

## Big Data: Needles, Haystacks and Where to Find Magnifying Glasses

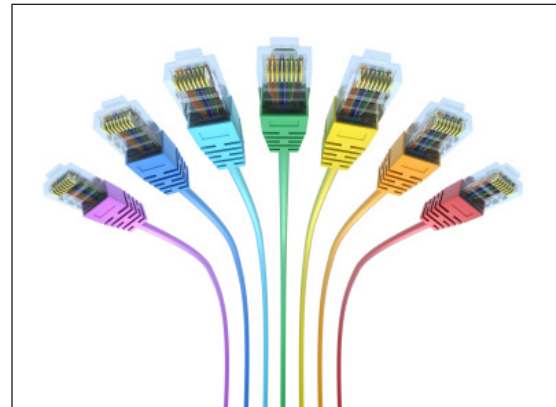
By Magnus Hyttsten

Surprise! There's an enterprise data explosion going on.

Okay, perhaps it's not a surprise. Actually, you've doubtlessly heard about it and may even now be inured to the stories, albeit some of them exaggerated. But from advances in network technology to the reality that data-generating smartphones are now the majority devices in the U.S. mobile market, according to a new report from Nielsen, data really is being gathered in from all directions. The challenge for today's communications service providers (CSPs) is to avoid being swept away in the resulting sea of data chaos.

Let's be blunt; what's happening here has real consequences. CSPs face challenges to provide and manage available bandwidth as well as to launch and then monetize the sort of next-generation service offerings that will define the new commercial landscape. The underlying questions are how will they meet these challenges and how can Big Data help them create a better and more profitable service world?

If CSPs can keep pace with the increased data that flows from subscriber usage, they have an opportunity to radically sharpen the way they



run their businesses. Improved profitability, more effective usage and network management, and other positive outcomes are all within reach. The better CSPs can understand the messages hidden in their usage data haystacks, the more effectively they'll be able to expose and react to the trend-representing needles held within.

But there's a problem. Most CSPs can't easily resolve the needles from the haystacks in which they're buried. The majority of today's IT legacy systems are either rapidly approaching critical mass, or have already passed their tipping points of optimum performance. Business support systems (BSS) that are more than 10 years old were designed for what the network and service world used to be, not the significantly different beast it has become today. This reality is important. And for CSPs, the need to rely on solutions built on such shifting sands arguably couldn't have come at a worse time because the appetite to transform IT infrastructures now, given the current global macro-economic climate, is understandably muted.

What to do? Grasp the nettle and risk upgrading through major investment, or sit on your hands and make the best of your present lot? Choosing the latter approach is not without consequences (all-you-can-eat iPhone data plans, anyone?). The former isn't too appealing either in an age of necessary budgetary restraint. But there's an alternative: address the (often perceived as unglamorous) engine that sits at the junction of network activity and BSS, sometimes known as mediation. The right mediation decisions bestow the potential for CSPs to have their cakes and eat them, too.

Smartphones are considered part of the multi-screen movement, in which TV viewers and computer users also consume media on a portable device like a

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phone or tablet. In many cases, smartphone owners are using mobile devices instead of computers or televisions for shopping, watching videos and gaming. It is largely these users who have caused CSPs to spend huge amounts of time and manpower trying to manage and mediate the large amounts of data they produce.

The term “Big Data” reflects this major challenge CSPs face today and the result is an expensive data management bill. But big data is an unavoidable hurdle on the path towards profitability. And furthermore, it can be used to the advantage of providers through unified subscriber information, to eliminate redundancy in records, and provide up-to-the-minute accounts for reference by users, which reduces bill shock and enables subscribers to proactively plan in step with their usage—in effect, forging profitable and beneficial relationships with their end customers. All of these goals can only come to fruition with effective mediation.

Mediation hasn’t historically been viewed as an opportunity for business improvement by CSP organizations. In the past, CSPs have largely understood it as a standard software workforce inside the BSS, linking activity on the network with subsequent processing by customer relationship

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management (CRM) and billing. But in the era of big data, mediation is set for a crucial role in ensuring future commercial success. This is because the today’s leading platforms can aggregate, process, clean and move vast amounts of data downstream efficiently and cost-effectively, with unlimited scalability, and on commodity hardware. Thus, mediation is the key to improving customer experience, for instance when users see their real-time account data. And satisfied customers mean an opportunity to reduce subscriber turnover and thereby increase profitability, which are real points of concern for every organization.

**How can you leverage mediation?**

Mediation’s benefits reaches beyond the management of exponentially increasing data loads. Service providers encounter the challenge



of managing increasingly complex networks and their BSS and operational support system (OSS) infrastructures, as well. They implement new networking elements and services every day, and these need to be linked with revenue management, business intelligence and service assurance architectures without downtime or negative effects to service. The choice to use multiple platforms instead of syncing these services would risk increasing operational and capital expenditures to unsustainable levels. At the same time, the inefficiencies in platforms would negatively affect the time-to-market.

Mediation can faultlessly tie together components in any layer of an evolving IT and network architecture and ensure any supporting systems are able to communicate with each other as comprehensively and effectively as possible. Thus, mediation can also be the foundation for effective policy and charging control; a major requirement for CSPs that want to manage the data traffic explosion in a profitable way while creating a services segmentation offering and an optimal customer experience. Mediation's key ability is to deliver this foundation in a high data volume environment and low latency requirements for critical applications.

Big data provides ample opportunities for carriers to identify variability and boost efficiency, as well as to forecast and analyze future business decisions. Carrier approaches to manage data can be costly and time-intensive, but the use of a mediation platform can attack on both fronts, while turning a profit and potentially reducing customer churn.

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