Gigamon®
The Smart Route To Visibility™

# BICS Develops New Business Intelligence Service for Mobile Operators

// Case Study

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***// BICS Engineering Team***

bics
a belgacom company

BICS, a global provider of international connectivity and interoperability services, has a world-leading position in the international Voice and Mobile Data markets. Its strong focus on customer intimacy has led BICS to become the international wholesale partner to over 400 mobile operators worldwide, providing much of the network connectivity that facilitates global handset roaming. It has offices in Brussels, Bern, Dubai, Singapore and New York.

BICS has recently developed and launched its new SMART Webvision service. The SMART Webvision solution is an easy-to-use roaming, monitoring, tracking, tracing and business intelligence tool. It allows MNOs (Mobile Network Operators), MVNOs (Mobile Virtual Network Operators) and roaming service providers to make intelligent business decisions based on the analysis of subscriber behaviour, usage trends and network performance.

This allows BICS' customers to modify their data roaming service propositions and develop new tariffs, as well as drive additional revenues from international roaming. The solution also provides information to support targeted marketing and promotional campaigns. Business intelligence information is delivered to BICS' customers in near real-time through a centralised management system.

## *Challenge(s)*

The SMART Webvision service needs to monitor, track, trace and report roaming traffic using SS7 signalling. It also needs to support Diameter billing messages, LTE data and GPRS Roaming Exchange network (GRX) technologies.

SMART Webvision is composed of different modules - SS7 Signalling, LTE Diameter Signalling, IP Data on GRX and IPX Transport - that can be activated separately on three levels: monitoring functionalities, track and trace capabilities, and business intelligence. To achieve this, the service infrastructure has to identify whether the

## *Challenge*

BICS new SMART Webvision service platform needed a cost-effective and technically innovative solution to support the collection of mobile roaming data from many locations around the world into centrally located signalling probes.

## *Solution*

A Gigamon Visibility Fabric™ solution using GigaVUE-TA1 traffic aggregators, GigaVUE-HD4 fabric nodes at the core sites, and GigaVUE-HB1 fabric nodes at the remote sites.

## *Benefits*

- End-to-end visibility from the remote site to the core
- Gigamon Patented Flow Mapping® technology saved BICS from having to overbuild a large and complex infrastructure of probes across every location
- Reduction of CAPEX and OPEX by centralising tools and simplifying management

network is experiencing any SS7/LTE/GRX interconnection problems and understand the quality of service delivered to each end user.

To implement the service, BICS needed to create a scalable, flexible and at the same time manageable data collection overlay for the network signaling systems at thirty locations around the world. The consolidated and correlated data from this overlay is used by monitoring systems and turned into business intelligence for its customers.

Locating and managing a probe in each site was not a feasible option for BICS, due to the high cost of ownership and the additional complexity caused by the need to correlate data from many sources. BICS looked for a solution that could physically tap the data locally, aggregate and intelligently present it back into a central location in the correct format for its service probes to understand.

### *Selection Criteria*

BICS went through a structured RFP process to evaluate and select the best solution for its new SMART Webvision service. It was looking for the solution that best met a number of critical criteria:

- Technology: BICS needed a rich set of technical features. Specifically, these included the ability to handle signalling traffic with different types of packet headers, along with the capability to remove the unwanted packet headers and deliver the traffic to the centralised probes as native IP packets.
- Flexibility: BICS was looking for a scalable platform, where the number of TAPs could be increased as new customers were connected, without replacing hardware platforms or incurring new licence fees. BICS was looking for both the flexibility derived from having a large number of free ports on each system, as well as being able to seamlessly upgrade the systems to work at 10Gb in the future, if needed.
- Support: BICS' service needed to support operators from all around the world, so it needed a high quality international support network that could match its customer footprint.

BICS had not used Gigamon's technology before, but selected Gigamon after concluding that it offered the best fit for BICS' technology, flexibility and support requirements, combined with a future vision and an agnostic view towards analysis tools.

### *Solution*

The Gigamon Visibility Fabric is being deployed as part of BICS' new service infrastructure at thirty locations around the world, with multiple Gigamon TAPs in each site. The Gigamon's solution filters and processes the traffic, then aggregates it back to two central sites using Gigamon's hardware-based patented Flow Mapping technology. The remote sites use GigaVUE-TA1 traffic aggregators and GigaVUE-HB1 fabric nodes. The two central sites use GigaVUE-TA1 traffic aggregators and larger scale GigaVUE-HD4 fabric nodes.

The Gigamon solution processes both the signalling and the data roaming traffic from BICS' customers' networks. This already amounts to several gigabits per second of traffic in total, with the volume of data roaming traffic growing rapidly.

One of the central sites is located in Europe and one in Asia to reduce unnecessary consumption of expensive international bandwidth.

Global support is provided on every site by Gigamon's support partner, Simac ICT. Gigamon's technology is a key element in Simac's end-to-end business management solutions, which combine infrastructure management, IP flow management and application performance management (APM) into a full business management view.

### *Results*

The rollout of the Gigamon solution is well under way, with no major issues encountered. The systems are already sending traffic back to the central probes, and the SMART Webvision service is on track.

Deploying the Gigamon solution has avoided the need for BICS to overbuild a large and complex network of probes in every location that it needs to tap traffic.

BICS engineering team feedback was that, "The alternative to using Gigamon's technology would have cost us much more

and introduced a great deal of complexity by requiring probes in every site. We would have had a complex traffic correlation problem. The probes need to rebuild all the flows and correlate the connections with total traffic volumes, but a local probe in one site can miss packets. The Gigamon solution removes this problem by efficiently bringing all of the traffic we need back to our central sites."

### *Next Steps and Lessons Learned*

The new SMART Webvision service is still in its final stage of deployment, but BICS already has plans to use Gigamon technology for its international voice signalling traffic, migrating over from its previous solution. The scalability of the GigaVUE® Visibility Fabric nodes means that BICS will be able to reuse its core systems for both voice and data services. Additional GigaVUE-TA1 traffic aggregators will be deployed in dispersed locations, dedicated to capturing the remote voice signalling traffic.

With the Gigamon solution, BICS can now deliver greater value to its customers through the accurate monitoring of roaming subscriber data on its networks, as well as offering more granular billing and usage reports to its GRX partner carriers. It also allows BICS to provision the right services and optimise the capacity of its global roaming network wherever it is needed. End subscribers also benefit from the solution by having a more robust roaming network as well as gaining greater visibility into their billing and network usage.

### *About Gigamon*

Gigamon® provides an intelligent Visibility Fabric™ architecture to enable the management of increasingly complex networks. Gigamon 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, centralized management and a portfolio of high availability and high density fabric nodes, network traffic is intelligently delivered to management, monitoring and security systems. Gigamon solutions have been deployed globally across enterprise, data centers and service providers, including over half of the Fortune 100 and many government and federal agencies.

For more information about our Gigamon products visit:
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