

REVIEW OF THE YEAR
INSIGHT REPORT

Our reader survey, review of the past 12 months and predictions for the year ahead

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DAVE LABUDA:

The MATRIX Software Perspective on the Future of Digital



MATRIX Special Promotion

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MATRIXX: new technology for the world of digital

Digital interactions on new LTE networks are leading to a surge in customer transaction volumes. Old IT infrastructure cannot cope with this chaos, nor harness the revenue potential. But a highly flexible and scalable solution by US firm MATRIXX Software is enabling a growing international band of mobile Communications Service Providers (CSPs) to monetise data in new ways and move from being utility-style providers of access to providers of value.

Sometimes, such revolutions start with one service, and broaden to encompass whole portfolios as CSPs test their wings. Australian network operator Telstra launched a real-time data usage alert system in November that lets users know before they reach their mobile data allowance. It sounds simple, but it is the kind of measure its customers will likely appreciate. After all, bill-shock continues to be perceived by many as a by-product of CSPs' insidious cunning, and stories of customers running up eye-watering data bills still make the news.

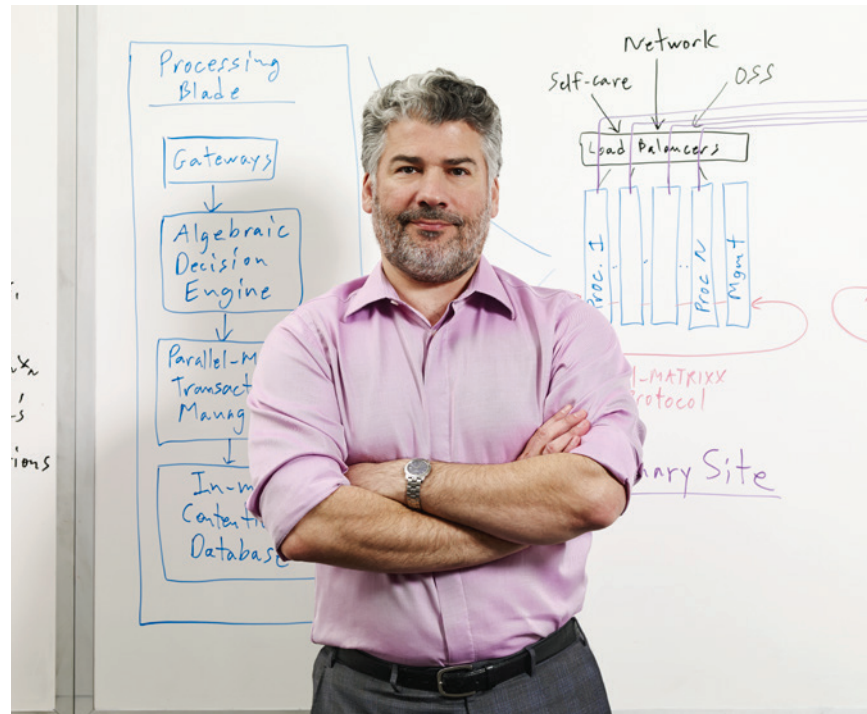
Indeed, the Australian Telecoms Industry Ombudsman reckons complaints about excess data charges rose by a third in the last financial year, even as general complaints about service providers reduced. It is a thorny issue, still, and new-fangled LTE networks make data consumption more desirable, immersive and, in terms of mobile account overages, potentially more shocking.

The new service from Telstra has been deployed using real-time rating and charging technology from MATRIXX, which specialises in solutions for Business and Operations Support Systems (BSS and OSS). Alerts are dispatched within seconds of users hitting 50, 85 and 100 per cent of their monthly data allowance. Until its introduction, they remained in the dark up until 48 hours after exceeding their limits, at which point text alerts finally appeared and alarm bells rang out. Telstra has deployed MATRIXX as a real-time enablement solution so that all mobile usage is now processed, rated and tracked in true real-time. Moving the customer experience to real-time is key to Telstra's digital strategy and to the monetization of LTE.

Swisscom has a similar tale, which MATRIXX has also helped to articulate. It has deployed MATRIXX's online charging solution (OCS) to enable roaming customers to get instant and accurate visibility of their data usage and spend while abroad. Like the Telstra solution, customers are notified when they approach their data limits and are offered a number of self-service tools to take appropriate action.

FLEXIBILITY AND CONTROL

Examples like this tell only a part of the story. The MATRIXX platform combines the functions of an online



Dave Labuda feels CSPs are increasingly becoming DSPs to reflect a changing market

charging system (OCS) and policy and charging rules function (PCRF) into one real-time product engineered from the ground up to deliver predictable performance under load in demanding LTE and LTE advanced deployments. It allows CSPs to deploy a single solution to perform rating, balance management and online charging, and to make network and customer policy decisions for all services, payment methods and line of business segments. For the first time, policy can be enforced not just by network usage, but also alongside a huge number of financial and customer-specific metrics.

Ultimately, a convergent solution for policy and charging frees CSPs to take better advantage of the pyrotechnics at their fingertips. MATRIXX founder, CEO and CTO Dave Labuda says that, with it, CSPs can give their marketing departments greater licence to be creative and agile with their propositions.

He says of the Swisscom initiative: "In its roaming offers, Swisscom has flexible service packs and very dynamic interactions with its subscribers that allow a much stickier relationship, and a lot of revenue upside. It can tune-in to what each person wants and how they want to spend their money, and really drive the efficiency and value of that subscriber relationship.

"Traditional systems are so inflexible that, typically, the marketing department's brilliant ideas are rendered impossible by the IT set-up. And over the years, that has

been the story – marketing has been thwarted by an inability to execute brilliant ideas. This platform gives them a way to try different business models and pricing strategies, which in turn really wakes up the business side of the CSP.”

But CSPs need to move fast, says Labuda. While their latest LTE kit is state-of-the-art, driving greater loads and lower latencies, much of their BSS and OSS infrastructure is stuck in the Dark Ages. “It can’t handle the chaos,” he says.

“Devices today have completely new technology, compared with a decade ago, there’s nothing in common. Today’s terminals are thousands of times more powerful. The same with networks; LTE technology is completely new, thousands of times more powerful than old 2G or even 3G networks. But operators’ BSS / OSS is, in almost all cases, exactly the same as it was 10 years ago – by comparison their systems are exactly one time as powerful as before. And those systems can’t cope.”

It’s a fundamental technology problem, he reckons. Traditional BSS / OSS features standard commercial databases, standard memory caching, and standard application server architectures. “They are built for the way software was 15 years ago, and they can’t handle the chaos – the volume of events, the complexity of events, and the amount of business logic that needs to run.”

HISTORY AND CHANGE

Labuda founded MATRIXX in 2008, alongside vice president of marketing Jennifer Kyriakakis. The pair had worked previously at US solutions provider Portal Software, which Labuda set up in 1994 and sold in 2006 to Oracle. Portal had created the first real-time billing and revenue management solution for telecoms service providers. The concept was, in some ways, a forerunner of the current MATRIXX system.

With its sale to Oracle, Labuda served for a time as chief technology officer for Oracle’s global communications unit and Kyriakakis took a number of senior marketing roles at the firm. But the Apple iPhone, launched in 2007, changed everything, observes Labuda. The pair saw the opportunity – of an industry, at once, lurching towards the provision of digital services, which would require a smarter OSS and BSS architecture.

“With that device, we saw there would be a mass adoption of digital services. We realised there was going to be a tipping point – that provision of these digital services would see CSPs interact with customers in real-time in a much richer way, which was in turn going

The infrastructure for new digital services has to support variation, richness and complexity, which creates huge potential value in return

to force them away from their traditional back-office approach to be more of a digital front office. And we were quite sure the old BSS / OSS systems would not be able to cope with the huge volume of new interactions coming their way.”

The advent of LTE has made imperative such BSS / OSS upgrades, for forward-looking CSPs at least. Labuda recalls a recent meeting with a tier-one LTE operator. “They said they wanted their BSS / OSS system to process over 100,000 transactions per second coming off of their network, and do it all in real time. These volumes are beyond what we originally imagined back in 2007.”

He explains: “Current infrastructure is built around the fact traditional network traffic behaviour is reasonably predictable. For voice and text services, the load profiles are well understood. Even with 3G data services, behaviour tends to be easily categorized. If CSPs want a simpler approach, and are willing to be dumb pipes, then traditional systems will get them there. But as soon as they try to create more interactive and dynamic relationships with their subscribers, the traditional systems won’t cut it.”

He goes on: “Because with LTE, you suddenly have people streaming movies, consuming 100 times more bandwidth than they were yesterday or last month. That consistency of behaviour has vanished. A good example is what we all take for granted in the retail marketplace; you have unlimited choice; you walk into a grocery store and you can spend anywhere from a dollar to many thousands of dollars, depending on your mood. The infrastructure for these new digital services has to support that level of variation, richness and complexity, which creates huge potential value in return.”

TECHNOLOGY AND BENEFITS

The team Labuda assembled at MATRIXX designed a new technology stack from scratch, which could handle the massive volumes and high complexity of LTE traffic and customer interactions – “an operationally simple and manageable solution that could absorb all of the chaos coming off the network,” he says. Fully patented, it features MATRIXX’s own database, high-availability and business logic architectures.

“It’s a bit like building a jet plane rather than a propeller one. Every piece has to be built differently to handle the new speed at which you’re going to fly.”

Labuda says the MATRIXX solution is unique because it is purpose-built to handle this looming chaos. It is fundamentally different in the way it manages and processes events, he says. Competitors are still trading



old-world goods, which employ traditional database technology and software architecture, to solve new-world problems; fine for the well-behaved world of voice-and-text services, but not for dervish-like LTE.

Moreover, Labuda says the MATRIXX platform delivers higher throughputs in terms of transactions per second, and its performance scales with its load. "In all the benchmarks CSPs have run of our solution against competitor solutions, ours has performed at least 100 times better in terms of transactions per second under realistic load conditions. In addition, every other solution out there has unpredictable performance as you start to do more complex business operations. The more you add to the traditional system, the worse its performance. In our solution, we guarantee the performance across all of those different models."

To deliver upwards of 100,000 transactions per second, as per Labuda's LTE benchmark, an old BSS / OSS technology would require "tens of millions of dollars of hardware", he reckons. "It just becomes an unmanageable amount of cost and infrastructure." By contrast, he says, the MATRIXX solution can handle these transaction loads across tens of millions of customers on just two racks of equipment.

The business case is plain, he says, and the appetite growing. Retaining old BSS / OSS, and a view of data as a commodity, is akin to a putting new revenue potential under a "falling knife".

"The price per GB will just go down and down; CSPs sooner or later risk becoming utilities. They have spent the past few years trimming operational costs as much as they can, but now they have hit a wall. You can't trim those costs below a minimum level that runs the

business. So now they're starting to look at how to monetise data, rather than just shipping it around, and that's why the interest is growing."

INNOVATION AND APPETITE

MATRIXX has been involved with a yet-to-be-named tier-one CSP in the Asia Pacific region who launched the solution in May, which has used its platform to launch a number of flexible data services. "Rather than spending lots of money and time to change their old BSS / OSS technology, they essentially put in a new set of technologies designed for this digital world," explains Labuda. "They deployed the system in just six months on a very small hardware footprint, and they're now rolling out new marketing efforts on a monthly basis."

This particular CSP has, in quick time, provided customers with new ways to monitor, manage and share their mobile data and, in the process, sought to recast itself as a provider of value, rather than straight access. Like Telstra and Swisscom, it has launched a range of flexible roaming packages that provide users with instant alerts as they reach data limits, and the ability to stop, top-up or reallocate their data as they choose.

In the same way, customers can control and allocate individual data allowances on shared packs, so parents can shift sliders manually within the app to control their family's data usage in real time, and businesses can control employees' usage – from a data pool shared across thousands of employees.

Such use cases are crucial for MATRIXX at this point in its development, of course. Labuda says: "We now have these reference customers who can show what the product is capable of, and we are expanding across the globe. Telstra, for example, is a highly regarded and highly significant CSP, and it placed a big bet that our technology would solve the problem. And it has. And we can show that now. So with that proof point, and the others, we have an incredibly powerful story to tell, and clear demonstration of it."

MATRIXX reckons its time is now. It has one eye on certain parallel markets, but it will have its hands full in the near term as CSPs increasingly recognize the need to drag their BSS / OSS into the new digital world.

Labuda says: "CSPs with aggressive LTE strategies and bold ideas about how to monetise data are finding they hit a wall with their current infrastructure. Early adopters of our technology recognised that their traditional systems would fail. But LTE networks are being rolled out expensively and extensively, and we will see this issue in most of the world fairly quickly."

For more information, visit www.matrixx.com

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