FrameFlow

FrameFlow Case Study:
Wireless Internet Monitoring at Crave Technologies

Crave Technologies is a wireless Internet service provider (WISP) based on the East Coast providing high-speed internet access to a wide range of consumer, corporate and governmental entities. With a network composed hundreds of radios all supported by a backbone of switches, routers and networking gear, Crave Technologies needed a network monitoring solution.

Wireless Networking

In regions with low population densities, wireless networking is experiencing a surge in popularity. Until recently only carrier-grade technology could handle the bandwidth required to deliver wireless high-speed Internet and associated costs made it impractical for all but major utility companies.

Recently new hardware vendors such as Ubitquiti Networks have developed "prosumer" level products with performance that is not only comparable to that of carrier-grade units but affordable too.

Crave Technologies has taken advantage of this new technology to deliver high-speed Internet to Grand Manan, a Canadian island off the coast of Maine with a population of about two thousand.

Says Howard Small, the company's founder and president, "The network we have deployed would have been impossible just 12 months ago. Wireless technology now approaches the performance of the best solutions in the wired world."

Gigabit Link Over 32km

You don't need any further proof than the new wireless links that Crave Technologies deployed. They connect

Grand Manan to the mainland crossing a distance of 32km (approximately 20 miles) and support an aggregate rate of over 800 megabits per second. Impressive as that is, the link is just one piece of a much larger system.

To connect homes, businesses and agencies to the network, Crave Technologies also maintains a large mesh of radios, backhaul links, switches, routers and other networking components.

Each physical unit has multiple network interfaces and its own properties that need to be monitored.

It was obvious that to keep track of everything, Crave Technologies needed a network monitoring solution.

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A technology called Simple Network Management Protocol (or SNMP for short) is the workhorse of network monitoring. Crave evaluated several monitoring solutions with deep support for SNMP and settled on FrameFlow Server Monitor.

Easy SNMP Monitoring

"Compared to the other products on the market, FrameFlow was easy to deploy and immediately gave us the view of the network that we needed" says Howard Small.

The first step was to use FrameFlow's ability to auto-discover SNMP devices. A scan was configured to look across several subnets and within a few seconds it had found every piece of networking equipment in the specified IP ranges.

Bandwidth event monitors were configured to watch all primary links for incoming, outgoing and total bandwidth. Ping event monitors were also configured to continuously monitor response times and measure latency.

Thresholds were set to alert Crave's staff members if any device failed a check or if any threshold was exceeded.

Extensible SNMP Properties

Many of the monitoring systems that Crave evaluated were rejected because of limited options to monitor anything but basic SNMP values such as bandwidth and up time.

In the world of wireless networking these core values are important but perhaps even more important are values like signal strength. The ability to import SNMP MIB files and extend monitoring to custom values was an important requirement that FrameFlow easy met.

FrameFlow was involved with the setup of Crave's monitoring configuration. About one week after their evaluation began, an online meeting was scheduled so a FrameFlow technical representative could look at Crave's initial monitoring configuration and offer tips and suggestions. The results included new dashboards showing network status and several important optimizations.

Customer-Driven Focus

Says Don Leclair, technical lead at FrameFlow, "Our experience with Crave Technologies is a perfect example of how we like to be involved during the deployment of our software."

Every customer has unique requirements. We use our experience and expertise to offer non-obvious solutions to complex requirements."

Along the way FrameFlow acquired in-depth knowledge about how wireless Internet service providers work. This feedback has been incorporated into FrameFlow's design cycle. The product development team is already working on new features that will assist extensible monitoring for SNMP in general markets and industries.

Mr. Leclair says: "A good feature is usually perfect not only for those who suggested it, but for businesses in many other markets too."

Future

The Wireless Internet Service Provider space is a hot topic that is gaining coverage not only on the East Coast but also in dense civic environments where it can provide business with individualized networking solutions.

Crave Technologies is in the planning stages for further expansion to not only adjacent community regions but to metropolitan zones as well. As more and more equipment is deployed to support this expansion, FrameFlow will play an important role to assist with Crave's growth.