

Bigleaf Revives Toymaker's Cloud Reliability

'Dirty Bandwidth' Causes Endless Support Issues for OzWest Inc. and their Outsourced IT Firm



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—Thomas Denning, Technical Service Manager at Portland Internetworks

OzWest Inc. is the exclusive North American distributor of Zing Toys, which manufactures soft toys such as foam pop guns, boomerangs, gliders, and dart blasters. About 25 miles west of OzWest's Portland, Ore. headquarters lies the company warehouse facility in the rural, sparsely populated town of Banks. Here, all products are received, stored and shipped out to retail stores in the United States and Canada.

Unfortunately, operating this warehouse efficiently was anything but child's play for OzWest due to the site's two poor Internet connections, a DSL line and a fixed wireless circuit, neither of which was particularly fast or reliable, especially during inclement weather.

Thomas Denning, Technical Service Manager at Portland Internetworks, OzWest's outsourced IT firm, called it a classic case of "dirty bandwidth": a situation where the connections do the job in a pinch, just not very well.

The backbone of OzWest's IT architecture operates in a Citrix virtual desktop environment, comprised of a colocation center that the warehouse connects to via Virtual Private Network (VPN). However, spotty Internet connectivity impaired the performance of critical business tasks, including accessing file shares, transferring files, opening software programs like Quickbooks, querying the database and printing product labels. Even VOIP calls were frequently affected by glitches and disconnects.

"It was a completely unsustainable environment," Denning explained. Unless OzWest could find a simple solution that alleviated the connectivity problems without major upheaval, "they were facing having to move to a new warehouse location or undergo major reconstruction to accommodate T1 lines or fiber."



Smart Networking Changes the Game

To alleviate OzWest's warehouse problems, Portland Internetworks turned to Bigleaf Networks. Bigleaf's smart networking technology monitors an organization's multiple Internet connections and determines how to optimally load-balance traffic across these connections based on real-time usage trends and performance diagnostics. Bigleaf also actively identifies the most mission-critical and bandwidth-sensitive tasks and prioritizes them on whichever connection is currently performing at its best, or will load-balance these most important functions across multiple connections as necessary.

"We needed something that could aggregate OzWest's two connections and share the traffic across both, utilizing the best one when possible—and Bigleaf offered that," said Denning.

"Management understood that we really needed a stable Internet connection to finally ensure a streamlined warehouse operation," added Anne-Marie Johnson, Controller at OzWest. With connectivity problems reaching their peak in July and August, Johnson acknowledged that there were periods during that time when the warehouse was ostensibly shut down.

The deployment process was remarkably simple. Bigleaf shipped its router device to the warehouse, preconfigured for OzWest's specific needs and service providers. This plug-and-play router interacts with Bigleaf's gateway clusters in the cloud to build direct tunnels over each Internet connection, allowing user traffic to dynamically switch between connections as needed upon encountering performance issues such as jitter, latency and packet loss.

The September 2015 installation of the solution took just one day. Aside from a quick sync call with Bigleaf to finalize the deployment, very little interaction was required. "It was ready to go, out of the box," said Denning.

IT Service Time Dramatically Reduced

For Portland Internetworks, the first sign that Bigleaf drastically improved OzWest's Internet performance was the sudden absence of IT help calls from OzWest. No news was good news, in this case.

"The number of man hours we spend supporting that location is starting to drop off dramatically," said Denning. "It was probably our noisiest location to support and the noise just intensified as weather got worse and impacted that Internet connection even more. But since the deployment, the warehouse has been quiet, just like any other office you might work in now."

Indeed, IT records show that immediately following implementation OzWest's warehouse experienced a 27



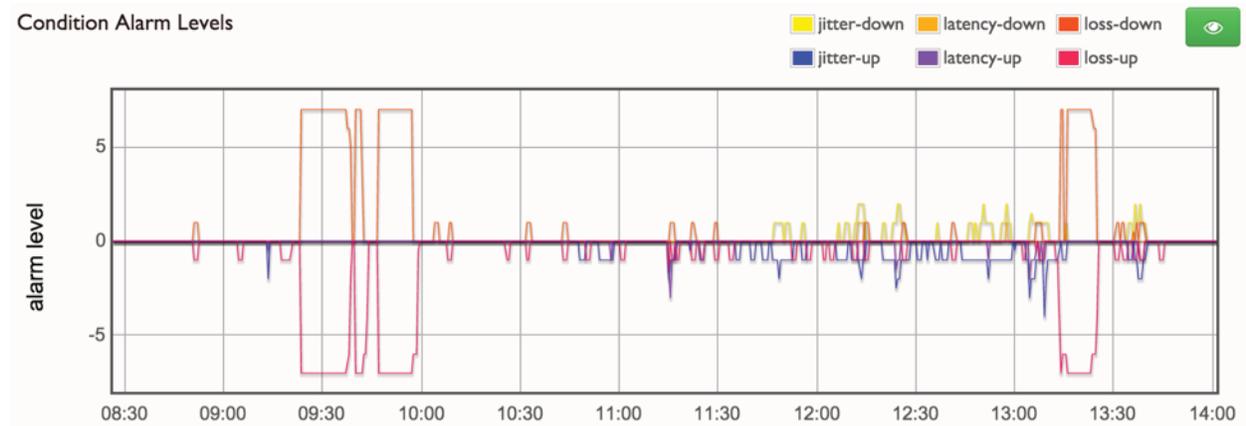
percent month-to-month reduction in support time.

Bigleaf's real-time warehouse diagnostics reports underscore just how desperately OzWest needed a smart networking solution. The charts in the sidebar below illustrate instances on Oct. 31, 2015 when Bigleaf detected performance issues with the warehouse's DSL and fixed wireless connections. But now when one of these connections experiences difficulties, Bigleaf simply reroutes critical traffic to the other connection, without any disconnects or drop-offs.

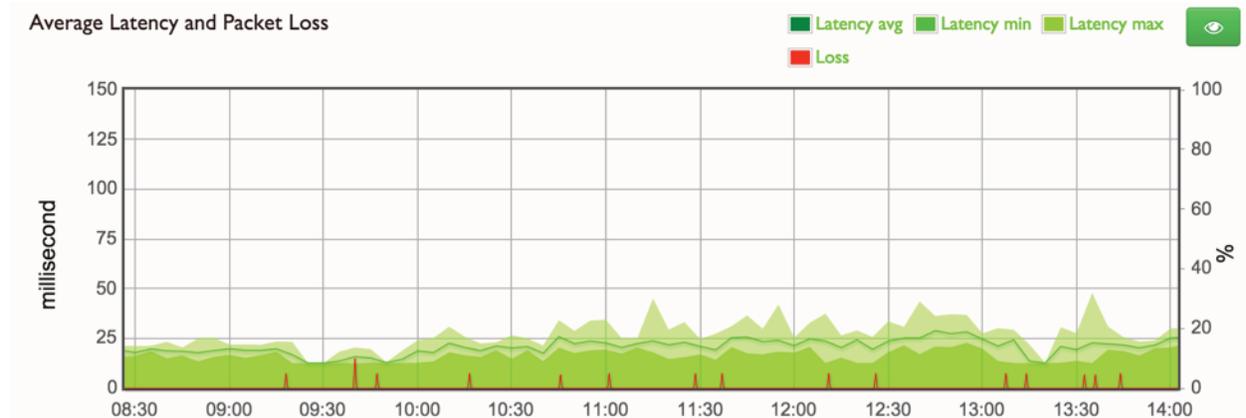
OzWest, for its part, is relieved that Bigleaf finally fixed its warehouse issues and restored normalcy to its operations. "We fixed the connection problems that were plaguing us on a minute-by-minute basis," said Johnson.

OzWest's Internet service on Oct. 31, 2015

Graph 1



Graph 2



As illustrated in Graph 1, the company suffered from a full outage (7-alarm packet loss) on its fixed wireless circuit from almost 9:20 – 10 a.m., plus jitter issues and another critical wireless outage later in the day.

Graph 2 demonstrates how Bigleaf Networks' systems successfully minimized disconnects (color coded in red) stemming from the packet loss. When both connections were performing acceptably, Bigleaf load-balanced traffic across both circuits. But during wireless outages and more severe jitter spikes, Bigleaf automatically rerouted all traffic to run solely on the more stable DSL circuit.

