



# CACHEBOX saves bandwidth for Sure St Helena

## CHALLENGE

Remote location requires expensive, low capacity satellite connection

Too much in-house network administration resource spent trying to develop a caching solution

## SOLUTION

Two **CACHEBOX230s** deployed using Web Cache Communication Protocol and clustering

Integration with bandwidth acceleration appliance and load balancer

## BENEFIT

Simple, effective caching solution which has saved 20% bandwidth and significant IT resource

Delayed Sure's investment in further bandwidth capacity

## About Sure

Situated in the middle of the South Atlantic, the island of St Helena couldn't be more remote. As the sole telecoms operator, Sure Telecom needed to provide a fast, reliable broadband connection to residential and enterprise customers.

## Relieving the strain on bandwidth and IT resource

Because it is so remote, there is currently no fibre optic connection between St Helena and international networks. Sure use a 10Mbps satellite connection to deliver telephony and broadband services to more than 2,000 residential customers and 200 businesses on the island.

They use a bandwidth acceleration appliance to gain the equivalent of an additional 5Mbps. However, the cost of providing broadband is still very high and Sure are unable to provide broadband at speeds enjoyed elsewhere in the world.

Sure recognised that caching would optimise the use of their limited bandwidth and looked for solutions within their existing network. "Our bandwidth accelerator came with some caching features but we found them to be too unstable," explained Adam Yon, Networks Manager at Sure St Helena.

They also looked at building a solution in-house. Adam described the issues that his IT team experienced: "we tried to develop a Squid solution but had compatibility problems with our acceleration equipment. Much of our network administration resource was tied up with trying to get it to work and dealing with issues when it didn't."

Sure needed a solution that was proven to work in their situation and that could be deployed without putting a strain on their network management team. They needed an appliance that would deliver high-performance caching, cater for redundancy and integrate with their acceleration equipment.

## A simple solution with enhanced redundancy

Two **CACHEBOX230s** were deployed using Web Cache Communication Protocol (WCCP) to provide improved redundancy. Cisco routers and switches (along with one or two other brands) use WCCP to connect with web caches, maintain the transparent redirection of traffic and optimise resource usage.

The **CACHEBOXes** were clustered as 'siblings' to provide greater efficiency by avoiding duplication of cached objects. This maximises cache storage capacity and enables a large number of requests to be handled. Clustering also provides improved redundancy for Sure; if one cache is unavailable, traffic is automatically redirected to the other. In the unlikely event that both boxes were down, WCCP would ensure that network traffic would continue to flow, by-passing them.

Adam commented "it was very simple to deploy **CACHEBOX** and it's very easy to use. ApplianSys' Technical and sales support staff are very knowledgeable and helpful."

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*I've recommended ApplianSys to other Sure business units who have all made purchases and were happy with the results.*  
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*I work with many technology companies around the world and this has been one of my best experiences.*



### Saving money, bandwidth, and IT Resource

**CACHEBOX** has helped Sure St Helena make the best use of its limited bandwidth. "We have noticed up to 20% bandwidth savings which saved us money as it delayed the need to purchase additional bandwidth. We've added more services and can now cater for bandwidth-intensive content, significantly improving our customer experience."

Sure benefit from **CACHEBOX**'s pre-caching functionality. During quiet periods, they access and cache popular content to enable fast, local access during peak times. This frees up bandwidth to deal with increased traffic.

"**CACHEBOX** works well with our bandwidth accelerator which allows it to access and store data more quickly. This also applies for pre-cached content so we have a solution that squeezes every last drop out of our limited bandwidth."

### A **CACHEBOX** solution for Sure sister islands

With **CACHEBOX** working so well in St Helena, Adam has been happy to recommend it to others. "We now have a robust product that is well tested and has been tailored to cater to Service Providers like us. ApplianSys' technical expertise has reduced the administrative strain on our network managers."

"I work with many technology companies around the world and this has been one of my best experiences in terms of product support and aftercare," he continues. "Feedback is acted on and new features added where possible. I have recommended ApplianSys to other Sure business units - who have all made purchases and are happy with the results."

Impressed by its capabilities, ease of installation/setup, and the quality and dedication of ApplianSys support teams, the Falkland and Ascension Islands, and Diego Garcia in The Maldives, have all quickly deployed **CACHEBOX**es, enabling each to deliver performance improvements to their respective customer base.

### 4 YEARS LATER

#### Easy upgrade to meet rising throughput

With demand for internet service from consumers, enterprise, and streaming services growing continually, each island has increased bandwidth to ensure availability. But as capacity grows, demand soon rises to consume it.

Thankfully, **CACHEBOX** makes it easy to scale performance to closely match needs, so the budget doesn't get wasted. And a lower cost in-contract option enables customers to replace hardware at a discount price.

During 2015 and 2016, St Helena, the Ascension islands upgraded to **CACHEBOX310s**, while the Falkland Islands chose to add 2 new **CACHEBOX310s** to its existing **CACHEBOX230s**.

#### **CACHEBOX** - always refining, always improving

And all the while, **CACHEBOX** firmware has been continually refined to ensure maximised performance. ApplianSys engineers monitor and respond to changes in content delivery with Smart Cache Auto-updates. Delivered automatically or via firmware updates, these clever, under-the-hood changes make difficult-to-cache content possible, including video content and software updates, increasing **CACHEBOX** performance.

That means today's growing demand for operating system and app software updates from



*Saving bandwidth saved us money as it delayed the need to purchase additional bandwidth. We've added more services and can now cater for bandwidth-intensive content including Facebook, significantly improving customer experience.*



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Microsoft, Windows, Apple, and antivirus updates is supported. “We can handle the high data requirements of software updates, which is important to our business customers,” says Adam.

**The result?**

A 50% improvement over time for each Sure service provider. In Diego Garcia, regardless of the changes in monthly traffic volumes, **CACHEBOX** is regularly serving 40%. In fact, in January 2020, 48% of all demand from its customers was served from cache - keeping availability for users at an all-time high.

