Case Study

Mobile Network Operator, Zain, Deploys Gigamon to Efficiently Scale its Network Monitoring Systems

The beauty of the Gigamon system is that now we can connect any tool to our network, without impacting it, as well as feeding the tools with just the data they need to see. Each tool has its own requirements and Gigamon can respond to that requirement. The network is more efficient and so are our monitoring tools.

MOHAMMED A. ALMUBARAK
Performance Team Leader of Technical Quality, Zain

Challenges

- Multiple Appliances and Tools
- Monitoring Mobile Traffic
- Load Balance Traffic

Solution

- Gigamon Deep Observability Pipeline
- GigaVUE® HC Series
- GigaSMART®

Customer Benefits

- Saved the cost of deploying unnecessary duplicated appliances
- Load balanced traffic across multiple systems
- Created a platform that enables new tools and appliances to be added quickly and simply without consuming new network ports

Challenges

Zain needed to analyze the performance of its mobile network by deploying several tools that needed to be presented with different types of mobile traffic, loadbalance traffic across multiple appliances and solve the problem of connecting many tools to many network ports.

Zain's operations team includes a quality division, which collects and analyses information gathered from the network and troubleshoots any performance issues. The quality team from Kuwait wanted to analyse the performance of its mobile network by deploying several analytics tools, including a probe and a video reporting tool. The probe provides network and subscriber intelligence, enabling mobile operators such as Zain to perform real-time monitoring and troubleshooting. The video tool enables Zain to perform QoE-driven measurement of video traffic across its network. But the efficient and effective deployment of these monitoring tools presented Zain with some challenges.

The probes needed to monitor different types of mobile traffic, with one handling 2G and 3G traffic, and another monitoring 4G traffic. But the network feed combined all of the 2G/3G and 4G traffic on a single port. This meant the network would need to send the same traffic twice, once to each appliance, and the volume of traffic would have overloaded the existing appliances, requiring Zain to deploy multiple devices for each type of network, each of which would have been used inefficiently.

The video system only measures video traffic, but would be presented with all traffic types, even those of no value to it. As well as consuming unnecessary resources on the appliance, the volume of video traffic was too great for any single system, so Zain needed a way of load-balancing a single traffic feed across multiple appliances.

On top of this, it was not practical to connect multiple monitoring and analysis systems to the same network switches, which would have each required multiple mirror ports and suffered from an increased processing overhead.

Solution

Zain solved its challenges by using the Gigamon Deep Observability Pipeline. The fabric was built using a pair of GigaVUE-HC2 fabric nodes equipped with GigaSMART cards. Information was collected over 10GE interfaces connected to Cisco switches in the mobile network, and the appropriate data was then presented to the probes and video tools.

The Gigamon Deep Observability Pipeline segmented the different types of mobile traffic across different ports, presenting only 2G and 3G traffic to one of the probe servers and the 4G traffic to another server. The Gigamon Deep Observability Pipeline also filtered out video traffic and load-balanced it across multiple network appliances to help enable them to scale.

Mohammed A. AlMubarak, Performance Team Leader of Technical Quality, said, "The Gigamon Deep Observability Pipeline allows the regeneration of the same traffic to multiple destinations, and allows us to filter out unnecessary traffic, which increases our systems' efficiency."

Most importantly, there was now only a single connection required on the network switches, solving the challenge of connecting many tools and appliances to many network ports.

Results

Zain has saved the cost of deploying duplicate appliances to scale its monitoring systems, and been able to load balance traffic across multiple systems.

Deploying the Gigamon Deep Observability Pipeline has also enabled new tools and appliances to be added quickly and simply without consuming new network ports. For example, Zain can now add a new system to generate SMS roaming welcome messages, simply by connecting it to the Gigamon Deep Observability Pipeline and using the pipeline to select only the international mobile traffic.

Mohammed A. AlMubarak, said, "The beauty of the Gigamon system is that now we can connect any tool to our network, without impacting it, as well as feeding the tools with just the data they need to see. Each tool has its own requirements and Gigamon can respond to that requirement. The network is more efficient and so are our monitoring tools."

About Zain

Zain is a mobile and data services operator with a footprint in nine Middle Eastern and African countries including Bahrain, Iraq, Jordan, Kuwait, Lebanon, Morocco, Saudi Arabia, South Sudan and Sudan. Zain has a workforce of over 7,000 people, providing a comprehensive range of mobile voice and data services to over 40 million customers.

About Gigamon

Gigamon offers a deep observability pipeline that harnesses actionable network-level intelligence to amplify the power of observability tools. This powerful combination enables IT organizations to assure security and compliance governance, speed root-cause analysis of performance bottlenecks, and lower operational overhead associated with managing hybrid and multi-cloud IT infrastructures. The result: modern enterprises realize the full transformational promise of the cloud. Gigamon serves more than 4,000 customers worldwide, including over 80 percent of Fortune 100 enterprises, nine of the 10 largest mobile network providers, and hundreds of governments and educational organizations worldwide. To learn more, please visit gigamon.com.

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