SQREAM

CASE STUDY

CELLCOM REDUCES DROPPED CALLS BY 90% WITH SQREAM DB

COMPANY OVERVIEW

With three million subscribers, Cellcom is Israel's leading telecom operator. Cellcom offers a broad range of services including cellular telephony, roaming services, messaging, advanced cellular content, and other value-added services. The company operates a 4th generation LTE network and an HSPA 3.5 generation network enabling advanced high-speed broadband multimedia services, in addition to GSM/GPRS/EDGE networks.

THE CHALLENGE

With revenue from calls and internet activity decreasing across operators globally, Cellcom was under pressure to deliver a better product while keeping costs down. However, the company faced network problems that frustrated customers and rippled into the organization's customer support and network teams. While Cellcom's thousands of base stations (RNCs and equivalent eNodeBs) can report basic counters and measures, diagnosing more complex problems between various units is difficult without a more comprehensive solution.

Disconnected calls are one of the most severe issues operators face, and with Cellcom it directly affects the QoS. Network engineers were therefore tasked with identifying and resolving these issues. The traditional solution of installing network probes at the 4G cell site's eNodeB would cost Cellcom millions of dollars.

THE SOLUTION

Cellcom chose SQream DB, a data analytics acceleration engine, as a cost-effective and highly-efficient network analysis solution. A process was established to collect raw log data from eNodeBs, which is then parsed and converted to a relational format inside SQream. SQream helped Cellcom implement a SpotFire-based solution that allows engineers to identify and track throughput, drops, and anomalies in near real-time.

Within hours, they identified a host of previously unknown issues. For example, a high drop-rate was identified that was caused by a hard handover from the macro-cell to the femto-cell.

Following the discovery, Cellcom was able to promptly fix the issue, reducing the drop count by 90%. The fast discovery and repairs of these problems improved overall network throughput, and helped improved customer experience with the growing network.

The network team now uses SQream DB to identify a variety of network issues that were buried deep in the billions of records generated each day by network equipment.

The new GPU-based approach allows engineers to pinpoint and fix issues faster than before, returning the network to health, and increasing engineers' productivity.

SQream DB was installed in a 2U Dell PowerEdge server, with NVIDIA Tesla GPUs for acceleration. It is used as Cellcom's main analytics database for QoS, with data ingested via an integrated Talend ETL process. SQream's SQL supports ODBC, JDBC, Python and .NET connectivity, and allows for easy integration into existing analytics pipelines.

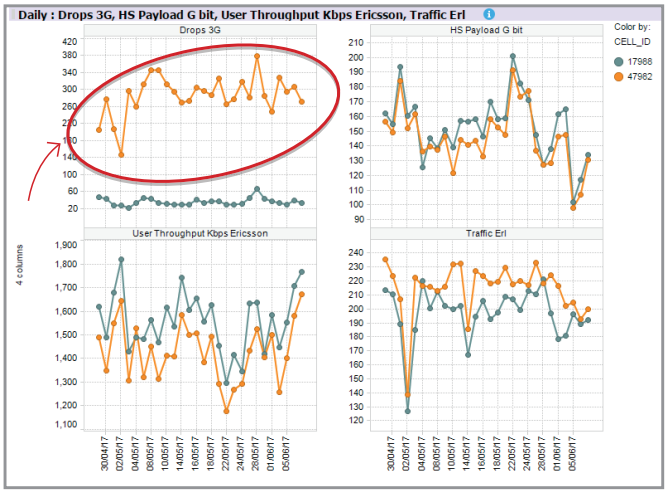

Figure 1 : High drop rate for a cell station, queried from SQream DB and SpotFire

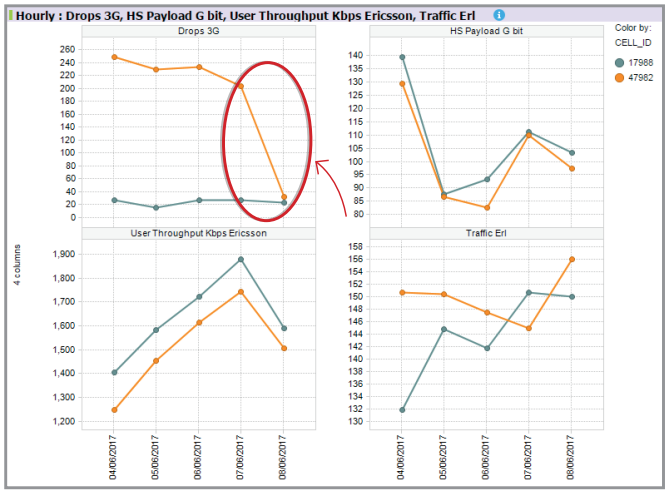

Figure 2 : Call drop rate returning to normal after intervention

CUSTOMER'S RESPONSE

> Identifying the root cause of the issue is quite difficult, and the tools we had were unable to provide the insights needed to understand what was happening. We saw a tremendously cost-effective way to get comprehensive analytic abilities we didn't have before SQream.

Cellcom, RF Group Leader

SQream Technologies develops and markets SQream DB, a data analytics engine enabling unparalleled business intelligence from massive data stores. Global enterprises use SQream DB to analyze more data than ever before, while achieving improved performance, reduced footprint, significant cost savings and the ability to scale the amount of data they analyze to hundreds of terabytes and more.

To learn more, visit sqream.com or follow us on twitter @sqreamtech.