Upper Perk Tech Pulse

Keeping You Informed on UPSD Technology

Special points of interest:

- Origin of term "net neutrality"
- 1:1 Agreement Form going digital
- Interactive projector pilot
- Middle School construction meetings
- Respondus lockdown browser
- Skyward email issue fixed

The purpose of this newsletter is to keep everyone informed of the goings-on of Technology in Upper Perkiomen School District. Each month the status of projects and challenges will be updated and any new changes will be announced. We hope you find it informative and beneficial!

1 Gb Internet Service

For the past two years, the District has been increasing internet bandwidth by about 100 Mb per year. With an increasing reliance on web-based resources and the addition of another grade of 1:1, we would need to increase bandwidth to at least 500 Mb for 2017-2018. As we evaluated the cost of that and the need for expensive new hardware to accommodate the increase, there is little difference between 500 Mb and 1 Gb (1 Gb is 1000 Mb). Therefore, the May 11, 2017 Board agenda will include a recommendation to increase our bandwidth to 1 Gb next year.

One question that often comes up is "exactly what is bandwidth?" Sometimes it is described as speed. While it's true that more bandwidth usually means more speed, that's not really what it is. It's more like a highway. The Schuylkill Expressway at rush hour is jammed and slow because cars have to queue and wait their turn. The same thing happens with Internet traffic. Adding more lanes to the Schuylkill would free up space for cars to move which would reduce the queue. The same is true of more bandwidth.

1:1 Agreement Form is Going Digital

The first two rounds of the 1:1 rollout are now behind us. To allow students to take the devices home, we require families to agree to terms and conditions of use and pay a fee. Up until now, all of the tracking of that was done on paper. Making things more complicated, the schools had slightly different forms to reflect their different devices and fees.

For 2017-2018, the forms have been consolidated into a single digital form. It will be in Skyward Family Access. Parents will log into their accounts, fill in their names on the form, agree to it by clicking a check

box, and submit. It will make the process much more efficient. Parents can also pay the fee online through the ParentOnline system that collects Food Service payments. Checks and cash will also be accepted, and payment will be recorded in Skyward as well, so everything will be in one place and searchable.

In addition, we are going to use Signup Genius to allow parents to schedule appointments in the summer to pick up their devices prior to the start of the school year. We will have several computers available for parents to fill out the form if they haven't already done so. We hope

that a substantial number of families take advantage of this. It will minimize the chaos of handing out devices at the beginning of the school year, allow students to use their devices on the first day of school, and reduce the amount of inventory we have to store.

We're taking a slight risk by doing this because the possibility of unforeseen issues always exists with anything new. That said, we're confident we can work through anything that comes up and that it will be a step forward. Assuming that this digitization effort is successful, we will add more forms to Skyward.

Hereford and Marlborough Update

Projectors and Smart boards continue to be a challenge at Hereford and Marlborough. After speaking to other districts and doing our own research, we decided to purchase 4 Epson interactive projectors to pilot at Marlborough.

The new projectors are ultra-short throw, which means they are mounted close to the surface on which they project. A mounting arm attaches to the wall above the dry erase board, and the projector attaches to that. The whole assembly sticks out about 3-4 feet from the wall.

The benefits of these are that the whole dry erase board becomes accessible again, the projector doesn't shine in the teachers' eyes, and it doesn't create as much of a shadow when someone is at the board. In addition, they throw a larger image than the older board/projector combination, which is great for the students in the back of the room.

The 4 projectors that were purchased will be installed in the classrooms with the greatest need. This will be treated like a pilot to see if this is the model we want to continue using. Feedback from the teachers who use these will be essential.

To read more about Epson interactive projectors for education, visit https://epson.com/brightlink-education-interactive-projectors

Middle School Update

"The amount of natural light coming through the windows will allow the lights to be turned off without the room getting too dark."

On April 21 and 26, meetings were held with architects and engineers to flesh out the details of the technology infrastructure needs of the new building. Phil Grigonis had an opportunity to discuss the needs of the Tech Ed space, and from what we can see on the drawings it looks impressive.

The general classroom layout was discussed. Each room will have an interactive projector, a wireless access point, and built-in speakers. A designated "teacher desk" location will have an HDMI port in the wall for sending video and sound from the teacher's computer to the projector and speakers.

Lights in the classrooms will run parallel to the windows, which is required for LEED certification. That means that they will be perpendicular to the projector, so there won't be a row of lights nearest the projector that can be turned off. The team is confident that won't be a problem though. The amount of natural light coming through the windows will allow the lights to be turned off without the room getting too dark. Also, newer projectors are much brighter than older models and can overpower the lights.

Science classrooms will be laid out a little differently. The connections for the teacher will be on the side of the demo table in the front of the classroom. They will also have power outlets at the lab stations around the room so electronic devices can be plugged in as needed.

In terms of printers, the plan now is to wire up two locations per floor in each classroom wing for smaller units, and then have a large MFP in the main office. That is still evolving as we study the usage of printers and look ahead to what will be available when the building opens.

Many other details were discussed, such as making sure that the auditorium stage will have a place to hook computers up to the projector, locations of telephones, security cameras, and the types of interconnections between network closets. The plans are almost finalized.

High School Update

For several months the District has been trying to find a way to lock down the 1:1 laptops when the students are taking tests in Schoology. The solution that emerged is to use a product called Respondus Lockdown Browser that needs to be installed on each device.

Respondus integrates directly with Schoology, which allows teachers to initiate a locked-down test session from within the Schoology interface.

There have been some challenges with regards to rolling out Respondus. At this time, about 75% of the 1:1 laptops have it. The 1:1 laptops need to be restarted while they are connected to the network to get the software. Unfortunately, many students don't restart their computers regularly, and even when they do the wireless in the HS doesn't always connect right away, so the process that installs Respondus doesn't initiate.

We're trying to work through those challenges with several teachers, and have isolated some of the causes. It looks like the laptops that don't have it will have to be handled case-by-case.

In other news, several decisions have been made regarding hardware and software for 2017-2018. A survey of HS teachers indicated that a large majority are in favor of sacrificing the touch-screen on the 1:1 laptops for more performance. To that end, the incoming 9th graders will receive laptops with twice the memory and solid state hard drives.

As always, software continues to be updated. Next year the 1:1 laptops will have Office 2016 and Adobe CC 2017. Staff computers will be updated gradually once everyone returns for the next school year. We will push it out remotely in an effort to create the least disruption possible. Neither package is a big difference from the current versions. New features will be communicated via email in the coming weeks.

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Skyward Emails

In early April, we learned that Skyward stopped sending any emails. Skyward has a lot of functions that use email. For example, parents can use a "Forgot my Password" feature which will email their address of record a reset link. Teachers can send emails to classes' parents, and auto-emails shoot out to notify people that something needs attention.

Troubleshooting was complicated by the fact that some emails would work and some wouldn't, seemingly at random. Intermittent issues are always the most difficult to pinpoint.

After a few days of working the problem, we discovered that one of the measures we put in place to reduce spam was flagging Skyward as a high volume sender and throttling the amount of emails it could send per minute. We couldn't allow just one service due to the way the throttling works, so we had to raise the limit for everything.

There is a constant balancing act being played between security and convenience. Sometimes they overlap. It would be more convenient to get less spam for example. However, layers of protection are needed to filter spam, which causes false-positives such as this one, which is obviously inconvenient.

If malicious people wouldn't abuse systems, IT would be a whole lot easier for everyone. But the same can be said of just about any complex system, so technology is not alone in that regard.

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