Sandvine provides access to network data and BI for improving QoE

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SECTORS

ALL / CARRIER INFRASTRUCTURE / CARRIER SOFTWARE/ OSS / CUSTOMER EXPERIENCE MANAGEMENT
Customer experience management is a top driver of telco transformation projects. Investments in telecoms infrastructure and online channels to support customers’ increasingly digital lifestyles are not only around improving network quality of experience, but also garner insight to improve marketing and customer care.

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THE 451 TAKE

Customer experience management (CEM) and big-data initiatives are extremely valuable strategies, but have complex go-to-market concerns across organizations’ structural boundaries (marketing, customer care and network). However, as policy shifts from network control to customer-centric and analytics-driven, Sandvine is positioned well. The company is right in the middle of major industry technology initiatives that drive big data use cases. Industry advancements in LTE, changes in policy control and the use of DPI, Probes and SON for data feeds are at the heart of CEM initiatives. While the company offers sophisticated business intelligence tools, the company does not offer its own big data platform. Instead, it acts as a source of key network data to operator data warehouses or big data infrastructure sources.

CONTEXT

Sandvine was founded in 2001 in Waterloo, Canada. The company offers network policy control to fixed, mobile and converged communications service provider networks. The networking equipment performs end-to-end policy control functions including traffic classification, policy decision and enforcement across the data, control and business planes. Sandvine’s products extract data from the network to provide insight to operators.

The offerings provide the ability to deploy new subscriber services and tools to optimize traffic while enhancing subscriber Internet quality of experience. Sandvine’s network policy control solutions are deployed in more than 250 networks in over 90 countries. The company is public with reported revenues in 2014 of $123.4 million, representing 16% growth, and $23 million in net income – or 19% of revenue.

Starting in 2010, Sandvine expanded their business intelligence solutions to include its Network Analytics product, which includes over 30 dashboards organized into nine different use cases that offer insight for data-driven decisions. Recently, the company extended the capabilities to include new problem domains, such as device-focused analysis and routing efficiency analysis.

With Network Analytics, Sandvine’s customers gain a multidimensional customer experience solution for measuring subscriber quality of experience, identifying customers with a high propensity to churn, increasing subscriber loyalty, and identifying opportunities for increased revenue through analysis of application usage, for example.

Sandvine’s also offers Record Generator, an open API for integration with third-party systems to help CSPs feed other big data solutions. The company also acquired Momac in August 2015, a Netherlands-based company that sells cloud-based, customer engagement solutions to mobile operators. Momac’s products will be integrated with Sandvine OutReach to significantly enhance the product’s subscriber engagement capabilities. Real-time network observations by Sandvine’s solution can be acted upon in real-time to improve the quality of the subscriber experience. For example, if Sandvine detects that the quality for important applications falls below a minimum parameter on a wireless network, an appropriate traffic management policy can be automatically applied.
STRATEGY

Sandvine’s target market is both wireless and wireline providers worldwide, including those which offer such services through mobile, DSL, cable, fixed wireless and FTTx Internet access technologies. Within the fixed line component (DSL, cable and FTTx) of the market, Sandvine primarily targets the top 250 operators around the world by subscriber count, which represents the vast majority of the global subscriber base. In the wireless market, Sandvine primarily targets the top 350 service providers in the world. Mobile broadband will grow rapidly over the next few years with ongoing adoption of connected devices. The company’s strategy is to continue to maintain and grow market share within the three-year horizon, with continued enhancements to all product lines, with a particular focus on service creation and its BI capabilities, including Network Analytics and Record Generator.

The company is also expecting an increasing portion of the business to shift to virtualized products, including those hosted by operator customers and sold as a subscription service to its business subscribers. Starting in 2014 and going forward, Sandvine offers the PTS Virtual Series. This is a software-only version of the PTS functionality suitable for networks architected for network functions virtualization (NFV) and software defined networking (SDN).

Sandvine, Intel and Dell recently conducted a performance test of the PTS Virtual Series, in which the product achieved data plane performance scale and efficiency that exceeded those of proprietary network appliances, with a performance benchmark achieving 1.1 Tbps of throughput. NFV is a carrier-led effort to move away from proprietary hardware to a more open standard for all network functions. This trend has also put pressure on applications to be more cloud-based. Sandvine’s network operators (or other hosting providers) can host Sandvine’s products to offer their business customers the ability to gain insight into their network usage, gain control over application usage, protect their networks, or track and manage machine-to-machine communications. Sandvine is positioned right in the middle of major industry technology initiatives that drive big data use cases.

Industry advancements in LTE, changes in policy control and the use of DPI, Probes and SON for data feeds is at the heart of CEM initiatives. Architecturally speaking, LTE networks create not only new and unique ways to improve quality of service (QoS) differentiation, but also new customer experiences that were not realistically delivered with 3G networks. Since LTE can enable dynamic QoS, many mobile operators have the opportunity to provide added value and differentiate based on user experience. The industry has been discussing application-aware QoS for years now, but the end-to-end network elements available in LTE make it more of a feasible reality. For example, as an application, video is very demanding for the network while user expectations for quality are equally high. QoS differentiation brings significant improvements in customer experience for video streaming. This strategic tool for operators can be used to develop new business models in content delivery. However, without closing the loop between network data and individual subscriber data, operators can’t manage and monetize the experience in real time.

Whether the policy server is independent or integrated with charging, new predictive capabilities beyond traditional policy control and charging functions allow MNOs to assess and act upon new customer insights. It is essential for policy control to evolve away from restrictive network-centric deterrents such as throttling, traffic control and usage caps, to more customer-centric rewards such as speed prioritization, premium access, special offers and self-service control. These are all capabilities that Sandvine offers. Real time functionality adds unique capabilities when used in conjunction with other network assets, such as B/OSS to make policy decisions based on subscriber behavior on the network (such as different levels of QoS or personalized products and services).

PRODUCTS

The company’s network policy control offerings typically comprise a hardware platform and proprietary software modules. They are bundled together to meet service providers needs to identify (e.g., video streams like Netflix, VoIP traffic like Skype, or online gaming), manage and take action on the network data to improve network operations, customer care and marketing.

The core of Sandvine’s hardware platform is the Policy Traffic Switch (PTS). The PTS product line includes three hardware models, the PTS 22000, PTS 24000 and PTS 32000. Each PTS is available in a range of variants with different performance characteristics and includes the software-only PTS Virtual Series. Sandvine applications help service providers understand and forecast network traffic, apply specific network policies that will support the creation of new revenue-generating services, improve the quality of experience for their subscribers, more efficiently manage their network and mitigate malicious traffic.
Fundamentally, the business intelligence applications fall into a category called CEM. Sandvine's business intelligence offerings combine application- and subscriber-aware network statistics with data from billing and other operational systems. It provides customers with capabilities such as trending, predictive modelling and statistical operations. Sandvine's BI portfolio provides Network Demographics and Network Analytics tools as well as Record Generator, an open API for integration with third-party systems. Record Generator delivers flexible-format data records (xDRs) to support not only revenue assurance and fraud detection, but also CEM use cases. Data extraction and normalization are critical success components to any big data CEM strategy.

The PowerView feature within Sandvine's Policy Control Center enables the monitoring of real-time information about the network and even individual subscribers. It's a critical feature tying together the benefits of Policy Control and Business Intelligence. As a result, operations and engineering can diagnose and troubleshoot resource issues on the network before they impact subscribers experience.

Sandvine's SmartService App is a mobile Internet storefront application designed for dispensing mobile services in affordable packages, top-ups, and speed boosts for an Internet experience that's completely customizable by the subscriber.

SmartService is particularly effective in emerging markets that are nearly or entirely prepaid, though it can also be used in mature markets to provide a self-care application service to subscribers for self-directed management of their mobile account. With the acquisition of Momac, Sandvine deepened its self-service and marketing capabilities to provide deeper subscriber engagement beyond just notifications and promotions. The Outreach product can now also provide an app or content store and subscriber portals that can be implemented via hybrid branded apps.

**COMPETITION**

Although the market is competitive, no one vendor holds the key to successfully managing the entire customer experience. All have the ability to provide integration with the others’ assets. And while all provide a degree of analytical insight along with the ability to act, differences lie in the depth of domain expertise, analytical capabilities and pre-built use cases. Sandvine has four usual suspects for main areas of competition:

- **Network-oriented vendors:** Alcatel-Lucent, Ericsson and Huawei all offer very deep connection to their own networks. All these vendors are adding more CEM analytics into their offerings. Most have made significant research and development investments in big-data infrastructure by tying their hardware assets to advanced analytics for network optimization, right-timing customer interactions and improved cross-sell.

- **OSS/BSS/service-assurance vendors:** Amdocs, NetCracker, TEOCO, Redknee, IBM, HP and Tektronix all focus on some form of CEM. However, these vendors are less experienced at network data extraction. They have expertise in customer management analytics and/or service assurance as it relates to managing the subscriber experience. A few have deeper expertise in supplying a unified service delivery management platform that provides real-time network, application and service-performance intelligence. That allows IT and network organizations to assure optimized performance and QoE.

- **Best-of-breed analytic vendors:** Zettics and Guavus offer strong big-data analytics with use cases across marketing, customer care and the network. While Zettics relies on operator big-data infrastructure, Guavus provides its own Reflex Platform that is capable of creating actionable information from widely distributed, high-volume data streams in near real time.

- **DPI and policy are long-standing, well-established vendors.** Procera, Allot, Cisco, Arbor Networks, Qosmos and ipoque. Most of those players offer DPI-based intelligence – for instance, Allot’s ClearSee and Procera’s Scorecard.
SWOT ANALYSIS

STRENGTHS
Sandvine’s network policy control solutions are deployed in more than 250 networks in over 90 countries. Sandvine is positioned right in the middle of major industry technology initiatives that drive big data use cases. Industry advancements in LTE, changes in policy control and the use of DPI, Probes and SON for data feeds are at the heart of CEM initiatives.

WEAKNESSES
While the company offers sophisticated business intelligence tools, the company does not offer their own big data platform. Instead it acts as a source of key network data to operator data warehouses or big data infrastructure. Competitors such as Nokia and Alcatel-Lucent have embraced technologies such as Storm, Hadoop, Hive and Spark to help the industry use network data in real-time.

OPPORTUNITIES
The company has been increasing its sales and marketing efforts in strategic locations globally. It has built strong products in each solution area and needs to continue to increase sales coverage to leverage these product investments into increased sales globally, both to new customers and through accelerated expansion orders from its large existing customer base.

THREATS
Analytics-driven customer experience offerings are available from a variety of rivals, including much larger NEM vendors such as Nokia and Huawei. The company has threats across many different vendors, both network and IT. The battle between the groups is only in its infancy.