DIRECTOR OF TECHNOLOGY'S REPORT

September 21st, 2015

The mission of the YPI Charter Schools (YPICS) is to prepare students for academic success in high school, as well as post--secondary education; prepare students to be responsible and active participants in their community; and enable students to become lifelong learners. Students at YPI Charter Schools will become active citizens who characterize the ideals of a diverse and democratic society. Students will provide service to their community, take responsibility for their own learning, and develop the habits of mind and body that will empower them to be successful in high school and beyond.

Background:

As requested, this is a summary of the major activities being performed as the Director of Technology and the technology support team, from August 24th 2015 through September 21st 2015, in support of three school sites, and the school wide priority of academic achievement and instruction. These initiatives fall under seven areas: Network Infrastructure, Server Infrastructure, Student Information Systems, Hardware Support, Instructional Technology, Programming and Strategic Planning.

1. **Network Infrastructure:**
    a. **MORCS core switch throughput remediation.** I need to correct a data rate error previously reported last month. The eRate contract speed for the MORCS point to point connection has been upgraded to 70mbps, not 100mbps. There was a throughput issue where the circuit was only reporting 45 mbps down and 1.5mpbs up. With the assistance of the 7 LITS network engineers. we were able to identify the issue as defective software on the core uplink switch. We replaced the switch with a redundant spare, made available by the Jaffee building move, and were able to restore the circuit to 45mbps full duplex. An additional adjustment to the voice traffic prioritization policy further increased speed to 65mbps full duplex. The MORCS instructional staff have reported an increase in throughput and Google Apps responsiveness which improved instructional content delivery and collaboration. We will examine a potential upgrade to 100mbps in the next eRate round.
    b. **WiFi issue.** Staff users have reported a throughput issue over wireless. In consultation with Cisco and the 7 LTIS engineers we have a working theory that there are too many SSIDs and the controller would be more efficiently with fewer.

At this point, we are migrating away from building level SSIDs (i.e. BCCS-RmA+1, BCCS-Rm2+3, etc) and standardizing with grade level SSIDs (BCCS-6th, BCCS-7th, etc). This scheme is in use at MORCS on the district's wifi controllers and is performing well. We have created the new SSIDs and are leveraging the Casper management platform to migrate the wifi profiles to client computers automatically instead of having to touch all 120 BCCS laptops. We expect the migration to be complete by the end of September.

c. **High school and central office fiber installation**. Time Warner Cable Business Fiber has met with delays in pulling the permits to install the fiber connections at both sites. We have a projected installation date of 9/30/15 for the high school, and 10/30/15 for the central office. At present, the high school has internet access via the Maclay Wifi network, and while the firewall and lack of control over IP addressing presents some management challenges, the staff is able to use the wifi for instruction, and the students have access through classroom equipment as well as their Chromebooks.
d. **Jaffee R104 switch failure.** There is an open ITD ticket to replace a district owned Cisco 2960 switch in Mr. Duran's classroom. This outage affects the classroom's phone and printer connection, but the wifi is unaffected and he is able to conduct instruction.
e. **BCCS-Room 11 switch stack member failure.** The switch stack that provides network connectivity to rooms 10 and 11 failed, which required one room to migrate all workstations to wifi. In consultation with Cisco and 7 LITS, we determined there was a hardware failure. As this switch stack was covered by a Cisco extended service agreement, a replacement switch was sent for free, with saved the organization a cost of $12,500 for a new switch. The switch was integrated into the stack and the rooms were restored to connectivity.
f. **BCCS access point integration.** We are extending the wifi coverage by adding access points made redundant from MORCS to the BCCS classrooms. this process is ongoing and requires additional troubleshooting. We currently have 14 working access points, and 5 are not yet fully integrated.

2. **Server Infrastructure:**
    a. **Migration to Amazon Web Services.** We have suspended using AWS for cloud based servers as too expensive in the short run and unnecessary to the implementation of Illuminate, as was previously informed. We still have a need for a modernized directory structure. Additional research is needed to realize the benefits of moving to a virtualized server network, but as server hardware reaches their end of life, it may be more cost effective to leverage cloud computing.

3. **Student Information Systems:**
    a. **MiSiS.** This continues to be an issue. No guidance has come yet from the district on whether or not charter integration into MiSiS will continue.
    b. **Powerschool.**
        i. High school. Report cards for the high school and 5th grade have been problematic. The high school's progressive grade scale is not compatible with Powerschool's percentage based grade scales, and the high school is implementing a separate gradebook to meet this need. We have a case open with Powerschool to identify why the override grades, where teachers manually enter a grade for the report card for each student, are not being reflected in the report card run.
        ii. 5th grade. Traditionally, courses are defined in Powerschool by grade and subject matter, and are tied to a specific CALPADS course number, i.e. 7th grade English, etc. Currently, there is only one class defined for 5th grade that does not differentiate between subject matter, so each of the five 5th grade periods read as "5th Grade." The BCCS CoI is working on a supplemental insert that defines each of the periods and ties them to the grade given, i.e. 2nd period is English, 3rd period is Math, etc. This will help parents understand the report card.
4. **Hardware Support:**
    a. **Printers & Copiers.** All classroom printers at both sites were integrated into the network and classroom printing has been provided to each classroom and teacher machine via Casper mdm profile. The copiers at BCCS were replaced by Xerox, and the copiers were immediately available due to local dynamic name and queue control. Printer and copier drivers were automatically deployed via Casper mdm policy and the tech support staff assisted teachers to set up the correct print drivers. We are currently working on reimplementing print accounting, as the previous accounts were not moved to the new equipment.
    b. **Inventory.**
        i. **Casper.** The technology support staff have been adding machines to the Casper mobile device management software, and we have accounted for 90% of the equipment. At present, we have 745 Mac workstations and laptops and 10 handheld devices. We still have about 30 Macs to add to inventory that need repair or upgrade, and about 25 hand held devices, including staff cell phones, to add to the inventory. This gives us approximately 800 Apple devices between three sites and central admin, of which approximately 60 are for staff use and 8 for network services. We also have approximately 160 Chromebooks and 70 district issued iPads for instruction. This gives us a student to machine ratio of approximately 1:1.23 (777 students, 960 access devices).

ii. **Asset tagging**. We are in the process of procuring metal asset tags to affix to each capital asset, including workstations, laptops, servers and printers. We expect to complete this project by the end of the calendar year.

c. **Help Desk.** We have handled 200 help desk tickets from August 24th through September 21st 2015, which is an average of approximately 10 tickets a day, There are 54 open tickets remaining. The ticket categories break down as follows:

Category	**Tickets**	**Open**	**Resolved**
Workstations	42	10	32
Laptops	42	9	33
Instructional Tech - Aleks, SI, etc	28	9	33
Facilities	23	15	8
Phone	7	2	5
Network Services (accounts, email, etc)	10	1	9
Powerschool & Records	12	2	10
Printing	12	1	11
Branding & Graphics	2	0	2
Network Infrastructure	19	4	15
Tech Strategy	1	0	1
Handheld Devices	2	1	1
Totals	200	54	146

5. Instructional Technology:

a. Illuminate. We are in the process of setting up the technology necessary to support the Illuminate assessment program, which is replacing Study Island for online formative and summative assessments.

b. **VoIP Phones.** Classroom voice over IP phones were re-implemented at MORCS. The move to Jaffee required that each phone use a power injector, as the switches in Jaffee do not provide power over ethernet (PoE). The technology support technician at MORCS installed the phones and the Prop 39 engineering team added the programming necessary to support the voice network.

c. **SMART projector installation / replacement.** We have added a SMART projector to BCCS Room A to support the SPED program. Room 12's projector failed the day before instruction began, and while the replacement is on order, it has not yet been delivered.

d. **SMART software site license.** The BCCS teaching staff have access to the current version of SMART Notebook, which was installed automatically on each laptop via Casper mdm policy.

e. **SFA software troubleshooting.** We assisted Mr. Takeyama in deploying the USB images that support the SFA program, which required operating system upgrades to two teacher laptops and upload / deployment troubleshooting.

f. **NWEA Maps benchmark testing.** We are able to run about 85% of the test sessions using the lockdown browser. The tech support team will work on fixing the machines that were unable to use the lockdown browser, and the instructional team will coach teachers to use the web-based test session only as a last resort. Using the lockdown browser increases the reliability of the test scores, as students are unable to consult outside online resources during the test session.

g. **High school wide format and 3d printers**. The high school has received a 44" wide format 8 color plotter and a Cubify Pro 3D printer. These tools give the schools large format, high resolution color output, ideal for the visual arts programs, and the ability to create physical models created from digital files. We expect this capacity to enhance instruction not only in visual arts, but also in support of the Project Lead The Way exploratory grant, that will help students visualize mathematical concepts as well as shape and form exploration. This capacity would also support any future "maker" initiatives or instructional programs. We are in the process of deploying Windows images to the high school's lab iMacs to access the SpaceClaim 3D modeling software.

6. Programming.

a. CAASCP scores parsing. I developed a script that rapidly parsed the data file for BCCS, which gave the instructional leaders access to the score data.

7. Strategic Planning.

1. **Technology support team training.** The YPICS tech support team, which consists of each site's tech support technician and the director of technology, has met to familiarize the team with current issues, future projects, and to establish a team mission and vision. The technicians were also trained as Gmail admins to support Google Apps for Education. In a separate session, the technicians met with other Casper administrators and engineers in the Los Angeles area at an event hosted by Apple. The tech support staff was also trained on how to use the 3D printer. The high school's facilities support staff was also trained.
2. **Documentation.** The tech support team is tasked with developing the run book, which details technology support processes within the YPICS community.