Harnessing the power of telecom data

Hewlett Packard Enterprise

The data surge

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When it comes to data generation, the telecommunications industry stands apart. AT&T alone carries more than 82 petabytes of data traffic on a typical business day.[1] That's the amount of data it would take to store about 27 billion three-minute songs at 3MB per song.

This data surge isn't likely to slow any time soon. Increased use of location-based services and social media is adding to the mass of data, and IPv6 is expected to create as many IP addresses as there are grains of sand on the planet, allowing the number of Internet-connected devices to grow exponentially.

Insights and opportunities

For communications service providers (CSPs), this data explosion can be seen as a challenge or an opportunity. While most CSPs have learned how to handle vast amounts of data, relatively few operators have monetized the value of the data they hold.

CSPs have been extracting data from call records for years; however, many of these companies are only scratching the surface of what their data can offer. This has left industries such as financial services and advertising, along with over-the-top providers including Skype, Google, and Facebook, to blaze a trail of innovation.

But today, CSPs have the analytical tools at their disposal to streamline and unify their management of this data, break down old silos that prevent its effective use, and become agile enough to embrace the rapidly proliferating information available to them.

Without such innovation, CSPs face a relentless march toward commoditization. But with it, and with the right partners, CSPs can participate in the "idea economy," in which companies can monetize ideas quickly and effectively. When collected and analyzed properly, CSP data can unlock multiple new opportunities and business advantages, such as:

• New revenue generation

• Better customer experiences

• Network optimization and automation

• Enhanced security, including fraud detection and prevention

• Marketing personalization and automation

• Internal process automation

[1] http://spshowcase.att.com/sharedvue/ iframe/undefined/?sviresizer=www.telicom. net&svnoresize=1&svpage=att_overview

"We are the only carrier that I know of in North America that has been able to successfully implement a daily data plan for customers who self-subscribe. It is very clear and easy to sign up and provides a level of innovation and price that our customers find very attractive."

- Reade Barber, Rogers Communications' director for data services marketing

Rogers Communications: Using analytics to maximize new sales opportunities

One company that found a way to tap into its data resources is Rogers Communications, Canada's largest wireless CSP. With 9.5 million subscribers, Rogers accounts for more than a third of Canada's wireless market by revenue—and billions of data transactions per day.

Rogers faced several problems. In addition to the mistrust many customers have toward mobile pricing and billing, Rogers was held back by costly and awkward customer information consolidation tools, a lack of automatic mobile device detection, and an inability to build rate plans or applications that matched actual customer device usage. Rogers needed to deliver the right data plans to the right customers at a cost that customers could clearly understand.

Rogers worked with HPE to offer robust, transparent, and user-friendly data plans tailored to users' specific needs—all in real time. Underlying IT improvements and data resource consolidation reduced development cycles four-fold, allowing Rogers to produce and market industry-leading subscription functionality that has set them apart. Other results included:

Average daily and weekly data **plan revenue rose 17%** despite a 30% price reduction during the same period.

The number of unique daily and weekly d**ata plan users rose 26%** in the first year alone.

Customer satisfaction increased, with a **reduction of more than 120,000 support calls.**

All but 2% of billing credits were eliminated, **saving several millions of dollars per year.**

The HPE collaboration has been a runaway success. According to Reade Barber, Rogers Communications' director for data services marketing, "We are the only carrier that I know of in North America that has been able to successfully implement a daily data plan for customers who self-subscribe. It is very clear and easy to sign up and provides a level of innovation and price that our customers find very attractive."

MTS India: Improving customer loyalty and retention

Sistema Shyam TeleServices Ltd., also known as Mobile TeleSystems or MTS India, has more than 16 million customers across India. MTS India lost a significant percentage of its customers between 2010 and 2013, partly due to national regulatory changes. To make matters worse, wireless competition in India is particularly intense, with high churn common in the country's most affluent areas.

Faced with these challenges, MTS India sought to reward customers and increase retention. By leveraging HPE's thought leadership and rolling out near-real-time analytics tools, the company was able to construct a customer usage and retention system that functions on an individual level. MTS India is able to then present customers with personalized marketing promotions, rewards, and incentives without any delay.

The result? According to MTS India Telecom CIO Rajeev Batra, "By rewarding new or recently upgraded customers with surprise bonuses in the form of extra minutes or additional data, we have more than doubled our conversion rate from an industry average of 3% to an unprecedented 6.5%. No one else in our marketplace is achieving these numbers."

3%
industry average
conversion rate

6.5%
rewards result in
double conversion rate

Figure 1: Conversion rates

Predicting user activity based on mobile subscriber usage data

Until recently, only companies like Google, Twitter, and Facebook had the ability to collect and analyze subscriber preferences based on usage patterns. This gave those companies a huge advantage—and a massive revenue source—to use this data for targeted digital advertising and offers.

One of Canada's tier-one mobile operators was able to join this select group of innovators by tapping into stored profiles and preferences as well as real-time browsing history and habits, roaming and connection status, application use, and geographic location and movement. As a result, this mobile operator was able to produce in-depth subscriber insights and pursue the higher revenue growth opportunities that typically come with a successful customer analytics initiative. Specific opportunities have included targeted advertising and the ability to provide subscribers with optimized mobile service suggestions.

Hewlett Packard Enterprise knows telco... and Big Data

For all three of these CSPs, Hewlett-Packard Enterprise was the technology driver for data innovation. Rogers Communications used HPE Internet Usage Manager (IUM), which provides an innovative, single-platform foundation for supporting mediation and billing models. And for a recent data sales campaign, Rogers worked with HPE to develop a promotional capabilities campaign tool that matches customers with the most suitable data plans.

MTS India's solution was based on HPE Vertica analytic database management software, which helps load data at 2 gigabits per second and processes the data every 30 minutes. Implemented in less than 48 hours, the Vertica-based solution has enabled MTS India's marketing department to run campaigns independently, without involving IT support.

The tier-one Canadian mobile operator was able to monetize subscriber usage data by using HPE Smart Profile Server (SPS) Context Preference Value Pack running on the HPE Vertica data analytics platform. A massively scalable, carrier-grade system, SPS uses an online analytical processing database and unstructured data sources to collect and analyze subscriber behavior in near-real time. This allows in-depth subscriber insights, improved advertising opportunities, and an enhanced and personalized user experience.

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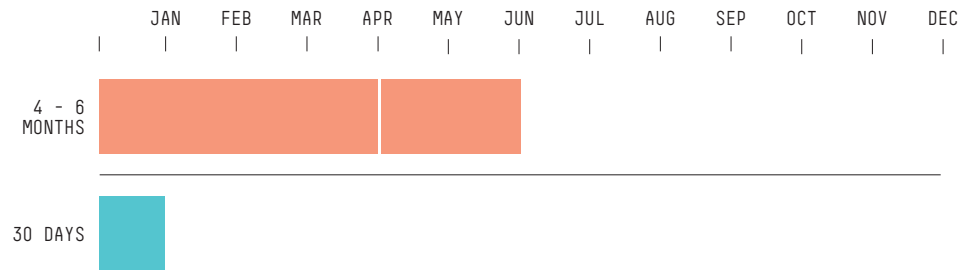>
> - Rajeev Batra,
>   MTS India Telecom CIO

Figure 2: Development cycles of 4 to 6 months are often shortened to 30 days, slashing time to market and resulting in significant cost savings.

The ability to deliver: one of many HPE advantages

Not only does HPE feature some of the deepest telecommunications expertise and knowledge available, HPE also has a track record for reliability. Using a solution-based approach, HPE helps CSPs become more efficient, competitive, and profitable, with easily quantifiable bottom-line results. Development cycles of 4 to 6 months are often shortened to 30 days, slashing time to market and resulting in significant cost savings.

HPE also offers a wider solution set than its competitors, utilizing decades of experience and the talents of a worldwide team of telecommunications IT experts. With HPE, CSPs are expanding into new markets, creating new revenue streams, managing costs, optimizing networks, improving security and compliance, and monetizing data by enabling more personalized services. And with industry-leading products such as the HPE Haven Big Data platform—featuring HPE IDOL for unstructured information analytics, HPE Vertica for high-performance SQL analytics, and HPE Distributed R for large-scale predictive analytics—and the HPE Telecom Analytics SPS (TASPS) for streaming analytics and analytic use case creation.

HPE provides CSPs with a wide range of solutions, including:

- Applications and cloud services enablement
- Actionable customer intelligence
- Operations support systems
- Converged network services
- Big Data application program interface (API) management
- Connected device (Internet of Things) analytics
- Network functions virtualization
- Digital media experience management
- Network applications services
- Mobility management
- Telecom analytics
- Next best offer solutions
- Network analytics
- Subscriber preference analysis
- Personalized location-based services

The right partner

These enterprise-level solutions combine infrastructure technologies, software solutions, and enterprise services while aligning people, processes, and technology to craft optimal analytics and data management strategies. This provides CSPs with robust, easy-to-use, and resilient solutions for planning, marketing, and operations.

It's a winning combination of services and technology, from assessing your systems to designing and deploying architecture based on HPE Haven, HPE TASPS, Hadoop, Vertica, SAP HANA and Microsoft® SQL. When it comes to maximizing data, no other solutions provider offers more knowledge and experience, and no other vendor offers a more robust and reliable solution set.

For more information
To read more about HPE Big Data solutions, visit hpe.com/us/en/solutions/big-data.html and hpe.com/CSP/TelecomAnalytics

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