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Sioux Central tackle network grind with **CACHE**BOX

Sioux Central Community School District

Sioux Central Community Schools District, Iowa, USA, has a 35Mbps internet connection which is provided by Prairie Lakes Area Education Agency, one of 9 AEAs that service the state's public schools network.

CHALLENGE

35Mbps internet connection maxed out frequently from software updates, videos and online educational content

At least 60-80Mpbs bandwidth capacity was needed during peak times

Support tickets on network performance were high: teachers unable to complete planned lessons

SOLUTION

CACHEBOX**210** was deployed using WCCP

BENEFIT

Easy to set up and deploy

CACHEBOX allows Sioux Central to use video in classrooms without bandwidth maxing out

Much faster browsing, zero support tickets on network performance

Not enough bandwidth capacity for video, software and 1:1

As Network Administrator at Sioux Central, Keith Stoeber's top challenge was network performance: in the face of Windows and Apple updates, YouTube and other bandwidth-hungry educational content, the internet connection was maxing out for most of the school day. Slow browsing speeds in the classroom frequently prevented teachers from completing planned lessons.

This issue was compounded by the fact that Sioux Central recently introduced a 1:1 scheme whereby every student in grade 3-12 was given a laptop, and iPads were given to students in Kindergarten through 2nd grade for browsing online educational content in the classroom.

As a result, the District's 35Mbps internet connection couldn't support online learning. Support calls were high, with teachers not being able to complete their lessons on time.

"When everyone would try to download the same video at the start of a lesson, browsing was painfully slow: time was wasted just waiting for a page to open. Our 1:1 scheme was introduced to encourage independent online learning in the classroom – we knew that this would engage students more - but our existing link just wouldn't allow it," says Keith.
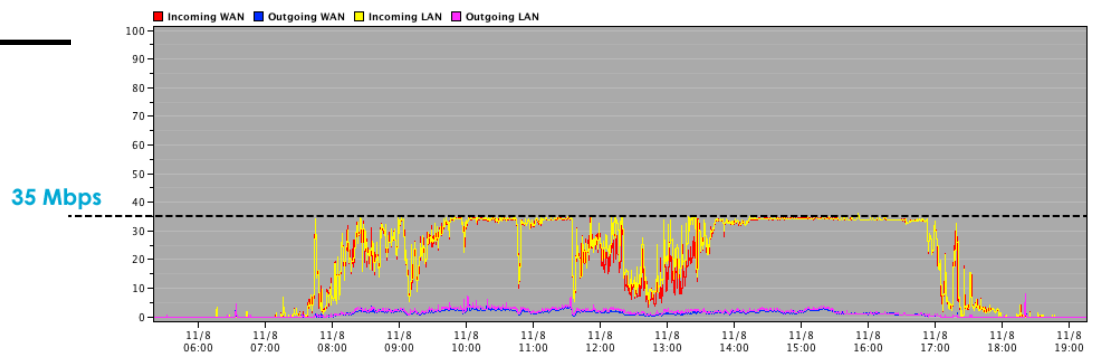
> *We needed **CACHE**BOX because we simply couldn't deliver media-rich content in the classroom with our existing bandwidth.*

During peak times the district needed a 60-80 Mbps bandwidth capacity. Keith sought alternatives to achieve this:

- Buying more bandwidth
- Packet shaping or content prioritisation – using this to give priority to certain types of traffic

However, neither would achieve the actual level of bandwidth required.

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We can now deliver content at far greater speeds than our bandwidth would have previously allowed.

Solution

Scott Fosseen from the AEA worked with Keith to evaluate technologies that might alleviate the bandwidth congestion, and ApplianSys' **CACHE**BOX solution was recommended.

"The evaluation made it pretty clear to us that we needed **CACHE**BOX as a permanent solution because we simply couldn't deliver media-rich content in the classroom on our existing bandwidth," says Keith.

Following this, a **CACHE**BOX**210** unit was permanently deployed in the network using WCCP.

More bandwidth capacity, faster speeds at peak times

Once installed, Keith saw an immediate improvement in network performance – with no more support requests about performance issues! By providing the bandwidth capacity needed by the district during peak times, **CACHE**BOX has enabled teachers to continue using internet in the classroom, without issues.

140 Mbps

Additional capacity delivered by CACHEBOX

35 Mbps
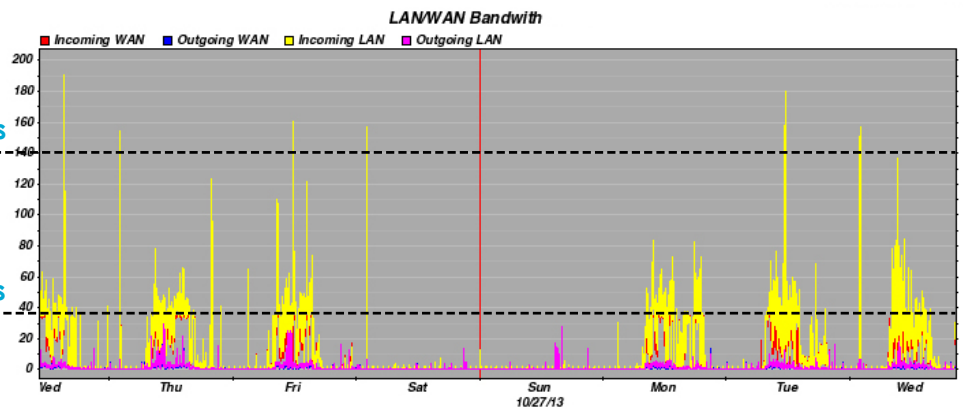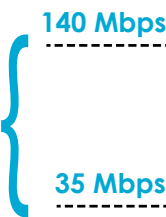
"**CACHE**BOX was really easy to set up and deploy. At peak times - like the start of a lesson – we can now deliver content at far greater speeds than our bandwidth would previously have allowed. This regularly peaks at over 140Mbps, but thanks to **CACHE**BOX we can handle that type of traffic whenever required," Keith comments.

Software updates for Microsoft and Apple no longer cause network performance issues: "We have saved considerably on software: Even on 'Microsoft Tuesday', the network performed like a dream, a day on which - without **CACHE**BOX – everything would have ground to a halt. We don't get any more tickets regarding network performance."