

# Final Draft Five Year RSF Technology Plan Spring 2019



# Contributors

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# Objectives



# Objectives cont.

- Maintain state of the art equipment and services for students and staff.
- Maintain 1 to 1 devices for grades K-8.
- Maintain and further excellence in the areas of digitally enhanced learning and instruction.
- Establish more predictable costs over time.

# Major Components of RSF Technology Programs and Services

- Devices
- Educational Software
- Data and Assessment Platforms
- Collaboration Platforms
- Support for Specialized Programs
- Data Processing and Print Services
- Infrastructure

# Devices

## Devices- Major Components

- 1 to 1 Devices
- Classroom Desktops
- Lab Desktops
- Staff Desktops

# 1 to 1 Devices

- Refresh will likely be required in 2021 or 2022.
- Educational standard for 1 to 1 device refresh is three to five years.

# Classroom Desktop Devices

- The role of classroom desktops is undergoing evaluation by leadership and faculty.



# Lab Desktop Devices

- No anticipated procurement for four to six years.
- Common school refresh rates for desktop devices is five to seven years.

# Staff Desktop Devices

- No anticipated procurement for four to six years.
- Common school refresh of desktop devices is five to seven years depending on educational requirements and changes in technology.

# Educational Software

## Educational Software- Major Components

- Personalized Learning
- Specialized Programs
- iOS Apps
- Online research resources, eBooks, and digital instructional resources.

# Personalized Learning Software

- Continue with iReady deployment for assessment and personalized learning in Reading and Math.
- Continue with STMath subscription.

# Support for Specialized Programs (Robotics, Science, and Engineering)

- Continue to maintain 36 Windows™ workstations (running from dual boot on Macintosh machines) for Engineering and Robotics titles and equipment.
- Continue to maintain 20 workstations for science titles and Pasco™ probeware.
- Further develop and continue STEM enrichment for Elementary School.

# iOS (iPad) Apps

- Some of the initial set of apps procured six years ago are still being used. No recurring cost.
- Continue to phase out all single skill and single utility apps in favor of more comprehensive ones that provide progress monitoring year over year.
- Anticipated cost for iOS apps is nominal for the foreseeable future.

# Online Research Resources, eBooks, and Digital Subscriptions

- Continue to leverage Khan Academy and other similar free digital instructional resources.
- Continue No Red Ink, Read and Write for Google, and Brain Pop subscriptions.

# Data and Assessment Platforms

- All current and future devices are compatible with SBAC testing.
- Continue to leverage iReady built-in assessments.
- Continue to renew Illuminate DNA subscription for all student assessment data tracking, reporting, warehousing, and custom assessment generation.



# Collaboration Platforms

- Continue to renew Canvas LMS subscription agreement for grades 5-8 for at least two more years.
- Evaluate Google Classroom™, Apple School™, Schoology™ and other products in the LMS market as potential replacements for Canvas.
- Continue to leverage the free G-Suite for Education™ as the content generation, storage, and collaboration engine for the foreseeable future.
- Continue to leverage free Apple Classroom™ for appropriate instruction on digital devices.

# Data Processing and Print Services

- Continue to to renew Illuminate Student Information System subscription for operational requirements in the foreseeable future.
- Continue to leverage SDCOE's PeopleSoft suite for operational requirements for in the foreseeable future.
- We are in year two of our five year copiers lease. Continue shifting medium and large print jobs from classroom printers to networked copiers.
- For Summer 2019, we recommend the surplus of all ~80 printers of ~15 different models and replacing them with 30 shared printers, all the same model, with modern toner management and wireless functionality.
- Renew Jamf Mobile Device Management and Follett asset control system subscription agreements for the foreseeable future.

# Infrastructure

## Major Infrastructure Components

- Network (LAN)
- Network (WAN)
- Firewall, Routing, and Filtering
- Classroom Audio Visual Systems
- Public Address System
- Telephone System
- Fire Alarm System
- Security System
- Security Camera System
- HVAC Controls
- Performing Arts Center Systems
- Server Architecture

# Infrastructure- Network (LAN)

- Wired backbone was replaced site-wide during 2017-18 school year. Wi-Fi replacements for buildings 200, 400 east, 500, and 600 were completed during the 2017-18 school year.
- Replacement of all re-purposed Cisco classroom switches from old facility were completed Summer 2018.
- Remaining Wi-Fi replacements for buildings 100, 300, 400 west, and 700 were completed Summer 2018.
- Complete network upgrade to Meraki gear completed in Summer 2018 to deliver 10 Gbps between buildings and 1 Gbps wired and wireless to each node within the buildings.
- No additional procurement anticipated for eight to ten years.
- Wiring site-wide is in good shape (installed new during construction in 2010).

# Infrastructure- Network (WAN)

- Current connection to the Internet is 600 Mbps ASE (AT&T Switched Ethernet) under the CALNET3 contract for government agencies. It's the fastest AT&T can provide to our site.
- We are bid for this service under E-Rate during the 2018-19 school year and awarded the bid to AT&T for our existing service. We will soon see a 40% reduction in the annual cost of the Internet circuit. SDCOE provides the ISP aspect of the service at no cost.
- The RSF Association is in the process of connecting our site to the new community fiber infrastructure. We plan to leverage that service when it comes online.

# Firewall, Routing, and Filtering

- Firewall: The 2018-19 school year will be the third and final year of our initial Fortigate™ advanced firewall contract. The district will then own the device and will switch to annual subscription renewals beginning in fiscal 2019-20.
- Routing: Continue to leverage Fortigate™ built-in router.
- Filtering: Continue with iBoss™ enterprise filter
- E-mail filtering: Continue with Barracuda™ annual subscription.

# Infrastructure- Classroom Audio Visual Systems Plan Summary

- Our classrooms are currently equipped with state-of-the-art AV systems.
- Smart Board Hitachi projectors procured in 2011 were at end of life due to a failure in the electronics that is not repairable. In Summer 2018 they were replaced with Epson Brightlink 697ui with a three year warranty.
- No other significant procurement for AV systems is anticipated in the foreseeable future.

# Infrastructure- Public Address System

- Existing main PA rack was re-purposed from the old facility.
- Satellite racks in each building were procured for the new facility.
- Parts are no longer available for any portion of the system.
- UPS batteries for PA will need replacement over the next two years at nominal cost.
- System appears to be in good order. No anticipated procurement for PA system while it remains operational.



# Infrastructure- Telephone System

- Existing PBX, replaced in 2009, is in good order. The desk phones, purchased in 2004, are holding up well.
- No anticipated procurement while system is operational.
- Existing voice circuit is AT&T Supertrunk under the CALNET3 contract for government agencies. It lacks features such as caller ID, DIDs (Direct Inward Dialing), and e911 (enhanced 911).

# Infrastructure- Fire Alarm System

- Installed new during construction.
- No anticipated procurement for foreseeable future.
- Routine annual testing performed.

# Infrastructure - Security System and Access Control

- Installed new during construction.
- No anticipated security system procurement for foreseeable future.
- Improved access control approved in March 2019. Installation is underway.

# Infrastructure - Security Camera System

- Procured during 2015-16 school year.
- A few additional cameras were recommended by the safety consultant.
- No significant procurement anticipated for foreseeable future.

# Infrastructure- Performing Arts Center Systems

- Lighting system in working order.
- Advanced training on lighting system for performing arts and technology staff set for Fall 2018 in order to reduce cost of consulting services for specific performances.
- Rigging system in working order.
- Wireless and wired microphone systems in working order.
- Amplified audio system is not fully functional. The system will be repaired in the summer of 2019.

# Infrastructure - Server Architecture

- In 2017-18 and 2018-19 we leveraged cloud-based solutions and virtualization to reduce our server count by half.
- In 2019-20 we will continue to reduce the number of on-premises servers toward a goal of relying almost completely on cloud-based solutions within two years.
- One on-premises server will be added for access control system in summer of 2019.

# Five Year Cost Schedule

Component	FY19-20	FY20-21	FY21-22	FY22-23	FY23-24	Total
Devices	\$8,000.00	\$8,000.00	\$320,000.00	\$8,000.00	\$98,000.00	\$442,000.00
Educational Software	\$49,500.00	\$49,500.00	\$49,500.00	\$49,500.00	\$49,500.00	\$247,500.00
Infrastructure	\$170,150.00	\$120,150.00	\$120,150.00	\$120,150.00	\$120,150.00	\$650,750.00
General Fund Reserves	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$100,000.00
Special Reserves (Tech)	\$110,000.00	\$110,000.00	-\$110,000.00	\$80,000.00	\$80,000.00	\$270,000.00
Offsets (Auction/Cost Recovery)	-	-	-\$80,000.00	-	-	-\$80,000.00
<b>Total</b>	<b>\$357,650.00</b>	<b>\$307,650.00</b>	<b>\$319,650.00</b>	<b>\$277,650.00</b>	<b>\$367,650.00</b>	<b>\$1,630,250.00</b>
<b>Special Reserves (Tech) Balance</b>	<b>\$110,000.00</b>	<b>\$220,000.00</b>	<b>\$110,000.00</b>	<b>\$190,000.00</b>	<b>\$270,000.00</b>	

See Handout

