

# Case study



## FLEXIBLE NETWORK ACCELERATION

### Replify Accelerator for Increased Data Backhaul Capacity

#### Background

Any network will have its choke points. These have tended to be towards the network edge. Core networks typically have excess capacity - indeed they have to be designed this way because of the wide variability in network load and the need to design for busy hour.

Building core capacity is expensive but in a relative sense, for a given increase, it is much less costly than building the corresponding capacity at the edge. This is of course because, at the edge, we have to add the

capacity through many smaller nodes and many cable runs. Digging up roads, installing and powering edge nodes, and maintaining street cabinets, is an

expensive proposition.

#### The problem

For fixed networks the choke point is the final mile. While many urban residential homes enjoy cable broadband speeds up to 100Mbps or more, the majority are constrained by the limitations of DSL and

for them, and their rural friends, 2Mbps is a more typical speed.

For Mobile the situation has recently inverted. A few years ago the choke point was in the radio access spectrum - a busy cell simply could not provide sufficient bandwidth over the air to customers.

Carriers are now choosing to build out their networks with small cell technologies, and these small cells support high speed wireless technologies such as LTE, and, increasingly, have Wi-Fi capabilities also. So now there is plenty of wireless bandwidth, but these small cells rely on relatively expensive and constrained backhaul technologies such as DSL and P2P wireless.

#### The solution

What most carriers, and their suppliers, don't yet seem to understand, is that they can do better. WAN optimization has been with us for over a decade. During that period it has increased in sophistication and plummeted in cost.

It used to require two boxes costing tens of thousands of dollars to optimize a link running at 10Mbps. Today, virtual WAN optimization controllers from Replify can handle this sort of line speed while running on the new generation of micro-servers using ARM, Freescale and Atom processors, costing around US\$50 per node.



Replify employs its bespoke Intelligent Caching Engine (ICE) to achieve drive this optimisation, applying selective compression, appropriate identification and caching of application payload bytes and protocol specific enhancements to ensure efficient delivery of packets.

### Why isn't it already there?

So why don't we see WAN optimization routinely deployed into backhaul networks. There are a number reasons:

- Lack of awareness of the technology
- Belief that it's an expensive option
- Concern over the complexity of deploying/supporting the technology

Only the last of these is a valid concern and even there, the concerns are exaggerated. Replify was worked with partners extensively to make WAN optimization an embedded technology, seamless integrated into existing management systems, and running in, or out of path as required.



For pure TCP backhaul it is very straightforward to integrate Replify's optimization engine, including its high-performance, low

footprint Intelligent Caching Engine (ICE), into devices such as gateways/hubs, "office-in-a-box", SDN "top-of-rack" controllers, and cellular base-stations. For example, Replify's WAN optimization, running on small rural base-stations is delivering a steady 50% reduction in data traffic on satellite backhaul for a major operator in the far-east.

Given the cost of satellite data, and the impact of satellite link latency on user experience, this is a tremendously cost-effective application of the technology.

Replify's vision is of a virtual WAN Optimization controller (WOC) embedded in every home-hub, in

every NTU, in every base-station and in every mobile device (our client is available for Android, Linux, Windows and MacOS. Peered with a virtual appliance in the carrier's data centre or the application service providers data centre, we will optimize the longest path we can detect to provide that 50% extra bandwidth, and dramatically reduced download times.

### The benefits

The benefits are significant. Our studies show that a data-saving of 50% can be consistently achieved for both Consumer and Enterprise users. That's 50% more bandwidth from your investment. User satisfaction also improves because wherever there is significant latency, and for mobile users latency is always present, their "time to data" is also substantially reduced.

If you're an operator, you should be pushing your suppliers into embedding WAN optimization in their products. They should own the marginal complexity and cost increase in delivering you products that can carry more data, deliver a better end-user experience, and reduce your operational costs.

If you're a vendor, you should be talking to Replify. We can help you make your products more compelling and more cost-effective – contact us here: [sales@replify.com](mailto:sales@replify.com)

### GET IN TOUCH



+44 28 90 918515



[contact@replify.com](mailto:contact@replify.com)



[www.twitter.com/replifyltd/](http://www.twitter.com/replifyltd/)



[www.linkedin.com/company/Replify/](http://www.linkedin.com/company/Replify/)

