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// Shahedur Rahman, Senior Engineer-Network Development, SaskTel

Saskatchewan Telecommunications Holding Corporation (SaskTel) is the leading full service communications provider in Saskatchewan, with over \$1.1 billion in annual revenue and more than 1.4 million customer connections. SaskTel offers a wide range of communications products and services, including competitive voice, data, internet, entertainment, national security, messaging, cellular, wireless data and directory services. In addition, SaskTel International offers software solutions and project consulting in countries around the world.

Time to Tap 10Gb

With the goal in mind of meeting the performance demands of its customers, SaskTel upgraded its infrastructure to 10 Gigabit Ethernet in order to meet reliability and availability requirements. At the time of the upgrade, it became clear that in addition to the performance boost, upgraded monitoring tools were also needed to ensure the network would continue running smoothly and securely.

SaskTel serves its more than 1.4 million customers with over 594,000 wireless accesses, 514,000 wireline network accesses, 234,000 internet accesses and 93,000 Max™ (TV) subscribers. According to Shahedur Rahman, SaskTel Senior Engineer, Network Development, "We wanted to TAP everything for port density. Before we upgraded the network, we had an aggregation TAP box in place but that only supported 1Gb and we needed a solution that would support 10Gb."

So the communications provider looked at monitoring and visibility solutions from leading vendors and put priority on aggregation, the ability to capture traffic at 10Gb, and visibility across the entire network. SaskTel chose Gigamon and its purpose-built, high-density GigaVUE-HD8 and GigaVUE-420 Traffic Visibility Fabric Nodes.

The GigaVUE-HD8 replicates and filters network traffic to monitoring and security tools. It supports thousands of map rules at 10Gb+ line rates.

The GigaVUE-420 supports 10/100/1000Mb and 10Gb. It aggregates, filters,

Challenge

When SaskTel was looking to upgrade its network to 10Gb, the service communications provider set out to find a monitoring and security assurance solution that would provide real-time, end-to-end visibility to better manage, analyze and secure their network.

Solution

A Traffic Visibility Fabric™ solution built on the GigaVUE-HD8 and GigaVUE-420 fabric nodes, delivering aggregation, filtering and replication of 10Gb traffic flows across multiple security and monitoring tools.

Benefits

- Complete oversight of the network to proactively identify as well as solve problems quickly and easily, allowing business to proceed as usual
- Aggregation and filtering of incoming 10Gb data to multiple 1Gb tools extending the life and ROI of these tools
- Comprehensive network traffic visibility to security tools overseeing PCI compliance and performance tools monitoring call flows and data sessions

and replicates traffic flows across multiple security and monitoring tools.

“Gigamon met all of our requirements, and 10Gb was especially important. It’s great that we can mix and match different port densities.”

// Shahedur Rahman, Senior Engineer-Network Development, SaskTel

The Gigamon stacking technology allows SaskTel to stack multiple GigaVUE-420 chassis to make a virtual switch fabric for centralized network monitoring. Connecting multiple GigaVUE® systems in a cross-box stack means that data arriving at a network port on one GigaVUE can be forwarded to a tool port on another GigaVUE, providing a full network view as well as simplicity for Rahman and his team.

Ready to React for Customer Satisfaction

SaskTel has attached multiple monitoring tools to the Gigamon solution for a comprehensive view helping ensure around-the-clock visibility for security teams supporting PCI compliance to protect its network as well as its customers. SaskTel monitors SS7 links in addition to SIP and VoIP links to ensure call reliability and quality using the Gigamon Visibility Fabric. The GigaVUE fabric nodes aggregate and filter incoming 10Gb traffic and sends it to lower speed 1Gb monitoring interfaces extending the life of the these tools (See Figure 1). End-to-end, real-time network visibility provided by the Visibility Fabric is crucial to ensure SaskTel’s customers are satisfied with their services, including wireless, telephone, messaging and entertainment (TV).

The Gigamon solution gives SaskTel a universal Traffic Visibility Solution eliminating port contention. Each TAP passes its link’s traffic through the GigaVUE fabric node and can provide anybody with the access they need to the same data stream without affecting port configuration for someone else. SaskTel is also able to dynamically aggregate disparate traffic streams instantly and accurately, eliminating manual network reconfiguration processes which can be costly and time consuming.

“The help that the Visibility Fabric provides for troubleshooting is tremendous,” said Rahman. “We have an end-to-end view with our monitoring tools tied into the GigaVUE fabric nodes, so we are able to see everything and can take action right away if we have a problem.”

Going with the Flow

Intelligent Flow Mapping technology offers flexibility to adjust the flow of traffic without affecting the production network. Flow Mapping packet distribution starts with network ports and ends with tool ports, and is used to include or exclude traffic on connections. SaskTel can decide which traffic should be forwarded, where it should be sent, and how it should be handled once it arrives. For example, Rahman can include or exclude traffic based on DSCP assured forwarding values, MAC addresses, IPv4/IPv6 addresses, application port numbers, VLAN IDs, protocols, etc. Applying maps to data ensures that each tool sees only the traffic that best suits its needs and nothing else.

“We really like the benefits of Flow Mapping, such as the ability to discard traffic from a specific IP address or send packets matching a user-defined pattern to a local tool port,” said Rahman. “It’s a very useful feature.” SaskTel is happy with its selection of a Gigamon Visibility Fabric.

“We appreciate the flexibility of the Gigamon Visibility Fabric and the fact that it has shortened our troubleshooting time significantly. Gigamon has given us visibility across all of our networks. All of this translates to a better experience for our customers.”

// Shahedur Rahman, Senior Engineer-Network Development, SaskTel

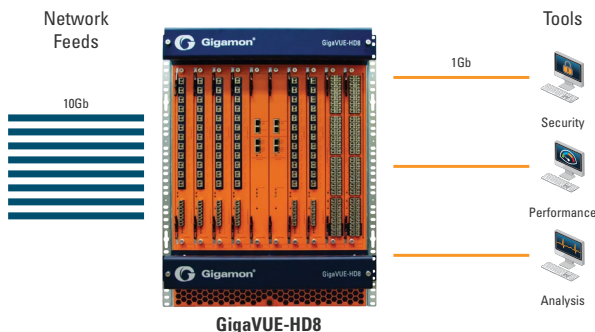


Figure 1: 10Gb traffic is aggregated and filtered to lower speed 1Gb tools to avoid oversubscription

About Gigamon

Gigamon provides an intelligent Traffic Visibility Fabric for enterprises, data centers and service providers around the globe. Our technology empowers infrastructure architects, managers and operators with pervasive visibility and control of traffic across both physical and virtual environments without affecting the performance or stability of the production network. Through patented technologies and centralized management, the Gigamon GigaVUE portfolio of high availability and high density products intelligently delivers the appropriate network traffic to security, monitoring or management systems. With over eight years' experience designing and building traffic visibility products in the US, Gigamon solutions are deployed globally across vertical markets including over half of the Fortune 100 and many government and federal agencies.

For more information about our Gigamon products visit:

www.gigamon.com