between all potential stakeholders of the project. This will ensure that all areas are planned out and all perspectives are taken into consideration.

This includes training on hardware and software. If we purchase hardware and or software, then we need to ensure that training is provided for the staff that will be using it. If the users will be teachers, then we want to ensure that we can have training provided by the vendor for certain staff that can turn around and train teachers. This will ensure that hardware and or software is just not sitting without being used.

Technology Support

In previous years the Previous Technology Plans called for more support. The Technology Services Department has increased with the Director of Technology to oversee the department and the hiring of a full time Computer Technician as well as a Network Engineer. The Team is capable of handling multiple projects and day to day tasks as well as future planning.

Student Assistance

In a way to increase the knowledge of students that are interested in Technology, we have worked with the District Migrant program to allow students to participate with the Summer Work Program. These student workers are given guidance by the Technology Services Department to perform certain tasks. These tasks consist of Infrastructure Distribution (IDF) Closet maintenance and documenting. Students could also help with Computer Lab/Cart re-imaging and documentation.

We would hold interviews for the screened candidates and choose up to two that are looking to participate. We could use money from our budget to pay the students or offer some kind of payment if needed.

Work Order Process

We have been utilizing one person or liaison per school site over the years. I have created a group email address that have a group of users in them per school site. This allows the entire group to receive updates about a work order instead of one particular person. We will also be working to restructure the process in the Technology Services Department.

I have created an extension of 1380 which all staff can use to reach the Help Desk. This will ensure that if a person doesn't want to leave a voicemail about their issue then as long as someone is in the office, we will be able to get the call or messages.

There needs to be a refresher course that could be given to staff at the beginning of the school year to go over the Work Order Process and ways to get help when needed. A lot of the documentation is available on the District Website under Technology Services.

Erate

We have begun planning and working closely with consultants to evaluate hardware. We will be working to develop a plan that will allow us to use the remainder of the Erate funds available to upgrade a large portion of the cabling within the district. This would include testing and rerunning fiber optic cabling where needed as well as upgrading from CAT5 to CAT6 on cabling and Patch Panels.
If we can utilize Erate and District Funds to upgrade a small portion of the network infrastructure this year. If Erate is still functioning for the 2019-2020 school year, we can work on upgrading the phone system and other areas that are in need of upgrading.

Network Support

With the expansion of technology in the district over the years we have come a long way. We have been working to stay on top of network issues as they occur. Because there is so much that relies on the network today, we have to ensure that there is enough coverage and bandwidth for the multiple devices. These devices include Computers, Laptops, Mobile Devices, Smartphones, Tablets, Thermostats, Copiers, Printers, Projectors, Televisions, Light Automation.

Network Infrastructure Upgrade and Documentation

With the growth of the devices on the network which consist of Security Cameras and Wireless Devices, we need to consider upgrading our Network Infrastructure. The entire district is at least 1 Gigabit from the Desktop to the Internet. The Bottlenecks are located at each of our Infrastructure Distribution Facility Closet (IDF). Each IDF connects multiple devices such as desktops, Wireless Access Points and Laptops to the Main Distribution Facility Closet (MDF) at each school site.
My recommendation is to upgrade the Fiber Optic runs that go from each IDF to the MDF at each School Site. The upgrade speed would be to at least 10 Gigabits with Extra Fiber to support future upgrades as needed. The cost for these upgrades are TBD and the planning for these upgrades has begun. The plan is to implement these upgrades during the Summer of 2017-18 or the Summer of 2018-19.

We have been working to identify and document the entire Network. This helps the Technology Services Department with troubleshooting issues as they occur. A lot of changes have been made to make the network easier to manage and troubleshoot. We are also using the Network Documentation to work with Vendors to identify possible solutions and proposals to implement to increase the performance.

Phone System

A major role in the Network and Infrastructure Documentation is the Phone System. We have been managing users and their extensions in the Call Directory so it is easier to find a user in the Phone Directory.

By the year 2019 Erate will cut their percentage of funding for Long Distance Category I Services meaning that the District will have to commit to the complete funding of all phone services. To document a lot of the phone services that we provide, I have worked to eliminate all unneeded Direct In Dial Numbers that are not being used.

We will work to eliminate unnecessary Direct Inbound Dial numbers and long distance calls.

Teacher/Student Technology Devices

Student Laptops

The growth of technology in the district has been amazing. One of the disadvantages that our students in secondary grades are encountering is that the technology that they are using does not prepare them for a Career. By slowly migrating the High School Senior Class Chromebook Carts over to Windows Laptop Carts, students will become ready for careers by utilizing technology that is used in the Workforce.

Windows Laptops have come down in price and the management is just as easy as the Chromebook management if not easier. We can ensure that devices are managed from a central server and policies are enforced from the Server. I plan to Pilot this program at the High School at the beginning of the Fall Semester.

We will begin phasing in Windows Laptops in the High School and continue to use Chromebooks in the other schools. The plan would be to purchase at least 2 carts worth of devices per school so that we can ensure we are not making a very large purchase when we have an outage. This will allow us to phase out about 450 devices per year.

Chromebook/Laptop Carts

The Chromebook/Laptop Carts in the district have been in place since the first use of the carts when we purchased Apple iBooks. Some of the carts are not functioning correctly and the plan is phase out carts that are older than 10 years. We will continue to evaluate the carts and make decisions as needed but the plan would be to purchase carts on a cycle so we don't have to make a large purchase all at once.

Teacher Display Devices/Interactive Devices/Software

Standard Teaching Devices and Software

The following items are a series of items provided by the district to Teachers for instruction. Teachers are required to use the following items while on campus and if other items are required, then the teacher can coordinate with their site admins.

1 - Windows 10 Professional Laptop
- Intel i5 or i7 Processor
- 4GB-8GB of Memory
- 256GB SSD
- Software Include:
  - Microsoft Office Suite
  - Google Drive File Stream
  - Adobe Acrobat
  - Trend Micro Antivirus
  - SmartBoard Interactive Software
  - Classflow Software

1 - Projector/Interactive Panel/Television
- See below about Interactive Panels and LED Televisions.

We will evaluate the status of staff laptops and work to cycle out 40 per school year.

Promethean Interactive Panels

We are working to upgrade more of the classrooms at both Bailey and Mills with Promethean Interactive Panels. With the purchase of the 10 that we did in 2017, I feel that it was an excellent investment and teachers and staff love them. We included training when we purchased the first 5 and at the beginning of this 2017-2018 school year we had the training for all teachers that currently had the Promethean. We included Academic Coaches in the training so that we can have them help with training in the future.

We will continue to roll out Prometheans on an annual basis until all Projectors are gone. The cost for 10 Prometheans is about $40,000.

70" Promethean Interactive Monitor: $4,500 Mount and Cables: $50 **Total Costs per Classroom: $4,550**	77" Interactive Whiteboard: $2,099 Projector: $1,799 Mount and Cables: $450 Additional Bulbs for 3 Years: $1,000 **Total Costs per Classroom: $5,348**

LED Televisions

We have begun using LED TV's in secondary classrooms as well as some Middle School classrooms with Prometheans. We have gotten feedback from staff members that some teachers do not use their Interactive Boards for anything other than a projector. This makes it difficult to support the large amount of classrooms that still have projectors and the replacement of bulbs. Some classrooms will go through 2 bulbs per year where others will go through 1 bulb per year.

70" LED TV Cost: $1,100 Mount and Cables: $70 **Total Costs per Classroom: $1,170**	77" Interactive Whiteboard: $2,099 Projector: $1,799 Mount and Cables: $450 Additional Bulbs for 3 Years: $1,000 **Total Costs per Classroom: $5,348**

Webpage

We have updated to the new District Webpage which has been a work in progress. Information has been made available on the websites for the public and the staff have been updating the sites.

The next goal would be to hire a Webmaster that can perform updates on a regular basis and ensure that the sites are being maintained. This could be an external position that could be compensated with a Stipend.

Campus Safety and Security

Intercom

I realized that the network is not redundant enough to accommodate the use of IP technology for Intercom. In order to ensure functionality during a network outage we will use The Bogen Quantum Intercom System. The Bogen Quantum is an analog based system that allows the ease of programming through a web interface. Office Staff will be trained on how to make changes to bell schedules.

By utilizing an analog system, if the network or phone system goes down for any reason, the analog uses a direct path from the speaker itself to the Paging System. In order to ensure redundancy or

reliability, we will be using a Battery Backup unit that should keep the Paging System up and running for up to 1 hour.

This does require the removal of the old Dukane Intercom System. The old system is reliable, but it's difficult to make changes to Bell Schedules or even ensure accurate time. The price to upgrade to a new Bogen Quantum is estimated around $25,000 per school site. We replaced the system at Mills School already and will be replacing the one at the High School before December of 2017.

I intend on upgrading the system at Bailey during the summer of 2018, which will include the Preschool. I plan to upgrade Firebaugh Middle School's intercom next year, and I would like to add a system to FACE and MOT to ensure safety for the students and staff.

Security Cameras

With the movement to Network driven Security Cameras, we have come to realize that devices need to be maintained and upgraded as needed. In order to extend the life of the Security Cameras, and devices will be checked monthly by Technology Services for issues. Any issues identified will be logged and reported to Security Camera Integrator for support. If issues can be resolved by local support, then they will be resolved. If issues cannot be resolved locally, then we will have to utilize the support from the Integrator.

Cameras will be cleaned and serviced every 6 months or as needed. This will ensure proper viewing of the cameras are recorded. This will be performed by the Security Camera Integrator. If issues can be resolved by local support, then we will perform them.

Because the servers that are holding the video are getting older, we are encountering issues. We are working with some vendors to identify some possible solutions and the costs. One thought would be to move away from cameras that send video to a recorder and could actually record the data itself. This would cut the cost of having a Server that fails every five years and going to a cloud based system. The video would be stored and retrieved directly from the camera.

Data Support

The Technology Services Department does not have enough staff to support the current Data requests. We have been able to work with our District Staff. We occasionally get requests for Aeries and other Third Party implementation with outside software vendors. To ensure the security and privacy of the student data that is housed in these multiple systems, we have developed a Third Party Data Vendor Statement of Compliance. This Compliance policy is to ensure that any vendors we work with that want to access Aeries, meet a set of security standards.

We will work with Staff to develop a set of procedures and policies that are needed to ensure that data is being stored directly. If we can get all departments on the same plan on the use of data then it would make the data that much cleaner and user friendly.

Vendors should meet certain standards when working with Student Information. By ensuring that vendors meet the requirements we can secure the student's and staff's information and protect it from outside threats.

District and Student Communication

The District would like to increase its Parent and Student Engagement, according to the District LCAP. There are many ways to increase this. One way is to look at the way we are currently engaging the students and parents and gather the data on efficiency. The District is currently using Blackboard Connect and there are other solutions that allow more functionality for about the same cost as Blackboard.

Studies have show that people are more likely to read and respond to a MMS Text Message than responding or answering a phone call. There are systems that can integrate with our current Student Information System and send out alerts and messages multiple ways. The benefits of this type of program would allow Teachers to contact parents and students securely. This would not only protect the Parent's and Student's personal contact information but the Teacher's contact information. All information and logs of messages are recorded for any security reasons.

This would increase our Involvement Process with Parents and Students. This would benefit the district by removing Long Distance Calls from within the classroom.

Cybersecurity

We are working with TAPD (Technical Assistance & Professional Development) to setup a Cybersecurity Task Force for the District. This would allow us to train a group of staff and familiarize them with Cybersecurity and threat prevention. If the staff that we identify are teachers or are capable of training other teachers then we can identify ways to train other staff and teachers. This makes it so that the more that staff are aware then we can prevent breakouts of Security Threats that can affect the district.

To ensure the security of Administrative Staff we will be creating Virtual Private Network (VPN) accounts. When Admin Staff are accessing WiFi in public locations or at home, they can connect to the VPN and have additional layers of security to ensure that data is not compromised.

Archived Files

We have been evaluating the purchase of a system that would allow us to Archive a lot of the old files that are sitting in Storage boxes and rooms. This will allow us to keep a closer eye on the management of files that are stored. A large portion of the files will be scanned and uploaded to a File Repository so that if a disaster occurs the files will be safe.

The main objective is to look at cutting down the amount of forms that we take in and change the process. Forms will now be accessible online and signed electronically. This will allow us to cut down on the paper that we are keeping and still keep for Archiving purposes. Once we begin to change our process from paper to electronic, then we can work to scan and Archive all of our physical documents.

We are still evaluating vendors and plan to implement this in the late Spring of 2018.

Department Outreach

In order to ensure the Technology Services Department Plan works, we included the feedback and needs of some of the other departments.

Below you will see feedback from those departments and how we plan to meet those needs.

Food Services

Over the years Food Services has been performing inventory for their food items by pen and paper and the chance of error is there. We can reduce the chance of error by training staff to use iPads and tie into an online database that would keep track of the inventory. This database can be kept in the Google Cloud to ensure redundancy and can be shared with the necessary stakeholders. The stakeholders can then receive an inventory update immediately and then run reports as needed.
By working to improve the technology in Food Services, we can make the department run efficiently.

Maintenance, Operations and Transportation

We have worked to improve the Work Order Process with the Maintenance Staff. By providing them Chromebooks that they can easily use to input and update Work Orders it makes them proficient at maintaining the District.
The MOT Department is looking for a way to track the maintenance on a specified Bus or Vehicle. By utilizing the Asset Management System, we can have the Mechanic receive Work Orders for requests for Maintenance on a vehicle and then input the costs in the Asset Management System.

Conclusion

The Technology Plan is an effective way for us to setup a plan that works for the entire District. Without the input from certain departments, it makes it difficult to plan accordingly. If the Technology Services Department can be included in future planning and proposals that could at anytime be Technology Related then it would help ensure that the District is capable or can plan accordingly to implement the proposals to come. Without the involvement of the Technology Department in planning and proposals it would be a grave mistake and would cost more in the long run.

Appendix


Google
MEALTIME
mPOWER
illuminate
EDUCATION INCORPORATED
Follett
CCGI
CALIFORNIA COLLEGE
GUIDANCE INITIATIVE
Aeries
Student Information System
Blackboard
connect
SSICA
California Department of Education
CALPADS
California Longitudinal Pupil Achievement Data System