NETWORK MEDIATION

UNLOCKING THE POTENTIAL OF NETWORK DATA

A WHITE PAPER

INTRODUCTION

Communication service providers (CSPs) have a pedigree in collecting usage data—in extremely large quantities and from a diverse range of network interfaces. Primarily this data is used for billing and accounting purposes such as managing accounts, issuing statements and collecting payments. Other common applications include wholesale settlements, roaming clearing and fraud detection.

As a result, CSPs have a wealth of information held captive as raw data in not just back office systems, but also in their networks. By transforming this raw data, CSPs can unlock its value to provide business insights to key areas of their organization such as marketing, network operations, customer retention and legal compliance. The result: both direct and indirect impact on the bottom line, as well as increased service quality and reduced churn. CSPs need to be able to transform this raw data into actionable business intelligence.

NETWORK MEDIATION IS CRUCIAL TO REVENUE

CSPs have been using subscriber usage records (e.g., call detail records) very effectively for many years to work out charges and generate itemized bills for communications services.

There is a growing realization that this data has many applications beyond billing, particularly in other revenue-generating uses such as enabling network and service optimization, customer experience management, fraud detection and targeted marketing to name but a few.

Correlating traditional usage data with other sources of information from the network (e.g. geolocation servers, log files, signaling systems) is key to understanding the network and consumer behavior; and in turn uncovering opportunities to boost revenues.

The collection, storage and analysis of huge volumes of data from the network and back office systems has given rise to the big data age and CSPs need to be in a position to capitalize on the data available to them.

Other industries such as social media, financial services and online retail have led the way in using data about their customers' behavior to:

→ Assess and improve quality of service

→ Identify bottlenecks and optimize network performance

→ Identify cyber threats and fraudulent usage patterns

→ Gauge customer satisfaction and target customers likely to churn

→ Identify opportunities to push targeted advertising and promotions

→ Measure service usage and reward customer loyalty

Given the right tools, CSPs can also unlock the potential in the data already at their fingertips for a variety of use cases as shown below.
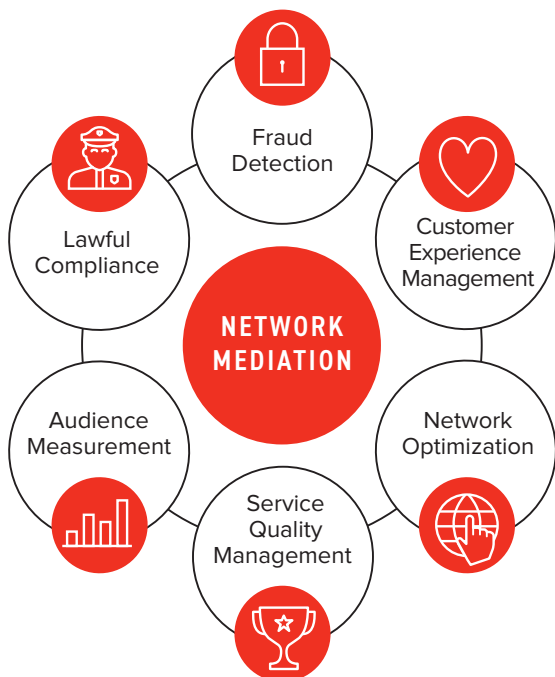
LEVERAGING BIG DATA TO DELIGHT CUSTOMERS

Virtually all businesses (not just CSPs) now sit on data goldmines, but very few leverage the data effectively to improve customer service and build brand loyalty.

Initially, there was a lot of discussion around Big Data and its potential uses in identifying consumer trends, new product planning and targeted marketing.

However, now that consumers have seen what social media and mass customization are capable of, they increasingly expect this kind of personalization in real-time communication with their CSP, not just a passive role absorbing marketing messages.

It is clear that brand relationships are evolving into two-way processes. Consumers increasingly expect CSPs to know their preferences and act accordingly in interactions with them. CSPs that do this best will ultimately be the ones with strong brand images, loyal customers and healthy revenues.

The data available in the CSP network can be used to achieve this, but it is not without its challenges.

NETWORK MEDIATION CHALLENGES

The explosion of data traffic alongside the emergence of new technologies drives the necessity to deploy a cost-efficient mediation solution focusing on acquiring and processing billions of events per day feeding big data applications.

The mediation solution needs to be capable not just to acquire data from a wide array of disparate sources, but also to exchange messages with network equipment and other servers for the collection of data at the right time and the right level of detail.

Fraud Detection

Lawful Compliance

Customer Experience Management

NETWORK MEDIATION

Audience Measurement

Network Optimization

Service Quality Management

In a technology world evolving fast, it also needs to be configurable and easy to customize to accommodate new streams of data still unknown today.

And last but not least, the solution needs to be scalable, cost efficient and secure in a high-volume environment.

Many of the legacy ETL tools and mediation systems in place at CSPs today lack the necessary speed, flexibility and scalability to meet the demands of network mediation going forward.

NETWORK MEDIATION CAPABILITIES

A next-generation mediation solution must support a number of capabilities that are vital for network mediation requirements, including the following:

1) **Fast network integration**—solutions must support proven, industry-standard interfaces and must support multiple network vendors. It must also be possible to deploy new collectors quickly and support collection right from low level signaling events up to application and content usage information

2) **Cost-effective scalability**—in order to glean the best insights from the data available, many data sources must be correlated together, so mediation must support high performance correlation which does not require any expensive third party products or databases

3) **Data aggregation and correlation**—solutions need sophisticated aggregation features necessary for big data to reduce the raw volume of data distributed for onward processing, like session correlation, session aggregation, record sequencing, sorting and nested correlation

4) **Carrier grade availability**—mediation must deliver continuous availability, and should be able to leverage virtualization to ensure the mediation function is always-on

5) **Seamless real-time support**—in order to capture all of the required sources of network data and make instant decisions upon it, mediation must be able to communicate in real-time with many types of network device (e.g. probes, application servers). It must be possible to request, consume and acknowledge receipt of network data in real-time as well as in the more traditional batch mode using the same platform

TOGETHER, YOU WIN.

6) **Responsiveness to business**—solutions must allow users to quickly change mediation rules and business logic in response to evolving business requirements and competitive challenges. Support for Complex Event Processing engines enable event driven actions from data insights

7) **Streamlined operations**—with the evolution of IP/IMS based networks and the huge increase in the volume of network data being generated, there is a trend towards distributed data collection and mediation deployments across multiple sites. Therefore solutions must support monitoring and control across many instances, to help operators simplify operations and administration of complex mediation environments

CONCLUSION

In a highly competitive and rapidly changing market, generic ETL tools or legacy mediation systems requiring massive customization or specialized skills cannot provide timely collection and handle the massive data collection and treatment volumes CSPs demand going forward. CSG Network Mediation enables CSPs to collect, transform and deliver quality data from across their network and third parties in order to drive business insights and actionable decisions and ultimately boost revenues.

ABOUT CSG

For more than 35 years, CSG has simplified the complexity of business, delivering innovative customer engagement solutions that help companies acquire, monetize, engage and retain customers. Operating across more than 120 countries worldwide, CSG manages billions of critical customer interactions annually, and its award-winning suite of software and services allow companies across dozens of industries to tackle their biggest business challenges and thrive in an ever-changing marketplace. CSG is the trusted partner for driving digital innovation for hundreds of leading global brands, including AT&T, Charter Communications, Comcast, DISH, Eastlink, Formula One, Maximus, MTN and Telstra. To learn more, visit our website at csgi.com and connect with us on LinkedIn and Twitter.