



Service Provider Maximizes Visibility in Mobile Networks

Company

- U.S.-based telecom provider
- 100+ million subscribers

Key Objectives

- Analyze performance of mobile networks
- Correlate subscriber sessions

Solutions:

- Vision 7300 (NTO 7300)
- Vision 7300 Flow Distribution Module
- GTP Session Controller (7433)

Results

- Reduced the load on probes by 30-40%
- Reduced the CAPEX by 50%
- Reduced MTTR

SAVES CAPEX AND OPEX COSTS

This mobile service provider is a leading provider of communications and digital entertainment services in the United States and the world. Introducing new services in the network to grow subscriber base while avoiding customer churn is key to them. The network team at this Tier 1 provider monitors the mobility network to support key corporate goals in the areas of service assurance and quality of experience. For months, they searched for a solution that could provide visibility to their network infrastructure.

CHALLENGE

A key challenge was to analyze the performance of the provider's mobile network. They wanted to achieve this without creating processing overhead and requiring multiple SPAN ports.

Another challenge was to find an improved solution to correlate GTP session data, which provides a complete picture of subscriber's activity across the radio access and core networks. The customer's current solution was performed by specialized devices known as monitoring probes. Probes spent 50% of their CPU capacity and memory to correlate user data between themselves instead of generating important KPIs. As the network grew, due to increased demand for data, the existing probes were not able to keep up with traffic explosion, necessitating more probe infrastructure, and escalating CAPEX costs. The time to troubleshoot issues with monitoring probe also increased.





“With explosive growth of data traffic in our network, we needed a scalable solution that would correlate subscriber sessions, optimize network performance and reduce troubleshooting time. The Ixia’s solutions not only helped us achieve our objectives, but also save costs. The solution was also easy to install and operate and what we needed.”

Network Engineer

CUSTOMER CONDUCTS PROOF OF CONCEPT

To find a solution to these challenges, the network team decided to conduct a proof of concept of several vendors’ solutions to measure their effectiveness. They wanted to see if deploying a GTP session monitoring solution would accurately correlate each of the subscriber data sessions. The tests proved that Ixia’s GTP solution can correlate subscriber sessions accurately and monitor high volume GTP sessions without dropping packets.

NETWORK TOOL OPTIMIZER MAXIMIZES VISIBILITY, REDUCES MTTR

To analyze the performance, the provider needed detailed and accurate information from all parts of the network. Ixia’s Network Tool Optimizer (NTO) provided access to all the network traffic. The NTOs were deployed in the Evolved Packet Core and Access Networks of the provider’s Data Centers, Regional Data/Technology Centers, FEMTO Cells, Metro Cells, and in Managed Services solutions. NTO’s filtering capabilities ensured the delivery of the right traffic to the right tool, greatly improving network performance. And the Flow Distribution Module reduced the need for expensive monitoring probes by load balancing GTP flows based on probe capacity. Additionally, the packet capture & decode/analysis capability was used to reduce Mean Time to Repair (MTTR).

SCALABLE MOBILE NETWORK MONITORING REDUCES LOAD ON PROBES

Ixia’s GTP Session Controller (GSC) complemented the monitoring architecture. The GSCs offloaded monitoring probes by correlating and distributing the session’s data always to the same probe (see picture below).

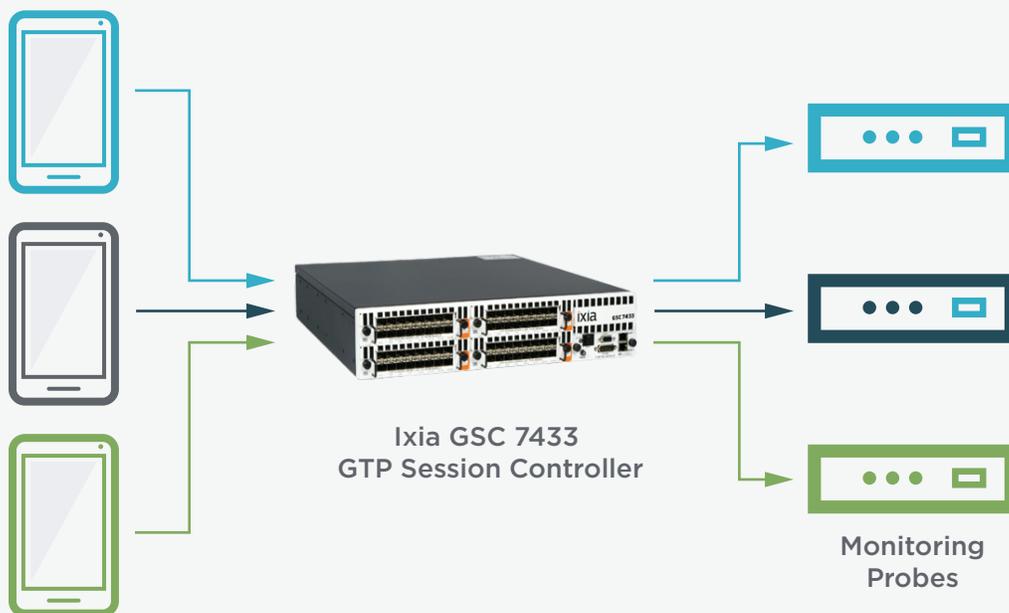


Figure 01
Ixia’s GTP Session Controller (GSC)



They were widely deployed in the Core network to enable Service Assurance and Big Data Analysis. GSC's ability to feed service assurance virtual probes through GRE tunneling capability, helped reduce troubleshooting time.

RESULTS

Deploying Ixia's solutions helped achieve all the key objectives for the provider. The NTOs helped analyze the performance of the mobile networks by eliminating the blind spots. The GSCs reduced the CAPEX costs associated with monitoring probes by **up to 50%**, eliminating needless infrastructure. Further, the load on monitoring probes was reduced **30-40%**, by moving the session correlation processing to GSC. Both the NTO and GSC helped reduce the MTTR network probe issues. When the network traffic increased, the architecture was built to scale with it, by simply adding GSC rather than probes and tools.

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