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Nueces Canyon SD facilitates online learning with CACHEBOX

CHALLENGE

Not enough bandwidth to support 1:1 student-to-LearnPad scheme

Devices unusable on network

Congestion from large software update files cause slow web access in classroom

SOLUTION

CACHEBOX**210** deployed to handle all traffic from LearnPads

BENEFIT

Dramatic savings on software updates - up to 98% for MS Windows during peak times

30-50% bandwidth saved on average

Significantly faster browsing for students mean they can get the most out of independent learning

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This box has nearly doubled our available bandwidth. I am seeing a much more responsive internet experience here on our WAN. I would recommend the CACHEBOX to any school - especially schools with a 1 to 1 deployment.

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About Nueces Canyon Consolidated Independent School District

Nueces Canyon is a Consolidated Independent School District in Barksdale & Camp Wood, Texas, USA. It serves over 300 students across an elementary and junior high / high school.

To encourage independent learning, the district has a 1:1 scheme whereby each student is given a Learn Pad.

Students use these to access online educational content specifically selected by teachers. Through closely monitoring each child's browsing, teachers can ensure that students remain engaged and stimulated by relevant online materials in the classroom.

When Nueces first introduced the 1:1 scheme, however, it became clear that its 40Mbps bandwidth connection couldn't handle the increase in network traffic.

CHALLENGE: Learn pads unusable in the classroom

When around two thirds of the district's students simultaneously accessed online learning materials, classroom internet became unusable.

Moreover, the Learn Pads frequently downloaded large software updates as soon as they become available. This resulted in severe network congestion as duplicate copies of these large files were accessed by hundreds of devices on the network.

Louis Webb, Technical Director at Nueces Canyon, was concerned that a slow network would mean disruptive students.

Louis knew caching could help ease the strain on bandwidth by storing content locally and serving it much quicker.

The district previously had a content filter with some basic inbuilt caching capability. However, it didn't offer cacheability for the biggest bandwidth hogs - software updates and large educational content files. When the vendor introduced an additional fee to use the caching feature, Louis decided instead to invest in a dedicated web cache which could deal with the biggest network hogs.

CACHEBOX – An intelligent, affordable, schools-specific solution

Louis researched caching solutions and found **CACHE**BOX was ideal.
After a consultation with **CACHE**BOX Sales Executive Ross Parker, he was pleased with the solution's schools-focused advantages and affordability.
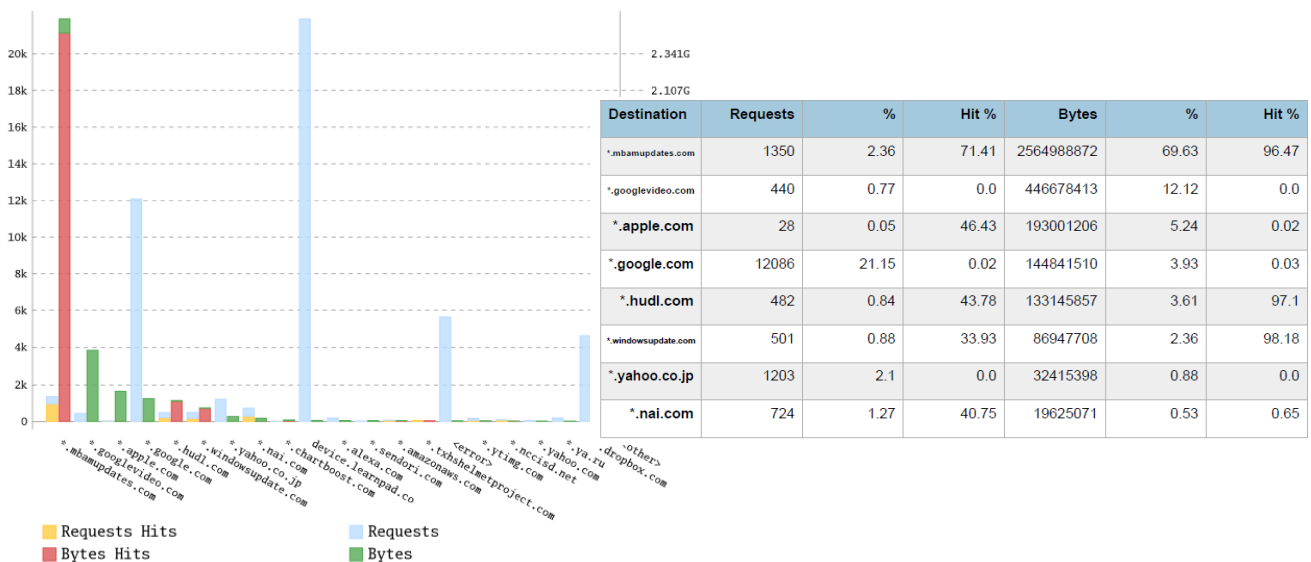
"Unlike general-purpose caches, **CACHE**BOX is designed to cater for the most popular school content, including software update files and e-learning videos. Once stored in the cache, this content is delivered at LAN speeds – in turn saving more bandwidth and allowing more capacity for other content," says Ross.

A **CACHE**BOX**210** was deployed to handle all requests from students' devices.

Faster browsing, significant bandwidth savings

Since deployment, the district has seen significant bandwidth savings and student browsing experience has dramatically improved.

Soon after **CACHE**BOX was plugged into the network, the district was saving between 30-50% of bandwidth on average. During peak times, daily caching performance reports showed up to 98% of Windows updates were served by **CACHE**BOX.

Destination	Requests	%	Hit %	Bytes	%	Hit %
*.mbamupdates.com	1350	2.36	71.41	2564988872	69.63	96.47
*.googlevideo.com	440	0.77	0.0	446678413	12.12	0.0
*.apple.com	28	0.05	46.43	193001206	5.24	0.02
*.google.com	12086	21.15	0.02	144841510	3.93	0.03
*.hudl.com	482	0.84	43.78	133145857	3.61	97.1
*.windowsupdate.com	501	0.88	33.93	86947708	2.36	98.18
*.yahoo.co.jp	1203	2.1	0.0	32415398	0.88	0.0
*.nai.com	724	1.27	40.75	19625071	0.53	0.65

"This box has nearly doubled our available bandwidth. I am seeing a much more responsive internet experience here on our WAN. I would recommend the **CACHE**BOX to any school - especially schools with a 1 to 1 deployment. It makes redundant internet calls much more efficient," says Louis

Moreover students get the most out of the 1:1 scheme as Android devices are now useable during lessons.
"**CACHE**BOX pre-caches large software update files the night before and stores these, ready to be accessed by student devices during the school day. So not only can students use the devices, but **CACHE**BOX ensures they remain up to date without using up the district's bandwidth," says Ross.

"We couldn't live without **CACHE**BOX! It saved us bandwidth, the product is rock-solid and the support is phenomenal," says Louis.