Dan Bentson, Technology Director Board Report - Technology December 15, 2015

Data Capacity - Bandwidth Usage

Our use of the Internet continues to grow in usage. Our use of the Internet is currently most limited by the capacity of the incoming line that supplies our network. It had been upgraded to a 43 Mbs service a year or so ago. We see now that despite this increase, it is still undersized.

Ideally, our usage will have a high utilization level of 50% usage. Unfortunately, that's not what we've got. Here's a shot of our bandwidth use this morning as an example:

(10 minute interval - below)

La Center BW % Utilization

Disc 08, 10:50:22

Disc 08, 10:50:

This shows the almost desperate need to have our new fiber connection finished and turned over to the district.

Our new connection will come in at 500Mbs capability - an increase of more than ten-fold from what we currently have in place. It can also be incrementally opened up as needs dictate up to, I believe, a maximum of 1Gbs.

As of Monday. 12/7 at 4:30, they are set to perform the final phase of the testing and, if all goes well, it could be turned over to us before the start of the new year. Yes, there have been many delays. Yes, there has been much frustration. Yes, the cost for this new connection installation is provided to the district by the K20 network free of charge.

With any luck, by the time of the board meeting, we'll have a final timeline for the cutover to the new circuit. I think we're all looking forward to that.

Security and Safety

The installation of cabling for wireless networking and a closed circuit television (CCTV) system is not entirely complete. We have been able to add almost 200 additional "drops" where we can now connect a network device (like an wireless access point or a security camera).

Not only does this cabling allow us to connect devices, but it uses newest industry standard for structured cabling of the type Category 6A (often times referred to as cat6 or cat6A). Adherence to this standard brings with it increase speed of data transit and the ability to run our backbone at up to 10 Gbps (which is quite fast - sometimes called "super-fast", "really really fast", "crazy fast", or "super-crazy fast").

I visited Hockinson SD to see their system because it is based on the same controller that we'll be getting. Craig Barnhill has had recent and extensive experience with this type of CCTV system and has given me lots of very welcome and useful ideas where to spend money, where NOT to spend money, things that seem cool but don't realistically work out, etc. On a rather philosophical note, we are taking advantage of the learning done by some of our educational colleagues as to what works and what does not. I find that the older I get, the more I turn to resources like colleagues with direct experience with the product and an understanding of school environments. It helps to talk it out with these types of folks.

I expect the controller we'll be getting to have the features:

ease of use high levels of compatible hardware options expandable/scalable reasonable cost

I have asked to principals to put together their wishes for camera placement within the new security system. Initially, we plan to add cameras a little more slowly than some would like, but it will allow us to more efficiently use the system as well as identify the cameras most appropriate for our situation. As we become more familiar with how the system works and the attributes of the capture devices, we will hone in on the most cost effective yet adequately capable hardware for our needs. The initial planning calls for 60 cameras across K12.

More specific details about this system will become available once the formal bid specifications have been completed.