Feature Brief

SIP/RTP Correlation

_Offload Analytic Tools, Gain New Operational Efficiencies_

The volume of information traversing service provider networks has increased drastically, and the tools infrastructure has been unable to scale accordingly. Service providers have searched for a way to efficiently and effectively monitor performance and Quality of Experience (QoE) of media for their subscribers. Voice services are particularly critical from a compliance and competitive perspective.

Session Initiation Protocol (SIP) is the dominant method to initiate, maintain, modify and terminate voice calls in service providers’ networks. Real-time Transport Protocol (RTP) is used to manage the real-time transmission of voice payload across the same networks. Visibility into a subscriber’s voice traffic requires the ability to understand the subscriber attributes and stateful information contained within SIP to correlate subscriber-specific RTP traffic so that monitoring tools can achieve an accurate view of the subscriber’s traffic on the network.

Gigamon’s SIP/RTP correlation application correlates the subscriber specific attributes and the endpoint identifiers of the RTP streams where the session is carried, as well as other SIP-related attributes that are exchanged as part of the control sessions. The Visibility Platform using SIP/RTP correlation leverages a subscriber-aware monitoring policy, and can optimize current tool infrastructure investments by providing only relevant data to tools while increasing visibility into subscriber traffic. This helps improve QoE and performance. Carriers gain access to the subscriber’s traffic by reliably correlating and passing all the identified subscriber’s control and data sessions to the analytics/monitoring probes and/or billing subsystems for an accurate view of the subscriber’s sessions.

SIP/RTP correlation can be combined with other GigaSMART® traffic intelligence applications like Application Session Filtering for example, which enables monitoring tools to perform more efficiently by eliminating entire sessions of unwanted traffic. The SIP/RTP correlated traffic that is destined to servers hosted in an operators’ infrastructure can also be decrypted by the GigaSMART SSL decryption function for malware analysis or inspection by other security functions. Gigamon’s SIP/RTP correlation application also has the ability to ensure that all IP fragments within the subscriber session are sent to the same tool.

When used with FlowVUE, Gigamon’s intelligent scaling of active subscribers, carriers can have a representative view of a subscriber’s usage patterns. Armed with these subscriber-level insights, Gigamon products can help operators to identify roaming subscribers across peered networks through SIP/URI filtering.

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**Key Benefits**

- Optimize tools processing by accurately filtering, replicating, and forwarding monitored subscriber sessions
- Increase analytics accuracy by reliably correlating subscriber sessions
- Proactively identify service issues impacting (and frustrating) subscribers
- Facilitate drilldowns into roaming users across peer networks
- Empower monitoring tools to gauge end-user QoE
- Enable reliable accounting, billing, and subscription management
- Help decrease MTTR and reduce attached tools results ambiguities
- Improve insights by increasing accuracy and precision

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*Mobile data traffic is exploding:*

18x growth over the past 5 years*

7x increase between 2016 and 2021*

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*Cisco VNI Global Fixed and Mobile Internet Traffic Forecasts*
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By gaining a complete activity view of high-value subscribers, carriers can look to:

• Optimize ARPU by improving operational efficiency, allowing them to better compete with their in-market competitors on an expenses basis

• Ensure business continuity and Quality of Experience

• Identify and monetize new offerings

SIP/RTP Correlation Features

• Stateful filtering based on subscriber ID’s (SIP URI)
  - Stateful correlation of SIP with RTP messages
  - Correlation of SIP URI with corresponding RTP identifiers (IP address and port number)
  - Forward of subscriber-specific control and media sessions to a tool or a group of tools

• Traffic filtering, replication, and distribution based on:
  - SIP URI

Use Cases

• Subscriber filtering
  Select and forward subscriber traffic to monitoring tools utilizing attributes including subscriber information such as SIP URI and RTP stream identifiers.

• Load balancing
  Load-balance all sessions to multiple tool ports utilizing SIP URI based load-balancing criteria.

• Correlated FlowVUE
  Ensure that 100% of traffic for a sampled subset of subscribers can be forwarded to monitoring tools, allowing the traffic to be scaled to fit the existing tools.

• Whitelist
  Allow a defined list of high-value subscribers to be chosen to receive full time monitoring even with SIP/RTP correlated FlowVUE processing enabled.