

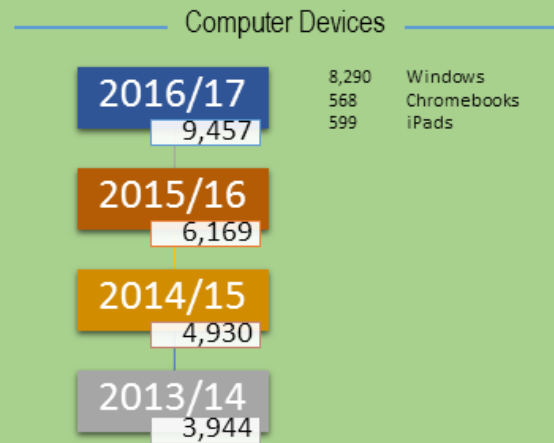
# Information Technology and Services Department

## 2016/17 Technology Overview

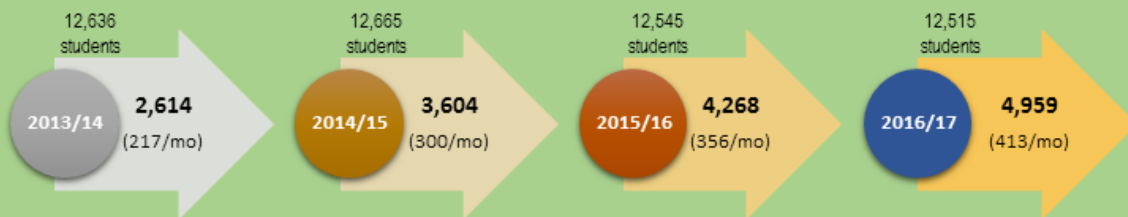


Devin Smith  
Director of Information Technology and Services

## 2016/17 Technology Overview



### Technology Incident and Request Tickets



### 2016/17 Technology Dashboard



### Educational Technology Training

44 applications and programs trained and supported  
179 hours of ITS-led instructional time

### Financial and CalPADS

500+ Reports Processed/Yr  
4 Years Running Data Management Recognition Certificate (from CDE and FCMAT)

## OVERVIEW

This report contains the ITS Director's annual technology summary and overview of the Information Technology and Services Department staff and general technology for Yuba City Unified School District (YCUSD). The overview includes the district's hardware infrastructure (servers and networks), staffing, software, applications, projects completed, and accomplishments.

The continual goals and objectives for the ITS Department include:

- Evaluate and analyze current systems, infrastructure, staffing, and service levels to recognize areas of improvement, set courses of action, and implement solutions.
- Review current and completed ITS projects to analyze and make improvements to ensure expectations are met or exceeded.
- Review technology and business continuity to ensure technology is aligned with the needs of all District staff, departments, and sites.

### Information Technology and Services Department (ITS) Staffing

The ITS team is a close knit and passionate group that strives to provide support the district, and to one another, to ensure the district runs effortlessly and efficiently. The staff breakdown is as follows:

Position	Staff Count
ITS Director	1
Network Specialist	1
Site Technicians (Tech I and II)	12
Network and Server Administrators (Tech III)	3
Educational Technology Specialist	1
Information Systems Operator	1
Databases, SIS, curriculum data silos, and software development	2
Mainframe and financial systems	1
State and federal reporting	1
Procurement/Clerk III	1

## Technology Summary and Overview

The following bullets represent the technology supported by the ITS department:

- 117 physical/virtual servers (in Datacenter).
- 9 physical ESX hosts containing 84 virtual machines (VM) on vSphere Enterprise 6. 5 of the ESX hosts are HP7000 chassis blades (5 blades, adding 3 more in 2017/18).
- Aeries student information system (SIS) and related databases, including custom written applications and tools.
- All District staff and students have access and can utilize Microsoft Office 365, Google G-Suite, and SharePoint (utilizing district login).
- Backup and disaster recovery systems and procedures for file and application servers (both physical and virtual platforms). Software utilized:
  - SQL Management Studio for SQL backups
  - Robocopy (was Cobian) for staff profiles (from local computers)
  - Veeam 8.0 for virtual machine backup with a 14 day window to a Nimble storage array
  - Nimble Appliance Snapshots (Daily, Weekly, Monthly)
- There are 2 Exchange mail servers for fail-over purposes. ActiveSync and OWA provided via https for security.
- AT&T Internet access connection with fiber to all sites with at least 1 Gbps connection back to the datacenter. 7.5 Gbps to the Internet.
- A Palo Alto Networks (PAN) device provides firewall services.
- HP ProCurve switches provide routing, switching, and VLANs. Ruckus WiFi access points cover end-to-end at each site.
- Microsoft End-Point Protection is enterprise antivirus software.
- System Center/SCCM for Windows updates.
- Content and spam filtering services are provided using iBoss, PAN, and Barracuda appliances.
- PRTG and InterMapper for real-time server and network monitoring and alerting.
- Absolute MDM to manage the District's mobile devices.
- MDT and PDQ to deploy images to site computers (moving to SCCM in 2017/18).
- Have spare "ready-to-go" key hardware devices for immediate fail-over replacement should a device fail.
- ITS Wiki intranet website to keep all staff members up-to-date on issues, fixes, and tips from other ITS staff.
- SysAid for district-wide inventory, incidents, and requests.

- Edulink/Autodialer is utilized for automated telephone calling (absentee, tardy, emergency).
- Laserfiche server and application for scanning of District documents.
- Versatrans and Trip Tracker for the Transportation Department.
- Novar and Alerton systems for Maintenance Department (SchoolDude for ticketing).
- Filemaker Pro for the Human Resources Department.
- Nutrikids application and database servers for Food Services Department (meal planning, inventory, POS systems).
- Destiny library servers and software.
- Aeries (SIS), Illuminate, SEIS (Special Education Information System), Lifetouch, and AssetWorks.
- Support CalPADS and other state and federal programs and reporting systems.
- Support of SCOE and Special Education hardware/software needs at multiple school sites.
- Support the HP3000 mainframe system running QSS/QCC (finance and payroll) – recently upgraded and migrated from local mainframe to centralized SCOE server and will house YCUSD-exclusive data in cloud for district instant access.
- Installed RVHS cluster (ESX hosts) and three virtual servers for VoIP fail-over.

## Technology – Site Overview

Windows desktops:	4,571
Windows laptops:	3,719
Chromebooks:	568
iPads:	599

- 60+ servers - average 3 physical servers running Windows 2012 at each site (upgrading to 2016 in 2017/18, domain controller, file, security camera).
- 220 MDFs/IDFs with over 252 HP ProCurve switches.
- 724 Ruckus wireless access points (APs) across all sites, each with 3 separate and segregated wireless networks for staff, students, and guests.
- 341 IP-based security camera surveillance systems at all school sites.
- Next generation Shoretel VoIP telephone system district wide.
- 98% of classrooms have an interactive Smartboard/projector or a large flat panel screen. Utilize SmartContent server for content services.
- Audio systems connected to Smartboards and projectors to teacher computers.
- Renaissance Learning, Reading Counts, Lexia, and Aleks servers and programs – 44 total applications are supported.

## Brief Summary of Major Accomplishments and Changes

(During the 2016/17 school year)

- Maintained a 5-year rolling district-wide technology lifecycle and refresh plan.
- Continued to highlight technology's broad scope and implemented standards and consistency. Maintained department's commitment to excellent customer service.
- Gathered data and created 2016/17 Technology Overview dashboard infographic.
- Purchased, configured, and installed Shoretel VoIP phone system district wide (system went live in one day).
- Researched, analyzed, purchased, and installed PAN firewall.
- Continued to deploy technology design for the 21st Century digital classroom.
- Installed and configured Microsoft System Center Configuration Manager (SCCM), which has significantly increased efficiencies and processes and reduced resources, time, and costs.
- Setup and configured Google G-Suite (formally GAFE) for staff and students. Office 365 and G-Suite platforms are now offered district wide.
- Adopted and support Chromebook platform and its related ecosystem.
- Created and formed the Leading Edge Assessment and Pre-Deployment (LEAP) Team to review and assess technology to ensure quality standards are met and implemented within the district.

- Budget development – developed budget as a zero-based plan as it really helped to pinpoint what we will spend and ensure licensing and/or support agreements are not just renewed without deep and thorough yearly analysis.
- Upgraded Internet access speed (and reliability) from 4 Gbps to 7.5 Gbps.
- Completion of \$1.1M “ITS-UP” technology project – replaced aging laptops, desktops, tablets, and large interactive boards with new and leading edge technology.
- Continued with quarterly Tech Summits for all techs to expand their technical scope and to ensure technology and services align to the district’s needs, goals, and objectives. Tech Summits will be held monthly in 2017/18.
- Researched, selected, and began the SysAid rollout prep for the new asset management system and ticketing system.
- Configured and optimized our datacenter server room's wiring schema.
- Completed review of deep security scan and implemented applicable policies and procedures.
- Completed all MDFs/IDFs upgrades and changes from our Master Facilities Plan.
- Completed start and end of school “Blitz’s” (SOY/EOY) ensuring all sites are cleaned, maintained, and fully functional.
- Completed review of SOY/EOY Blitz processes – completed annually to review and analyze ITS processes and make applicable changes to optimize Blitz process.
- Updated Acceptable Use Agreement and Mobile Device Agreement policies (for Internet and computer usage).
- Streamlined how technology is selected and ordered to increase efficiency and consistency while lowering purchasing and ongoing support costs.
- Built stronger relationships with vendors to secure significantly more aggressive pricing.
- Implemented analysis tools for monitoring servers and networks across the WAN, as well as at each site’s LAN.
- Established new policy and process for inspecting hardware and identifying issues.
- Installed and upgraded audio and video components in small and large ITS training rooms.
- Reorganized the ITS small and large training rooms so they can be utilized more efficiently.
- Completed district-wide “surplus blitz” to remove old and unused equipment from all sites, which resulted in over four truckloads of surplus.
- Increased the ITS Department’s technology ordering position (Clerk III) from 3.8 hours a day to a full-time employee.
- Created a computer standards page to standardize hardware selection and ensure consistency of computing equipment across the district.
- Worked on and/or completed major site upgrades – Barry, Tierra Buena, YCHS/CTEC, RVHS/Weight Room.
- Conducted demos and analyzed numerous Laserfiche system proposals for forms and workflow enhancements.
- Successfully passed USAC/E-Rate on-site audit.

- Held 22, 30-minute one-on-one yearly performance reviews and set 2017/18 goals for each staff member.
- Reviewed and analyzed Bluebear and ASBWorks. Chose ASB Works and secured quotes.
- Completed the migration from the financial system on a HP3000. Services are now being processed at Sutter County Office of Education.
- Held bi-monthly technology tech trainings to increase knowledge and skills.
- Reviewed servers and networks and completed a comprehensive analysis and compiled a 2-3 year strategic plan.
- Technology Committee meetings held quarterly.
- Upgraded YC Independence Academy from 45 Mbps wireless connection to a fully redundant wired 1,000 Mbps connection. They are now their own full "spoke" in the district's network.
- Completed security system analysis and associated changes.
- Reviewed and completed applicable changes to Absolute licensing to ensure district devices are secure and can be located, if stolen. Total savings to the district of approximately \$20k per year.
- Prepared and implemented a comprehensive backup and disaster recovery plan for emergencies (flood evacuations, Oroville Reservoir).
- Removed and surplussed outdated inventory (6+ years old) from the warehouse, which freed up a tremendous amount of space.
- Completed Aeries Analytics and Dashboard training. Began proactive planning and forming actions plans.
- Planned and reviewed custom written applications and began to upgrade the code base and/or retire the applications (Aeries CS).
- Added to and upgraded several security cameras at the DO for increased security.
- Upgraded teacher and student devices to meet minimum RAM requirements by digital and online curriculum.
- RVHS MP room was upgraded with amazing audio and video equipment for plays, musical numbers, classes, etc.
- Upgraded RVHS wireless audio system (Gym).
- Completed addition/migration of OpenDNS - now allows district websites to remain active if district systems are down.
- Removed and decommissioned old and unused servers from all sites.
- Installed two backup and redundant AC units to cool datacenter (for critical district equipment).
- A new microphone system was installed for the drama department and MP room at Riverbend.
- Installed and configured an upgraded remote wireless system for the Board room. System can be accessed from multiple wireless devices for remote presentations. New system is a more reliable and robust audio and video system than previous system.



- Implemented a new 80-device (at one time) imaging system which has performed phenomenally well by imaging devices much faster and easier.
- Teacher strike - a lot of time and planning was invested to ensure accounts and services were disabled and re-enabled during the strike. The strike processes were documented to insure any future strike process would flow seamlessly.
- Completed the installation and configuration of Career Cruising at all the high schools.
- Worked with the Maintenance Department to complete the installation of the security gate and confirm it was operational and online.
- Conducted ShoreTel VoIP training and implementation process and went site by site to ensure VoIP ports were set, configured, and tested.
- Conducted training on Wi-Fi technology – the training provided consisted of a deep dive into Wi-Fi technologies, strategies, and terminology, which helped immensely to resolve current issues and to be proactive with planning for wireless device growth.
- Held numerous vendor and departmental tech trainings.
- Hired and trained three Tech I/II's (to fulfill open positions).