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Beshay Steel slashes bandwidth costs with CACHEBOX

Beshay Steel group is the largest privately owned steel producer in Egypt and the Middle East with an annual liquid steel capacity of up to 4 MTPY. The company produces Direct Reduced Iron (DRI), Billets, Re-bars, Wire Rods and Sections for domestic and global markets.
It has around 3,500 employees and eight sites. Employees rely on internet availability for day-to-day business operations, including cloud services, Industry 4.0, research and market analysis.

CHALLENGE

Existing bandwidth expensive and unreliable

Network congested by Windows updates

Employees unable to use internet for business-critical ops

Previous cache ineffective at saving bandwidth

SOLUTION

3x **CACHE**BOX**110**s deployed across 3 different sites

BENEFIT

CACHEBOX frees up 50% b/w capacity, rapid ROI

Precaching software updates – more capacity for business-critical ops

Multiple CDNs cached –relevant content up-to-date, fast

> *The internet speed is a big issue because it's too expensive as a continuous running cost, and sometimes unreliable with up to 5% down time*

Existing bandwidth: costly, unreliable and simply not enough

Broadband connections in Egypt vary in quality. Beshay Steel relies on fibre optic broadband over SDSL to provide high-speed internet at its sites, each serving approximately 250 users.

Operations Director Sherif Beshay, was concerned about the impact slow internet was having across the business.

"The internet speed is a big issue because it's too expensive as a continuous running cost, and sometimes unreliable with up to 5% down time," he comments.

"Employees rely on a variety of online content to improve productivity and learn about new technologies used in the steel industry. However, access to engineering and training videos was painfully slow. To make internet more useable, we had to block employees from accessing certain bandwidth-intensive content."

For daily operations, the company relies heavily on a cloud-based manufacturing automation system: Industry 4.0. However, due to bandwidth saturation, employees often struggled to access reports and advanced analytics from the system.

The biggest issue was Windows software updates which used up around 20% of bandwidth.

"Our WSUS server was a hassle to manage – we would constantly have to monitor it in efforts of lowering internet usage," says Sherif.

Need for dedicated caching

"To save bandwidth, we initially used a bolt-on caching solution that came with one of our other solutions vendor. But when we used this on our traffic, it underperformed as it would only cache a limited number of objects such as images and small files. It wouldn't cache much of the content relevant to us, including Windows updates."

"In addition, many websites make frequent updates to content which did not get picked up by this cache. As a result, employees got outdated and irrelevant content. This is risky – especially if the information used is critical to business operations e.g. market pricing."

To resolve these issues, Sherif researched other caching vendors and found most did not offer any dedicated solution.

When he finally contacted ApplianSys to learn about **CACHE**BOX, he found it the ideal solution.

CACHEBOX Consultant, David Zanguoras comments: "In contrast to 'bolt-on' caches, **CACHE**BOX is a dedicated, fit-for-purpose caching appliance that just focuses on caching. It is highly tuned to support a large number of commonly accessed websites that constantly change the way they deliver content. By supporting those content delivery networks (CDNs) that are relevant to Beshay Steel's traffic **CACHE**BOX is much more effective at the caching task."

CACHEBOX: Significantly reduced cost, making internet useable

Sherif deployed one **CACHE**BOX**110** at Beshay Steel's Headquarters and another 2 at two of his sites.

Immediate cost savings

CACHEBOX instantly cleared up 50% bandwidth capacity (on average) for the company's network.

 Sherif comments: "In Egypt, if you rely on a Fibre Optic over SDSL connection, the 50% we saved gave us a return on investment within 3 months."

"Hands down, the biggest benefit we get from **CACHE**BOX is reduced cost – this deduction of 50% of the internet usage means service from our internet provider is more reliable."

Software updates no longer saturating bandwidth

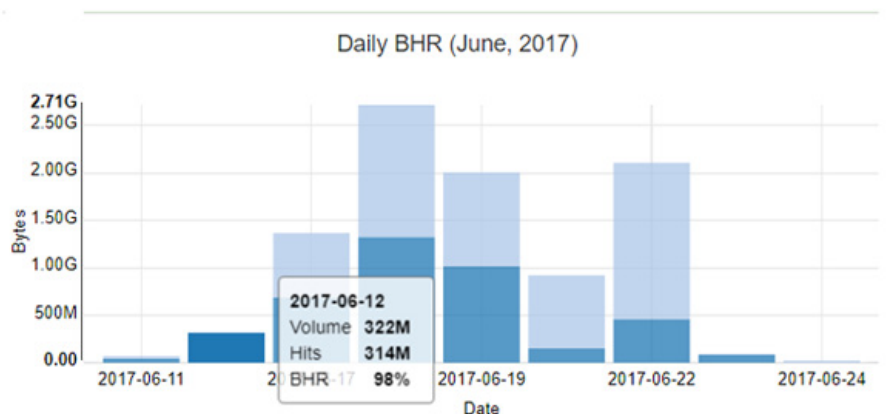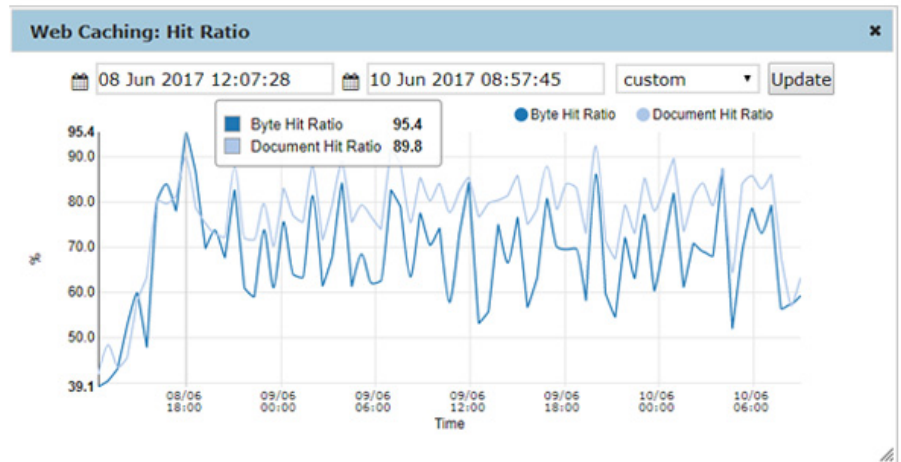CDN caching and pre-caching are the most useful features for Beshay Steel.

"CDN caching allows Gigabytes of phone applications and upgrades to install in seconds," says Sherif. "Pre-caching saves internet usage during peak traffic times, not only saving bandwidth but also speeding up access to content for employees - improving the overall efficiency of our team."

Bandwidth Savings

A snapshot of daily BHR shows that gigabytes of data are routinely served from cache, freeing up the internet pipe.

Daily BHR (June, 2017)

2017-06-12	
Volume	322M
Hits	314M
BHR	98%

In order to improve employee productivity, it was vital to deal with the congestion spikes from software updates that caused the biggest speed issues for employees.

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> By supporting those content delivery networks (CDNs) that are relevant to Beshay Steel's traffic CACHEBOX is much more effective at the caching task than a less fit-for-purpose appliance within a multi-function device

Recent reports from Beshay Steel show up to 95% bandwidth savings at certain times of the day. These are times where previously employees would have drastically slow internet access.

Web Caching: Hit Ratio

> CACHEBOX's advanced CDN caching has resolved this issue by removing both the Windows updates and all other cacheable content, freeing up bandwidth. All employees now have a reliable network speed and access to the latest content.

More capacity for business-critical operations

"We as a company rely on the reports and analytics from Industry 4.0. The only way to get critical data is via the cloud. Previously, we did not have the capacity to do this.

"CACHEBOX's advanced CDN caching has resolved this issue by removing both the Windows updates and all other cacheable content, freeing up bandwidth. All employees now have a reliable network speed and access to the latest content."

"Before, we had to approve every single Windows update – checking to see whether bandwidth was available to support the traffic. Now this is all handled by the CACHEBOX."

"David adds: "For Beshay Steel, it's not just more capacity in terms of bandwidth, CACHEBOX's management features are designed to make remote deployments like this hassle-free, and so ongoing management is not a headache for them anymore."

CACHEBOX: More than just a caching appliance

Commenting on CACHEBOX, Sherif says: "In the manufacturing industry – and across businesses - Internet is no longer an option, it's a necessity. Without a strong network and backbone, these services will not run properly - costing businesses financially and competitively. Access to fast and reliable content is critical.

CACHEBOX is not simply a box that is caching. It improves the way you browse the internet - something that the future of all businesses relies on."

Management headaches are no longer an issue for Sherif: "We've received an excellent support level on every scale from all CACHEBOX experts – right from the research phase to implementation and ongoing maintenance. CACHEBOX's constant CDN updates and appliance monitoring means we do not have to worry. Beshay Steel benefits from optimal caching that's continually adapted to content changes of the internet."