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CACHEBOX solutions for schools

OVERVIEW

Internet access is now an urgent priority for schools and colleges:

- Hard-copy teaching resources are being replaced by content that's rich in images, graphics and video.

- Students are encouraged to research material independently, to help develop the skills they will need in today's world.

- Online learning tools, with audio and video content, offer a more interactive and engaging learning experience.

Yet there never seems to be enough available bandwidth:

- Schools are grappling with new impetus for 1:1 schemes, blended learning and BYOD access to the network.

- Rural and remote schools are rolling out internet-enabled learning with insufficient bandwidth due to higher regional costs.

When bandwidth is under pressure, it quickly leads to problems:

- Video and educational websites face slow loading times, leaving teachers frustrated and students disengaged.

- Software updates for ever more devices can bring networks grinding to a halt.

- Teachers will avoid using bandwidth-intensive content and return to traditional 'front-of-class' methods.

The solution is CACHEBOX, a dedicated web-caching appliance that stores and serves content locally. With CACHEBOX, you can:

- Multiply the effective capacity of your bandwidth.

- Improve the speed at which users can access web content.

- Allow network administrators to fully monitor and control web traffic.

BENEFITS
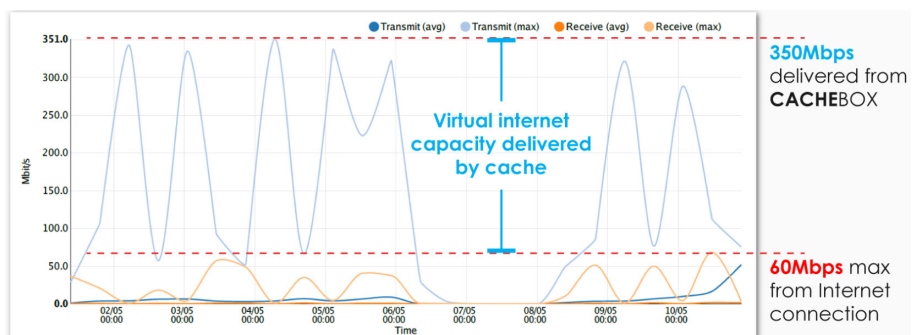
Multiply effective bandwidth

For many schools, bandwidth is expensive and/or in short supply, yet demand keeps rising.

- For remote schools with narrow bandwidth, **CACHE**BOX can instantly accelerate web content and make classroom internet usable.

- Urban and metropolitan areas often have cheaper access to more bandwidth, which encourages greater internet use and leads to more devices being connected to the network. Caching allows these schools to maintain internet performance, without needing to increase their bandwidth.

Minimise demand peaks

Web traffic in schools is characterised by enormous but short-lived spikes in demand at the start of lessons, as whole classrooms access resources. Schools often measure their bandwidth capacity needs according to these peaks, despite average demand during the rest of the day being 6 or 7 times lower.

Thankfully, these peaks are highly cacheable, and repeat requests can be served to multiple users locally. This is more cost-effective than paying for internet capacity that will be under-utilsed outside of peak times.

350Mbps delivered from **CACHE**BOX

60Mbps max from Internet connection

Caching serves simultaneous requests locally at LAN speed - flattening demand peaks, minimising bandwidth usage and multiplying effective capacity, typically by 4 or 5 times.

Speed up Internet access

Because content is downloaded to your local network, teachers and students get much quicker access to it via the Local Area Network. You can even pre-load **CACHE**BOX with content so that it's ready for teachers before the start of class.

Video when you need it

Video accounts for the majority of traffic in most schools. With **CACHE**BOX, this no longer takes forever to load.

Software updates without the pain

Windows, Apple, Android and antivirus updates can generate huge volumes of traffic on the network, making it painfully slow for users. **CACHE**BOX takes pressure off the internet connection by storing and serving those updates locally.

Cache HTTPS educational content

Many education content providers and Learning Management Systems are moving to secure (HTTPS) content delivery. **CACHE**BOX makes HTTPS content cacheable.
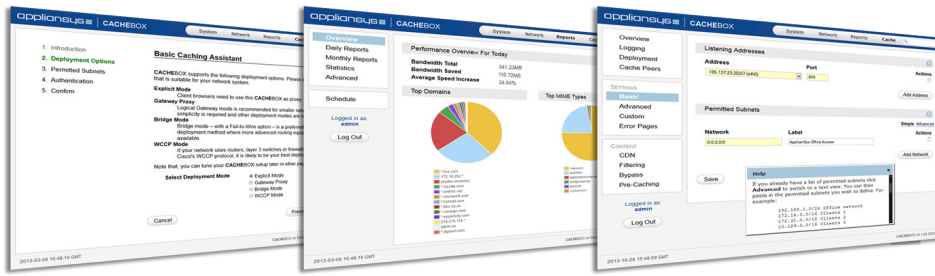
Configuration wizards, graphical reporting and online help

"We needed to bring content to the classroom faster so kids could do more in the classroom. CACHEBOX proved itself overnight. 32% average bandwidth savings across the day, with savings of up to 90% at busy spots during the day. I've noticed a big improvement in speed."

Jason Pelletier, Information Systems,
Greater Lowell Technical High School, Tyngsboro, MA

One school or many, big or small, there's a CACHEBOX solution for you

From a New York City high school to a remote settlement in Greenland, from a single primary school to a national education authority, the **CACHE**BOX range has options to cater for every need.

- Different models to fit all school bandwidth capacities.
- In multi-school networks, **CACHE**BOXes can be deployed across individual schools and/or the network core, as required. They can work together in sibling clusters in the core and in parent-child hierarchies across the network to maximise internet performance and minimise bandwidth needs.
- The **CACHE**BOX**CMC** Central Management Console makes it easy to deploy, update and manage multiple appliances across a cluster of schools or a regional/national education authority.

RANGE

	Usage	Form Factor	Max Concurrent Users / Throughput (Mbps)
CACHEBOX**050**	Small school	Small Form Factor Desktop Unit	100 - 150 users 40 Mbps
CACHEBOX**110**	Small school	19" 1U Rack-mountable	100 - 150 users 40 Mbps
CACHEBOX**130**	Small school	19" 1U Rack-mountable	150 - 200 users 60 Mbps
CACHEBOX**210**	Medium school	19" 1U Rack-mountable	~1,000 users 100 Mbps
CACHEBOX**230**	Large school	19" 1U Rack-mountable	~3,000 users 250+ Mbps
CACHEBOX**310**	School district core High throughput	19" 1U Rack-mountable	~6,000 users 500+ Mbps
CACHEBOX**420**	Large school district core High throughput	19" 2U Rack-mountable	10,000+ users 1+ Gbps
CACHEBOX**440**	Large school district core with multigigabit links	19" 2U Rack-mountable	20,000+ users 2.5+ Gbps
CACHEBOX**CMC**	Remote administration of up to 500 **CACHE**BOXes	19" 1U Rack-mountable	Not Applicable

FEATURES

Maximise existing bandwidth, cut costs

- Enhanced HTTP and HTTPS caching software
- Video caching (YouTube, Metacafe, Vimeo, Dailymotion, Veoh, etc)
- Software update caching (Windows, Apple, Android, Avast, Kaspersky etc.)
- Off-peak pre-caching of content
- Static storage - keep specific objects as long as you need them
- Media Library - enable Teachers to create a safe library of online content accessible without internet access, shareable both internally and externally
- Enforce Safe Search in Google, Yahoo and others
- Block selected domains / URLs

Easier to manage

- Intuitive, secure web admin interface
- Setup and caching assistants
- HTTPS configuration assistants for YouTube, Facebook, Instagram, Flickr and Android
- On-box graphical reporting / scheduled reporting for monitoring caching and network performance
- Automated on-box/off-box backups
- Automated alerts, traffic threshold alarms
- Multilingual interface - available in English, Spanish, French and Portuguese
- Operating system runs from read-only Industrial CFast card
- SNMP support
- Custom ACLs support

Safe client browsing

- Comprehensive user access logging
- MS Active Directory integration via NTLM and Kerberos authentication

Secure management interface

- Secure HTTPS and SSH management interface
- RADIUS / LDAP authentication

Flexible deployment

- Supports multiple transparent and explicit deployment modes
- Reverse proxy for HTTPS sites
- Optional Fail-to-Wire resilience
- Clustering, load-balancing and hierarchies
- WCCP support (v.2, GRE and Layer 2)
- IP spoofing
- Firewall with NAT forwarding for networking flexibility
- iKVM remote access technology (depending on model)
- IPv6 Ready

For more information please visit: **www.appliansys.com** or call us on: **+44 (0) 8454 50 51 52**