SMS KPIs

Tekelec's Integrated Applications Solution (IAS) is a centralized performance and service management system that processes and archives call detail records (CDRs) from the network. CDRs can be used to generate service packages for optimizing a variety of services: prepaid, roaming, SMS, and voice over IP (VoIP). Tekelec's IAS provides network data usage in the form of reports and customized dashboards, accessible by any authorized user through standard browsers. The solution enables service providers to distribute information to multiple departments, eliminating the need for and expense of redundant systems.

The IAS system provides a variety of reports, including:

  - SMS transport: Detects and locates efficiency issues at the transport level
  - Mobile originated (MO) and mobile terminated (MT) SMS transaction QoS: Detects problems such as congestion, routing errors and load-sharing issues to efficiently manage SMS transactions
  - Potential fraud: Detects abnormal ratios, i.e., number of Send Routing Information (SRI), SMS deliver, SMS sent, and SMS received -- pinpointing potential spamming or fraud

Benefits

IAS improves network performance, identifying bottleneces and other problems before they become service affecting. In addition, IAS:

  - **Improves network management**. IAS provides an accurate view of traffic patterns, enabling operators to plan and manage their network resources to accommodate sudden traffic spikes that can be created by mass call events or spam attacks

  - **Provides advanced network analysis**. Using the solution's customized statistics, operators can proactively identify fraud and abnormal traffic loads and patterns to maintain network security
  - **Enhances network performance and QoS.**Operators can compare message rates with network performance to identify bottlenecks and other problems before they become service

affecting

- **Reduces CAPEX.** IAS gives an accurate view of the network, which allows operators to invest only in theresources they need when they need them

Use Case 1 - Identifying Fraudulent Network Traffic

Problem

In figure 1, Operator A fraudulently uses Operator C's addresses to send SMS messages to Operator B's network. Operator A avoids charges since the messages are charged to Operator C. Without a comprehensive monitoring system, Operator C is not aware of the fraudulent SMS messages until receiving Operator B's bill and has difficulty documenting the fraud.

Solution

By deploying Tekelec's IAS, Operator C can proactively detect in real-time unusual or suspicious signaling connection control point (SCCP) addresses, as well as unusually high numbers of SMS responses without corresponding SMS sends. IAS correlates the sent SMS message with the corresponding acknowledgement and generates an alarm when it detects a signifcant number of suspicious messages. The trace enables Operator C to proactively detect and document the fraud while it is occurring – before billing has occurred.

Benefits

- Avoid costly and time-consuming disputes
- Reduce the need and cost for network over-engineering by decreasing fraudulent network traffic

Use Case 2 - Monitoring Traffic Load More Efficiently

Problem

Operators can deploy a variety of switch-based solutions to monitor and manage traffic loads on the SMSC. One common method is to rely on internal switch indicators to identify abnormal loads. One of the main challenges with this approach is that there is no dedicated monitoring resource in the switch. At critical times, when the switch capacity is overloaded, processing power must be committed to managing the SMS traffic, not to monitoring the traffic. As a result, problems often are not identifi ed until the switch itself crashes.

Solution

Tekelec's IAS continuously surveys the SMS system and can be confi gured to send an alarm if thresholds are reached pertaining to incoming message counts, error counts, or overall performance of the SMS system. This enables the operator to proactively manage the traffic load before service is negatively impacted.

Benefits

- Improve SMS traffic management during peak loads
- Improve service availability and customer satisfaction