

BIG DATA ANALYTICS

Can actionable insights be created from the complexity?

Why CSPs' data and the ability to analyse it is transforming their performance and prospects



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|--|--|--|--|---|
|  <p>CEM Does quality awareness set CSPs apart? VanillaPlus Insight out July 2014</p> |  <p>POLICY Does it deliver business model flexibility? VanillaPlus Insight out October 2014</p> |  <p>BILL & CHARGE Why CSPs alone can keep control of billing. VanillaPlus Insight out December 2014</p> |  <p>5G Why it's here and what it means for CSPs. VanillaPlus Insight out February 2015</p> |  <p>CLOUD Will CSPs make the most of the cloud? Read our VanillaPlus Insight at www.vanillaplus.com</p> |
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PLUS: Mycom acquires OSI • Vipnet completes NFV trial • Orga Systems and DigitalRoute form MediationZone partnership • Nokia and Juniper to collaborate on telco cloud • Amdocs and Ericsson launch CSP-specific big data platforms and services • Subex delivers hybrid managed services to licence model for revenue and fraud to GO Malta • Syniverse enables LTE roaming for Claro Brazil • Ericsson appoints new business unit heads • Read the latest news at www.vanillaplus.com



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Our VanillaPlus Big Data Analytics Insight report starts here with 26 pages exploring how CSPs are moving on from big bang big data plans to generating real value from more targeted activity

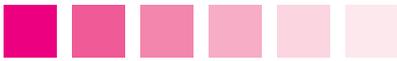
The Insight contains a specially-commissioned report written by Dan Baker of Technology Research Institute. He examines how CSPs are learning to handle the complexity of big data analytics and assesses where the sector is heading next

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Nick Booth fears we continue to live in interesting times



Data scientists are the Indiana Joneses of the terabit jungle – shame there’s so few of them

I’ve heard some weird and wonderful job titles in 15 years of telecoms journalism. Ambassador of Strategy, Global Thought Leader and a spate of something-evangelists around the turn of the millennium were crackers but there’s a new role which isn’t actually new and quite reasonably describes what the job entails – data scientist



George Malim, editor, VanillaPlus

A data scientist is one who analyses data – usually big data – to gain insights that can then be used to the benefit of the business. Data scientists are in hot demand today as CSPs try and harness some expertise to dig out the hidden gems or value moments from their slew of big data. However, data scientists are in demand in other verticals as well so there is a shortage of skilled data scientists for CSPs contend with.

For CSPs the situation is even worse because any old data scientist won’t do. They need data scientists that understand the CSP business. There are even fewer of them and those that exist want CSPs to write them a blank cheque for their trouble.

The wage demands of the handful of data scientists that understand telecoms and are willing to work in a CSP’s location are only part of the problem, though. Their cost can be offset against the huge potential benefits a skilled data scientist can deliver. They operate like a database Indiana Jones, finding lost insights and great treasures in CSPs’ terabit jungles of unstructured data. Their key skill is knowing what question to ask of the unstructured data to get the

results a CSP wants.

What can’t be addressed by the value of data scientists to CSPs is that there simply aren’t enough of them. Vendors such as Amdocs are starting to offer data scientist resources as a service, pooling data scientist resources and experience across multiple customers and also hiring non-telecoms specific data scientists and partnering them with a telecoms expert. Think of it as having two explorers on a mission to the dark heart of your data. One knows how to read a map, the other knows how to climb a mountain – both are critical to the success of the trip.

There’s bound to be additional cost involved in this type of approach because two heads will always cost more than one but at least it provides a means to address the short supply of telecoms data scientists that exists.

Telecoms data scientist was a term that was markedly absent from my careers guidance counsellor’s list when I was a teenager. The few that have found their way into that job are truly looking at a rewarding decade of employment as CSPs throw resources at mining their huge data for nuggets of gold.

Enjoy the magazine.

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MYCOM acquires OSI fault management to extend service assurance portfolio

MYCOM, a provider of carrier-grade service and network performance solutions, has acquired OSI, a fault management and service impact provider, to extend and enhance its service assurance product portfolio for CSPs. MYCOM is backed by Clearlake Capital Group, a private investment firm. Terms of the transaction have not been disclosed.

The acquisition brings together two businesses in adjacent sectors of the telecoms OSS service assurance market. MYCOM provides end-to-end multi-domain service and network performance management with its NIMS-PrOptima platform, and OSI provides umbrella fault and service impact management with its NetExpert platform.

“MYCOM Group continues to grow from strength to strength, and today we have made a significant step forward in our ability to provide our customers with advanced solutions that help them meet their business objectives rapidly and efficiently,” said Siamak Sarbaz, MYCOM group chairman and founder. “The combined MYCOM/OSI product portfolio, our continued commitment to significant R&D investment in service assurance software product innovation, and our enlarged combined customer base across wireless and wireline providers will enable us to better serve our customers and meet our growth goals.”

Payam Taaghol, the chief executive of MYCOM software business, added: “Our

mission is to simplify service assurance so that the very platforms that our customers implement to manage their complex networks do not add even more complexity. We want to deliver pre-integrated, fully automated service assurance solutions, rich with telecoms expertise that correlates services to network resources and unlocks valuable network intelligence.”

Common to both companies' product strategies is the management of multi-vendor, multi-technology, multi-domain network equipment elements within a unified system. In addition, both companies' platforms are highly scalable and flexible, embedding telecom-specific capabilities and efficient automation. 



Günther Ottendorfer: Confident that NFV is the defining mobile trend

Vipnet has announced that it is among the first European CSPs to successfully complete a Network Functions Virtualisation (NFV) trial. The second oldest subsidiary within Telekom Austria Group commenced operations in 1999.

Vipnet reports successful NFV trial

Vipnet demonstrated HD video streaming made possible by combining LTE technology and NFV. The demonstration showed that in the coming years customers will record and directly stream their smartphone content and multimedia onto cloud-based memory storage via a virtualised infrastructure. Thanks to NFV, consumers will no longer need to offload content from their smartphones to their computer. This will make it much more convenient and will also achieve better data loss protection, the CSP predicts.

“We are absolutely confident that the NFV technology is a defining trend in the mobile industry. We are therefore very pleased with

Vipnet's initiative to explore and implement NFV,” said Günther Ottendorfer, the chief technology officer of Telekom Austria Group, Vipnet's parent. “The success and efficiency goes along with the 15th anniversary of innovation strategy at Vipnet. For Telekom Austria Group, this is just the beginning of a journey to explore the latest technologies and further improve services for our customers through performance, experience or availability.”

Mladen Pejkoč, the chief executive of Vipnet added: “We are more than pleased that Vipnet counts among one of the first operators in Europe to showcase the NFV technology.” 

EXFO acquires Aito Technologies analytics software

EXFO has acquired the business of Aito Technologies through an asset purchase deal for an undisclosed sum. Aito is a provider of customer experience analytics for mobile network operators based in Espoo, Finland. Aito Technologies offers out-of-the-box customer experience analytics software that unifies business, network, product and customer data for real-time analysis, discovery, reaction and decision support for

a wide range of users and decision-makers within a wireless operator organisation.

Aito Technologies' analytics software will be combined with EXFO's suite of wireless instruments, systems and solutions to provide heightened, end-to-end visibility and analytics of 3G and 4G/LTE networks

Aito Technologies' analytics software allows

network engineers to drill down to data gathered from multiple sources, including end-user and data-plane information from passive probes like EXFO's dual 10G line-rate capture PowerHawk Pro. In addition, analysed data is cross-correlated with information from CRM databases, network elements and operations support systems in order to provide MNOs deep visibility into the end-to-end experience of subscribers. 



Dr. Ralf Guckert: Excited by opportunity to offer advanced mediation system to customers

Orga Systems and DigitalRoute form global partnership to deliver MediationZone

Orga Systems and DigitalRoute have announced that they have formed a partnership. Orga Systems will extend its product portfolio with DigitalRoute's MediationZone platform, offering a combined, scalable active

mediation solution for all tiers of communications service providers (CSPs).

DigitalRoute's MediationZone platform complements Orga Systems' embedded online mediation functionality by supporting the end customers' offline mediation needs. MediationZone bridges the

components in any type of network architecture and provides comprehensive functionality which lets systems easily communicate with each other. With Orga Systems' GOLD Convergent Charging and Billing (GOLD CCB) and embedded policy and charging control, personalised services, application-based charging and next generation services such as shared data bundles can be launched with a faster time-to-market and without synchronising multiple data flows.

"DigitalRoute's scalable MediationZone has proved to be the perfect match for our flagship product and we are looking forward to a long-term cooperation with

the company. Orga Systems and DigitalRoute are both uniquely positioned, so we're excited about the opportunity to offer our customers a mediation system that performs beyond basic tasks," said Dr. Ralf Guckert, CTO of Orga Systems.

Kari Miettinen, the executive vice president for global alliances at DigitalRoute, added: "We are pleased to announce a partnership with Orga Systems that provides CSPs with a new and compelling choice when it comes to enabling next generation services. Our joint, end-to-end solution is positioned to deliver rapid enablement and monetisation of both present and future revenue streams."

Nokia and Juniper Networks collaborate to advance telco cloud

Nokia and Juniper Networks have announced an expansion of their long-standing partnership to advance telco cloud for mobile broadband. The latest collaboration brings together Nokia's Liquid Core system, including network functions virtualisation (NFV) and telco cloud management and orchestration, and the Juniper Networks MetaFabric data centre architecture, including Contrail – Juniper's network virtualisation and cloud network automation solution based on software-defined networking (SDN).

Nokia and Juniper's bundled solution, delivered through carrier-grade services, will provide CSPs with an open ecosystem telco cloud solution, based on OpenStack, offering automated application deployment, software defined application connectivity and network management. The solution will also enable application and networking elastic scalability with a clear migration path for CSPs to use their existing assets built according to today's core architectures.

"In the same way that cloud computing transformed the IT industry, telco cloud dynamics are radically changing how mobile operators plan to deploy, operate and manage their networks through virtualisation and software defined networking," said Peter Jarich, the vice president of Current Analysis. "Nokia and Juniper's expanded partnership fits well into this evolution, strengthening the telco cloud ecosystem in the process."

NEWS IN BRIEF

Flash Networks accelerates uploads for WhatsApp and Snapchat

Flash Networks has claimed it is the first mobile optimisation vendor to accelerate upload speeds for messaging apps such as WhatsApp and Snapchat. Flash Networks uses patented technology to optimise LTE bandwidth utilisation, resulting in up to 30% faster upload speeds for an improved user experience.

Flash Networks' TCP-4TE offering uses inline high-speed congestion-detection algorithms to dynamically adjust transmission rates based on real-time network conditions to enable faster uploads of content to messaging services. TCP-4TE

minimises the inherent inefficiencies of standard TCP stack, making its data transmission methods more compatible with high-speed LTE networks.

Reverb Networks and Guavus partner for streaming analytics

Reverb Networks, a developer of intelligent Self Optimising Network (SON) solutions designed to provide mobile network operators with improved operational and spectral efficiencies, has announced that it has partnered with Guavus, a provider of big data analytics solutions for operational intelligence.

The partnership is based on a joint solution that combines Reverb's Radio Access

Network Centralised Self Optimising Network (cSON) solution, which collects detailed radio key performance indicator information and makes this data available for analysis, with Guavus' Reflex operational intelligence platform. Guavus gives communication service providers (CSPs) an end-to-end view across their network enabling them to dynamically create specific policies for video optimisation, bandwidth reservation, and interference reduction on a per subscriber and per sector level.

"Guavus and Reverb have a successful history of working together within large-scale carrier deployments, including jointly providing RAN analysis for a Tier-1 wireless service provider on traffic of more than 20 million subscribers," said Zoran Kehler, the chief executive of Reverb.



Rebecca Prudhomme: Expanded big data analytics capabilities integrated into CEM portfolio

Amdocs announces CSP big data portfolio with telecoms specific solutions

Amdocs has expanded its big data analytics capabilities to offer communications-specific big data solutions encompassing business and operational support systems (B/OSS), network and social media.

Including new big data applications, an enriched, carrier-grade insight platform and data science as a service (DSaaS), Amdocs' portfolio will enable CSPs to better harness their data assets and improve the customer experience.

The announcement builds on Amdocs TeraScale, Amdocs Proactive Care and its

industry focused BI and Data Warehousing Services, as well as exploiting the company's recent network optimisation acquisitions, Actix and Celcite, to extend its big data reach into the network.

"A successful big data analytics implementation helps service providers meet the challenges of today's competitive markets. Applying deeper and timelier insights not only drives out inefficiencies and costs, but also improves customer experiences to reduce churn," said Justin van der Lande, head of Analytics Software Strategies at Analysys Mason. "Vendors with a deep understanding of the telecoms domain can better help service providers find, collate and analyse appropriate data

to generate the relevant insights and actions needed for them."

Rebecca Prudhomme, vice president for product and solutions marketing at Amdocs, added: "Amdocs is the only company in the industry with a contextual understanding of BSS, OSS and network data, as well as a deep knowledge of service provider business processes. Our expanded big data analytics capabilities are integrated into our core customer experience management solutions portfolio, enabling service providers to differentiate their customer experience to new levels of customer satisfaction while improving operational efficiency."

Ericsson launches Expert Analytics real-time big data platform

Ericsson Expert Analytics, a real-time, big data analytics platform that enables CSPs to derive actionable insights from big data and to turn those insights into appropriate actions in real-time, has been announced.

Expert Analytics is a configurable, horizontal platform that the vendor says can support a wide variety of use cases for marketing, customer care, operations and network, based on fresh data from network nodes, OSS/BSS, probes, terminals, social media and other sources.

By carefully correlating selected network events with probe data and other metrics,

Expert Analytics can identify both symptoms and probable causes of customer experience issues for all individual customers. The platform then exposes these insights to applications such as Ericsson Customer Experience Assurance, which in turn allows customer care to shorten call durations and improve first call resolution, and also enables service operations centres to become more proactive and reduce mean time to repair.

Additional Ericsson and third-party applications will support other use cases, such as experience-based marketing, which enriches customer profiles with

recent behaviour and experience data, leading to superior targeting of marketing offers to individual customers.

Elisabetta Romano, the vice president and head of OSS and Service Enablement, Business Unit Support Solutions at Ericsson, said: "Operators that deploy Ericsson Expert Analytics gain the power and flexibility they need to address current and future agility challenges. Now, operators can delight customers and optimise operational efficiencies while raising big data and analytics to a new level that generates business value and customer intimacy."

NEWS IN BRIEF

NetworkMining announces new release of network assurance software

NetworkMining, an independent supplier of IP and optical network mediation software, has announced the latest version of its network assurance application. This application introduced two new features: shared risk groups (SRG) and support of multi-NMS operations.

"At NetworkMining we strive to deliver practical solutions that solve real, operational problems at our customers," said Roland Leners, sales and marketing director, NetworkMining. "The latest release of our network assurance application is proof to

our approach. It has already been adopted by three of our customers and helps them with assurance of their multi-vendor and multi-domain IP and optical networks."

Ontology Systems launches Intelligent 360

Ontology Systems has launched Intelligent 360 for Network Operators (i360-NetOps), a product to help CSPs gain a reliable, fast and holistic view of their network across all layers, technologies and vendors.

i360-NetOps helps organisations to carry out network troubleshooting, navigate their infrastructure and the customers that

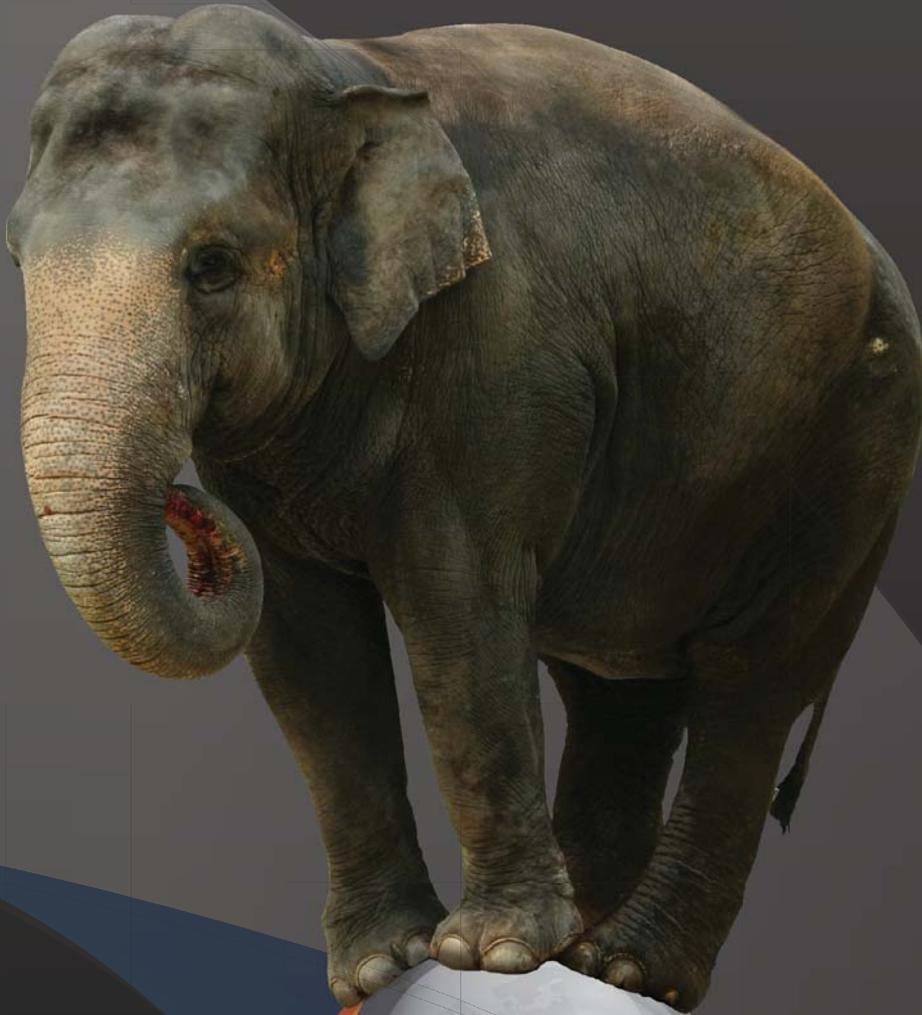
depend on it, handle their change management and track the alignment and quality of the data that describes the network and its services.

"Two decades after the network revolution of the 1990s, operators continue to struggle with the consequences of not knowing their network: excessive third party costs, slow fault resolution, billing errors, poor customer experience, costly stranded assets and customer retention problems," said Leo Zancani, the chief technology officer of Ontology Systems. "With i360-NetOps, they can gain a 360 degree view of their network, rapidly and affordably know all their services, implemented across all technologies and vendors, in all network layers and how these services relate to their customers."

Get more from Big Data!

Context-aware real-time marketing campaigns

Veris C³ monetizes customer information through context-aware, real-time mobile marketing campaigns which deliver click-through rates more than twice as good as Internet search ads. Already proven at China Mobile, the world's largest network operator, Veris C³ is now available for international markets.



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Real-time Contextual Awareness



Vinod Kumar:
Hybrid model has never been tried before

GO selects Subex revenue and fraud

Subex has been chosen to provide its ROC Revenue Assurance and Fraud Management solutions in a hybrid model to GO, a CSP in Malta. The terms of the hybrid model contract cover an initial managed services

deployment period after which it will be converted into a licence model engagement.

Kelvin Camenzuli, the chief technical officer of GO, said: "Protecting revenues across

our telecoms offerings has always been a key focus and that was the decisive factor for choosing Subex's ROC Fraud Management and Revenue Assurance solutions. Subex's experience in the global revenue assurance space is unparalleled and we are confident that this engagement will enable us to enhance our business in a more effective manner."

Vinod Kumar, the chief operating officer of Subex, added: "This is an extremely unique win for us. A hybrid model of this nature has never been tried before in our space."

Syniverse to enable LTE roaming for Claro Brazil

Syniverse has announced its enablement of LTE data roaming for Claro Brazil in advance of the FIFA World Cup, taking place this summer in host cities across Brazil. Hailed as the biggest single-event sporting competition in the world, the World Cup will attract approximately 500,000 soccer fans from around the world.

Syniverse will provide a range of interoperability solutions that enable Claro Brazil to deliver high-speed LTE data to its subscribers while travelling. This agreement also paves the way for visiting mobile users – like those attending the World Cup – to seamlessly receive high-speed access to data on Claro Brazil's network, fostering the growth of new inbound roaming revenue streams for the CSP. Claro Brazil was the first mobile operator to offer LTE service in Brazil with the 2012 launch of 4GMax.

"LTE roaming enablement is much more

than just a short-term benefit, as it promises multiple benefits that Claro Brazil can expect to reap long after the World Cup," said John Wick, senior vice president and general manager of Mobile Transaction Services, at Syniverse. "Our focus is on ensuring our customers are equipped to deliver the experiences their subscribers and visiting roamers expect anywhere, anytime."

Claro is an existing customer of Syniverse's IPX Network solution, which serves as the network foundation to enable LTE roaming. In addition, Syniverse will provide Claro with its Diameter Signaling Service, which enables 4G signaling while simplifying the process by which the operator can add bandwidth to the IPX connection in preparation for periods of increased usage. Claro also will benefit from Roaming Data Analysis Visibility Services, delivering real-time intelligence for LTE roaming traffic to enable fast, high-quality service to its roaming partners.

Finecom selects Agama for TV service quality monitoring

Agama Technologies has been chosen by Finecom Telecommunications, the second largest cable network in Switzerland, to provide its DTV Monitoring Solution for continuous and real-time TV service quality monitoring, assurance and analytics.

Finecom operates the fibre backbone for 21 independent cable network operators providing the Quickline multimedia product to end customers in more than 300 municipalities.

"We're very pleased to have won this deal and we're excited to be working with yet another proactive and progressive player in the cable space," says Mikael Dahlgren, the chief executive of Agama Technologies. "By combining our comprehensive solution with our domain expertise and experience, Finecom will have the best support in both daily operations and continuous long-term improvements to efficiently manage and assure the TV service quality and the customers' experience."

Maxcom selects NetCracker for quad play OSS transformation

Maxcom, an integrated, quad-play communications service provider serving key metropolitan markets in Mexico, has selected NetCracker to deliver a large-scale OSS transformation to improve its order-to-cash process and network design, build and optimisation capabilities.

Maxcom provides voice, high-speed internet, mobile and pay-TV services to residential and business customers in key urban areas across Mexico.

The transformation will replace Maxcom's existing, third-party OSS solution with NetCracker's end-to-end, next-generation OSS offerings, including Resource Inventory, Service Inventory, Service Information Management, Service Order Management, Service Activation and Service Problem Management solutions.





VanillaPlus Hot List: June/July 2014

The Hot List below shows the companies informing us of recent contract wins or product deployments. If your contract is not listed here email the details to us now marked "Hot List" <editorial@vanillaplus.com>

| Vendor(s) | Client Country | Product/Service | Awarded |
|-----------------------|-----------------------|--|---------|
| Agama | Finecom, Switzerland | Selected to provide digital TV monitoring system for continuous and real-time service quality monitoring, assurance and analytics | 5.14 |
| Amdocs | Telkom, South Africa | South African CSP awards Amdocs four-year managed services deal to transfer legacy business and operational systems | 4.14 |
| Amdocs | TIM Brasil, Brazil | Deployment of Amdocs Unified Communications to power TIM Brasil's new blah service | 5.14 |
| Amdocs | Sprint, USA | Extension and expansion of managed services agreement to include Amdocs Convergent Charging | 4.14 |
| Comarch | Orange, Poland | Implementation of field intervention management solution for Orange Polska to reduce the cost of network operations | 5.14 |
| CSG International | MTN, South Africa | Long-term managed services deal to provide end-to-end management of MTN's wholesale billing and business services platform | 6.14 |
| DigitalRoute | Vodacom, South Africa | Deployment of DigitalRoute MediationZone platform to transform data collection and management component of CSP's BSS | 5.14 |
| Ericsson | T-Mobile, USA | Long-term managed services agreement for Ericsson Service Agility portfolio to enable rapid introduction of new services | 6.14 |
| Ericsson | Vivo, Brazil | Ericsson chosen to integrate smart parking and lighting for Vivo's digital city project | 5.14 |
| Jinny Software | Ooredoo, Maldives | Deployment of VAS consolidation project including SMSC, MMSC, voice mail, missed call notification, USSD and caller ringback tone services | 5.14 |
| NetCracker Technology | Cincinnati Bell, USA | Extension of managed services, data centre hosting and app development agreement to 2020 | 5.14 |
| NetCracker Technology | Vivacom, Belgium | Quad play CSP to upgrade to NetCracker real-time, converged BSS platform | 5.14 |
| Openmind | T-Mobile, Austria | Openmind selected to deliver new application to person (A2P) gateway to power A2P messaging | 6.14 |
| Orga Systems | BeST, Belarus | Joint deployment of end-to-end BSS system to create fully convergent environment at mobile operator | 6.14 |
| Subex | GO, Malta | Provision of ROC Revenue Assurance and Fraud Management system in a hybrid managed services model that will convert into a licence model | 6.14 |
| TOA Technologies | Telefónica, Brazil | Telefónica's Vivo unit deploys TOA Technologies field service management system | 5.14 |
| WeDo Technologies | Vodacom, South Africa | Deployment of WeDo Technologies' RAID 7.0 revenue assurance system at mobile CSP | 5.14 |

Vivo successfully deploys TOA Technologies' SaaS field service management

Vivo, Telefónica's Brazilian operating unit, has successfully deployed TOA Technologies' field service management solution in just six months.

Vivo now has a sophisticated field service solution suite that integrates with its critical back-end systems, provides complete visibility of its mobile workforce – both employees and contractors – and creates an end-to-end customer appointment process. Currently, the tool supports 670 field technicians in the data and enterprise services divisions at Vivo.

"The deployment of this cloud-based tool to manage Telefónica's field technician workforce shows Telefónica's commitment

to its digital transformation. This is a pioneer project in the operating support systems (OSS) area, and the focus has been on the quick implementation and achievement of efficiency goals," said Enrique Blanco, the global CTO of Telefónica, who added: "In fact, the project has been so successful that Telefónica will be using it as a benchmark for future best practices in SaaS deployments."

Markus Remark, senior vice president of customer operations at TOA Technologies, added: "When you think of a company of Vivo's size, you might not expect its first SaaS deployment to be an application that is core to its customer-facing business operations - and one that works so intimately with its network of key on-

premises systems, including its CRM, BSS, OSS, ERP and resource allocation and planning tools. But when Telefónica's overall team made a strategic commitment to transform field service management, scale and speed were essential – which is what led them to TOA and its solution suite." 



Vivo has deployed cloud-based field service management tool



Ericsson appoints new business unit heads



Hans Vestberg:
Committed to cloud and IP as market evolves to 5G

Ericsson has appointed heads of the recently announced new business units, business unit Radio and business unit Cloud and IP. The two units are formed by a split of the vendor's current business unit Networks.

Arun Bansal, currently Head of Ericsson's region South East Asia &

Oceania, is appointed senior vice president and head of business unit Radio. Bansal has successfully applied his skills in technology and business across a number of markets and functions during his close to 20 years at Ericsson.

Anders Lindblad, currently head of Ericsson's region Middle East, is appointed senior vice president and head of business unit Cloud and IP. In his international career Lindblad has held a variety of positions in business development and commercial operation across countries and regions during his 17 years with Ericsson.

Hans Vestberg, the president and chief executive of Ericsson, said: "Both Arun and Anders are strong leaders with experience from large organisations. They have been successful in driving growth in very competitive environments. We are committed to maintain our leadership in radio technology while also building a strong position in the cloud and IP space as the market evolves to 5G. I am confident they have the right backgrounds and experience to lead the two new business units with their different business logics and growth opportunities."

Bansal and Lindblad will remain members of Ericsson's Global Leadership Team. Successors to them in their current roles will be announced separately.

Mayrhofer promoted to CFO at Telekom Austria Group

The **Telekom Austria Group** announced at a Supervisory Board meeting that **Siegfried Mayrhofer** has been appointed



Siegfried Mayrhofer:
Tough and compelling task

as the new chief financial officer (CFO) of the Telekom Austria Group. Mayrhofer will succeed **Hans Tschuden**.

Tschuden has been outspoken about concerns regarding **América Móvil** taking a dominant stake in the operator group.

Mayrhofer has served as CFO of **A1 Telekom Austria**, the group's domestic business, since July 2009 and, in addition to his new appointment, will maintain his position as CFO of the Austrian subsidiary. He started his career at Telekom Austria in March 2000 in the International Business Development unit. From 2004 onwards he held several management positions in Controlling and Accounting within the Telekom Austria Group.

"I would like to thank the Supervisory Board for the trust they have placed in me and I'm thrilled about my new task," said Mayrhofer. "Over the next year, the CFO of the Telekom Austria Group will be faced with considerable challenges in setting the strategic course of the company, which promises to be a tough and compelling task."

Willets to join Sigma Systems advisory board



Keith Willets:
Companies must innovate rapidly

Keith Willets, the director of strategy of **TM Forum**, has joined **Sigma Systems'** advisory board as an adviser on the company's growth strategy.

Willets will work closely with Sigma's leadership to refine and expand industry awareness of Sigma's Idea-to-Install strategy for digital services. His input will help guide the development of Sigma's award winning as it continues to focus on helping CSPs master what's next in the creation, selling and delivering of advanced digital products for their customers.

"To be successful in the digital world, companies must innovate rapidly. They

must be equipped to quickly put new ideas in place, whether those ideas are for new services or new ways to deliver those services to their customers," said Willets. "In this new environment, automated product lifecycle management, customer-centric sales and ordering systems, and an integrated and rapid approach to creating, selling and delivering new products are the weapons of choice for companies that are winning today."

Sigma is an active member of the TM Forum, contributing thought leadership in the evolution of digital businesses. Sigma's chief strategy officer, **Catherine Michel**, is a longstanding member of the executive committee and serves on the steering committee of the TM Forum's Open Digital Programme.

Simon Blagden joins MDS as non-executive director

MDS, a provider of convergent billing and customer management systems has appointed **Simon Blagden** MBE, to the company with immediate effect.

Blagden has over 20 years' experience in the UK telecoms and IT industry and since 2004, has been non-executive chairman of **Fujitsu Telecommunications Europe** and is a member of Fujitsu UK's leadership team.

Blagden previously worked at **GEC Plessey** as international commercial manager and then country general manager. He joined **The Quante Group** as UK managing director and in 1995, joined the main board as international chief executive. With operations in over 50 countries worldwide he led the sale of the company to 3M in 2000.

"I'm delighted to be joining MDS at such an important time in its development and I look forward to making a valuable contribution to MDS, and to working with my new colleagues on the board," said Blagden.

Mark Edwards, the chief executive of MDS, said: "We are extremely pleased to have Simon Blagden joining our board as non-executive director, at this very exciting time for our company. Simon brings a wealth of experience in business relationships in the ICT sector, which will be invaluable in supporting our growth strategy".



CSPs' role in monetisation of the digital world

Matthias Liebe assesses the likely show stoppers and explores what will be the key capabilities for CSPs' profitability in the digital value chain



The author, **Matthias Liebe**, is director of product marketing at Orga Systems

CSPs are faced with the challenges of offering innovative products, successfully selling them and the efficient delivery of what customers have ordered. In the digital world, it will become even more vital to be fast and agile and to deliver products and services as expected by more and more demanding consumers.

We all know from our personal lives that if we shop online, we expect a seamless and positive shopping experience, that the product fulfils our expectations and that it is delivered to our door step on the next day.

For any company offering products in the digital world and for CSPs this becomes an important proposition and promise to the customer. At the same time this presents a great and highly-recognised value to the end user.

Nevertheless, the IT operations and processes for this remain complex. Telecoms marketing professionals and CSP product and pricing managers are often confronted with various challenges. We have identified several show stoppers and key capabilities that – if missing – can really harm the service provider's profitability.

The first continues to be the lack of integration and the absence of a common view of customers and their products. The second is the ongoing delay in time to

market for product launches – analysts have found that about 25% of CSPs take up to nine months to launch new services and another 50% need up to six months. Finally, CSPs' sheer inability to be more creative and offer attractive bundles and packages hampers profitability further.

We believe that launching, selling, delivering and monetising new and innovative products is a key process, that needs tight integration that allows maximum flexibility, agility and speed from concept-to-cash.

In addition it is important to recognise that business success isn't just based on one good product but also relies on the capability to repeat this success over and over again – especially in highly competitive and faster moving markets.

Operators cannot lose ground and have to maximise every revenue opportunity when they:

- launch and try to monetise high-speed LTE/4G networks and data services
- introduce new products, bundles and tariff concepts – such as switching from voice-centric to data-centric plans,
- introduce app-based-charging and multi-SIM products
- market and sell their own services
- partner with third party content providers
- partner with apparently competing OTT players ▶



Orga Systems has developed its GOLD Catalog and Order Management system to provide a vital foundation to enable CSPs. Along with the Convergent Real-time Billing (GOLD CCB) system, they can improve time-to-market for product launches and improve delivery and monetisation capabilities.

With the new concept of catalogue-driven revenue management commercial offerings are designed within the product catalogue and directly drive the configuration of charging, policy control and billing. This concept of a single point of product creation immensely shortens time to market and reduces IT efforts.

In addition the catalogue provides the complete and actual commercial specification – in the form of a single repository holding the product truth. In addition to order delivery and billing this also drives important sales supporting capabilities including: sales recommendations, automatic presentation of product options and up-selling or cross-selling opportunities, differentiated product browsing across multiple sales-channels and product eligibility as well as compatibility checks.

GOLD Catalog and Order Management overcomes the difficulty of achieving a consistent, channel-agnostic, end-to-end manageability of all customer orders and provides a reliable order management backbone stretching across BSS systems and OSS fulfillment silos. It helps CSPs to bridge process breaks, avoiding manual steps and subsequent errors. It does also ensure early knowledge about potential jeopardies or order fall-outs.

For CSPs, a good and intelligently designed software product for catalogue and order management is an ultimate time-to-market tool and a powerful efficiency instrument. GOLD Catalog and Order Management helps CSPs to launch and sell innovative products more quickly and deliver and monetise what has been

ordered more effectively and at lower cost, with reduced fallout rates.

For the end consumer the best experience actually is very simple – it's when nothing goes wrong. Therefore, it's of great value for CSPs to provide them with an experience that is right first time and beyond that ensuring that the buying and delivery experience matches their expectations.

Last but not least, it remains absolutely crucial for today's customers that the monetisation and billing of the products and services bought are correct – and do not cause irritation or worst case even churn. That's what we have designed Orga Systems' GOLD Catalog and Order Management to achieve. 

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BIG DATA ANALYTICS

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Real-time contextual awareness is where big data analytics reveals its real value

Dr Andy Tiller is vice president of product marketing at AsialInfo. Here, he tells VanillaPlus about one of the most exciting capabilities of big data analytics: its ability to provide real-time contextual awareness. All the unstructured big data that CSPs generate needs to be non-disruptively turned into structured, actionable context-aware intelligence that they can act upon immediately to the benefit of their customers and partners and, critically, themselves

Big data allows the dynamic data to be extended to a much greater level of detail, incorporating what a customer is actually doing on their phone right now

VanillaPlus: What is real-time contextual awareness, and why are we hearing so much about it these days?

Andy Tiller: One thing we're seeing is that a lot of CSPs are interested in understanding their customers' contexts better. Context incorporates many different elements, from static data such as the user's gender or ARPU to more dynamic data such as location, current balance, and which type of device the customer is using. Increasingly, it's the dynamic data that CSPs are turning to in order to get a real picture of the user's context.

Big data allows the dynamic data to be extended to a much greater level of detail, incorporating what a customer is actually doing on their phone right now. An example would be if a customer is watching a video on their phone and their data balance is low. It might then be a good time to offer them a one-day pass for unlimited video access. That's a simple example where an understanding of the customer's context enables the CSP to offer the customer something highly relevant to their needs – the right offer at the right time.

It can be a win-win: the CSP gets to at least make the customer happy, and may even be able to charge for something they offer that is relevant to the customer's context. Much of the drive towards improved understanding of the customer's context is about improving customer experience. It's about making customers happy.

VP: How complex is the environment in which a customer's true context is constructed?

AT: Amidst all the variables involved the important thing is to understand where you can get the data from in real-time. In the video scenario I outlined, you need to know that the customer is actually trying to watch a video right now. You have to interpret the bits and

bytes on the mobile data network and convert this into knowledge about what the customer is actually doing.

In addition, you have to access BSS data to see if the customer is nearing the end of their data allowance. You might also want to tap the OSS to find out if you have the network capacity available in that location to support the offer of a day pass of unlimited data for video consumption.

Only if all three factors match – in other words if the context is ideal – is the offer made.

So there are at least three sources of dynamic data that need to be provided in real-time to support that simple example. We can also see the need for a complex event processing engine that looks out for those triggers and creates the appropriate response. This is what contextual analysis is all about.

There are, of course, rules that have to be inserted into the process. The trigger might necessitate an outbound call from a customer care centre to make the offer or trigger an SMS with a click-through link to accept the offer.

Some CSPs already have the technology to do this, but we are at an early stage in understanding how to use these new tools effectively to create good customer experiences.

VP: How is contextual awareness enabled by big data analytics?

AT: There is typically masses of data that you need to analyse in real-time to find the context you are looking for, to find the fleeting moment in which to make a relevant, context-aware offer. Static data remains the same but the user's location changes and their bill balance alters continually. Even more importantly, what the customer is doing on their phone changes all the time, and that's where vast amounts of big data must be processed. ►



Our Veris C³ big data appliance processes a copy of those bits and bytes and converts them in real-time into structured data. So a set of bits and bytes corresponds to a specific user on a Samsung Galaxy S3 who is watching a YouTube video, for example. C³ structures the data and watches out for a pre-defined context to arise.

There is a lot of big data technology in there, including massively parallel and in-memory databases and deep packet inspection technology. All the signaling and user traffic from the mobile data network is processed. That structured data is combined with BSS data to identify context triggers in real time.

The structured data can also be analysed offline later to identify trends and patterns in how customers use the mobile network. That's also useful for identifying customers' interests for market segmentation and campaigns. Big data technology is at the heart of enabling this and it is only recently that we have had the technology and the horsepower to make this possible. The early adopters are experimenting with it to see how it can change the world.

VP: What technology is required, and what are the integration points?

AT: The integration points are the data sources that reveal the context. For the mobile data network, optical splitters are used to take a feed of data, non-intrusively from the network. It's actually raw data collected straight from the pipe. A copy of everything is streamed through the C³ system.

We can identify the user's location by getting the cell ID from the data network and we'd have another integration point with the BSS. For data sources it's not a difficult integration job because we're just taking a copy of data in non-disruptive way. Getting static data from a BSS is very straightforward; you just take a daily import, for example.

The voice network is separate, and typically the OSS systems will provide the source data. One example of a context trigger might be that a user has experienced three dropped calls in the last hour. The CSP can use that information to make an apology and pre-emptively offer some free minutes. To do that you'd want data in real-time from the OSS platform. ►



Dr Andy Tiller: More things are legal than you would think; the bigger issue is whether they're socially acceptable



The key thing is to focus on what is socially acceptable in your market and how to create experiences that customers like

VP: What are some example use cases for real-time contextual awareness?

AT: There are three key areas. One is upselling for a CSP that knows the customer context and has something relevant to offer at the right time, such as the video day pass we talked about. Another example could be with a CSP that has a music streaming partner. They can use context-awareness to know when people are listening to music – possibly on a different music app – and make an offer to attract them to their partner’s streaming service. That sort of upselling is a key application area for real-time contextual awareness.

A second area would be in help and support. A poor voice quality experience could lead to an offer of free minutes; or at the moment when a customer changes their phone, the CSP could provide relevant apps, services and help for the new device. Knowing the exact moment is important. CSPs talk about ‘moments of truth’ when the customer is particularly susceptible to being dissatisfied or motivated. If you can delight them at these times you can win their hearts and minds.

A final area is advertising. This relates to upselling but really knowing the user’s context means you can target advertising better and everyone wins. The advertiser gets greater take up, the user only sees relevant advertising and the CSP is able to charge more to advertisers.

AT&T’s sponsored data service allows the data consumed by users watching advertising videos to be paid for by the advertiser, but it’s a blunt instrument – it simply removes a barrier to the customer watching the ad, but doesn’t provide any incentive. A step further would be for the CSP to incorporate context awareness in its pitch to the advertiser. The advertiser could then target the ad to relevant customers at appropriate times. It could also provide a reward to people that watch its advertisements – this time the context you need to watch for becomes whether the customer actually watched the advertisement to the end. If so, the reward is given.

VP: What are the issues around personal data privacy, and how can these be mitigated?

AT: There are two things here: what you’re allowed to do legally and whether it’s socially acceptable in your market. Are you allowed to monitor what a user is doing, and respond to it? For example, with our Veris C³ product you can even know what people are typing into search engines on their phones; China Mobile is using that today to target its own search-based ads ‘over-the-OTT’ (CSP over Google over the network), and it works. China Mobile is getting twice as good a response as Google from doing so.

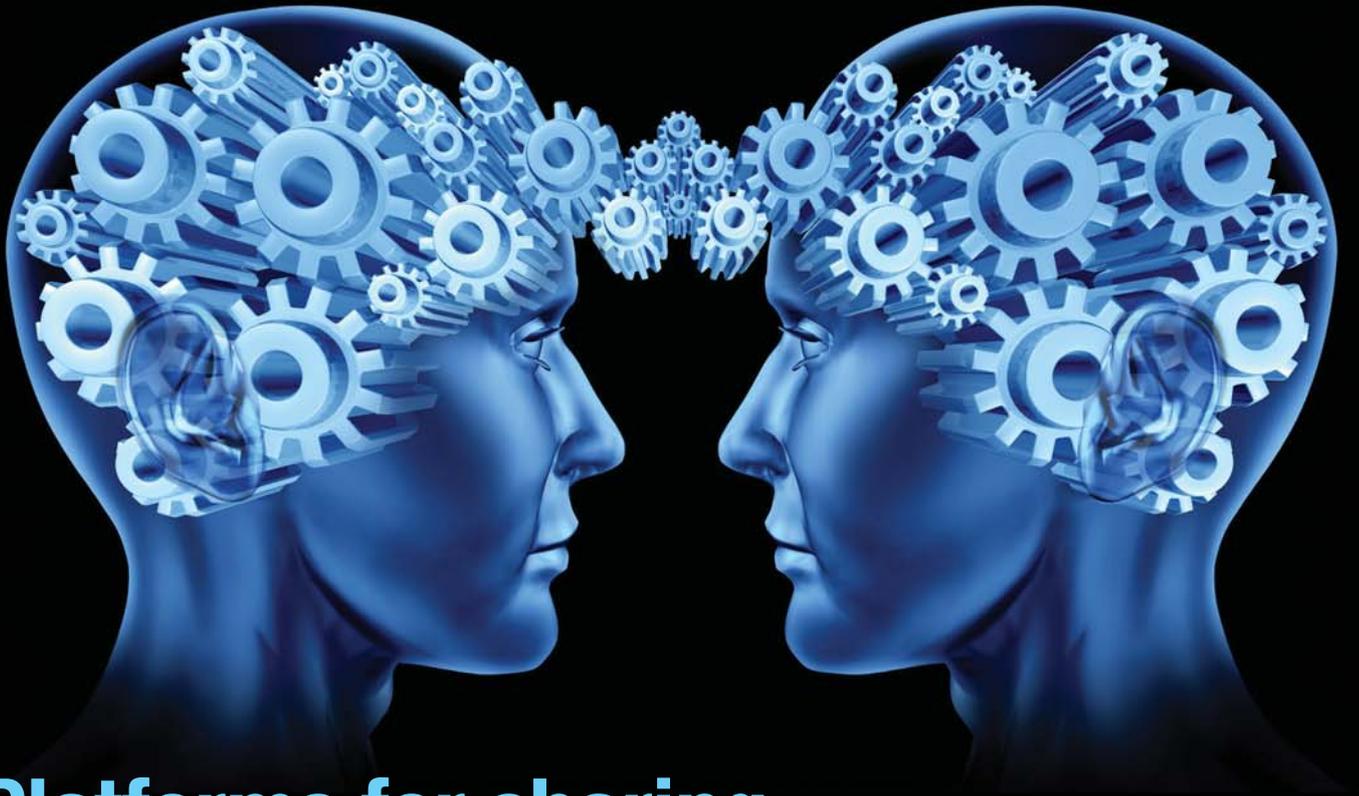
You’d think this would be illegal in other countries, but it turns out that it’s legal to do that in Europe as well. More things are legal than you might think, but the bigger issue is whether they’re socially acceptable. For instance, if you’re searching for a new car and you get a message from your CSP about a third party service to help you sell your old car, you might find that unsettling or intrusive.

The key thing is to focus on what is socially acceptable in your market and how to create experiences that customers like. To achieve that you need to understand the customer’s context really well. It’s not just about making sure that the offer is relevant to the customer – you also need to be aware that a particular campaign might not work well if a customer is asleep or busy. It has to be delivered at the right time – hence the need for contextual awareness.

VP: What is AsialInfo’s role here?

AT: Our starting point has been to build the technology platform and package it into the Veris C³ product. C³ is a specific big data appliance which tells you about how people are using the mobile data network. We can deliver C³ as a standalone solution, or we can build broader capabilities which take data from multiple sources (OSS, BSS, the CSP’s website... and others) feed them into a Complex Event Processing engine which watches for context triggers. Events can take place anywhere and we can track them.

The early adopters in China and worldwide are giving us interesting insights into what works and what doesn’t. We’re building up not just the technical platform, but also the experience of how to make big data analytics deliver real value from context-aware actionable intelligence. 



Platforms for sharing business intelligence among CSPs are the real deal for extracting value from big data

Vic Bozzo is senior vice president of worldwide sales and marketing at Telarix. Here he tells VanillaPlus that consumer big data projects are not the only means by which CSPs can benefit from business intelligence. By sharing data on peering, roaming and bilateral deals amongst themselves, they can streamline the process of working together and ensure they are getting the optimum out of their relationships. Critically, as the value chain diversifies and retailers, OTTs and other third parties become more enmeshed in the CSP value chain, such relationships will proliferate and greater insights will be required. Ultimately, success will come from creating business-to-business platforms that deliver real business intelligence to companies across the market

VanillaPlus: How are you seeing the development of big data analytics approaches within the CSP sector? Are you seeing greater emphasis on business intelligence and the outcomes it can achieve?

Vic Bozzo: We're certainly seeing our customers looking to mine their data more. They're looking for a greater understanding of their business because the margin pressures they are under are such that they need to uncover new opportunities. On one side they need to do this to protect themselves from arbitrage in

their core markets and create an insurance policy. That insurance is analytics.

From another perspective, we are firm believers that who has the most data – and who can do the most with it – wins. Big data is making its way into the advertising world and into the consumer and wireless markets. In more general terms, people are mining their data more and more although much of the activity and excitement is focused on the consumer market.

The telecoms industry has been focused on mining data for many years but there is now a change in ►



Vic Bozzo: CSPs are looking to understand their customers' and suppliers' data as well as their own



Companies of all types need to get more efficient and more automated but to do that you need to have the big data mart sitting behind you

focus from understanding your own data to understanding the data of your customers and suppliers as well.

That enables negotiation of roaming agreements or bilaterals armed with knowledge. For example, we're offering a simulation to enable CSPs to run 'what if?' scenarios when they're assessing whether to do a deal. We're doing that by extracting data directly for them and giving them interfaces to really analyse their own data.

VP: That's quite a significant change in CSP attitude. To what extent is it an improvement on what has happened previously?

VB: It's true that shared data between partners is not always the first place that CSPs have looked. They often looked to a third party such as Telegeography to understand where the market is but they can now use their own data to make better buying and selling decisions. That's particularly so in wholesale but also true in the consumer market. For example, I've seen a CSP package international calling within its domestic offering. It has taken off like wildfire because they know their demographic. One question we asked was how did they know they were buying or routing in the correct way because that's how the bottom line is affected?

It's easy to overlook that when a hot new service is taking off and we expect the market will see this more and more as OTT bundled services accelerate. CSPs will need to continue to understand what the downstream effect of such bundling is.

VP: Can you provide some detail on Telarix' SMART Links product and how it relates to cross-corporate intelligence that can be mined to deliver value?

VB: What we've been doing for a long time is allowing CSPs to exchange information such as rates and

invoices among themselves. We normalise the format so data on either side fits into back offices and downstream systems to give the user a view of what buying and selling at.

As we begin to add business intelligence into the model we get to a point where a CSP can analyse their data and see not just what's coming in and going out but what's available. That enables a CSP that is looking for a service to be matched with a CSP offering the service. They can just exchange information without lots of personnel being required. We're basically saying that, with like-minded systems CSPs can make matches with each other, automatically generate offers and agree them.

Companies of all types need to get more efficient and more automated but to do that you need to have the big data mart sitting behind you.

VP: How do you bring this concept to market?

VB: One thing we've done to help is make an ROI calculator available to our customers and prospects so they can model the benefits. It is a pretty complex model but generally we can demonstrate ROI of about 8-10%. Generally there are cost savings and revenue opportunities to be achieved.

VP: How have approaches changed from relying on third parties to perform analysis to generating business intelligence from all the data in CSP systems?

VB: I don't think people will necessarily move away from using third parties' data because they will always need validation. There used to be spot market exchanges in telecoms that you could go to but that model did not take off. What we're saying is that if you're a large CSP and you're getting 500-600 offers and months and sending out 500-600 offers yourself, the data frankly is such that you have your own spot market. ▶



Third parties will be used to validate decisions. Retailers and OTTs and wireless providers in a lot of cases don't have the time or desire to build a wholesale organisation but they do want control of this side of their businesses.

It is practical now to put up a SaaS model or a licence model very rapidly and monetise the data very quickly. We're offering an in-sourced model as opposed to an outsourced one and that provides the control and visibility that service providers want.

We certainly see opportunities in cost control but at the same time, if there's a niche or a deal to be done, an outsourced approach sometimes doesn't identify it or bring it through the chain.

We're providing a lot of managed services now where we'll put our system in the cloud and help you manage that so, if you do uncover an opportunity there's a chance to share the upside. In the past, telecoms expense management companies have not always shared the upside.

VP: What are the key business intelligence metrics that CSPs are targeting to extract value from?

VB: There's a lot of peering going on now and lot of ownership of the last mile. If you can get directly to the last mile and have a last mile to last mile proposition, you can do settling – even if it's just bill and keep. You're cutting out layers and layers of incremental cost.

Everybody wants the big data sizzle story which is why people are saying look at your subscribers and look at your web traffic but these are real opportunities.

From a pure B2B perspective this transcends telecoms. When you look at all forms of communications services, all will be packaged

together at some point so CSPs will need to know the optimal way to sell those bundles and what the optimal upside is.

We're seeing a lot of demand at OTTs and next generation wireless providers and we're starting to see these federations blossom as a result.

VP: How is business intelligence being applied to enable CSPs to buy, sell and peer better and maximise network utilisation?

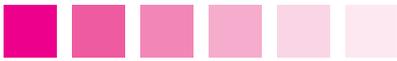
VB: The crux of this is that CSPs are managing better because they know in advance what they need and what price they want to buy at. They also need to assess what's on offer. The cheapest offer could affect their QoS or commitments.

VP: How do you see Telarix' portfolio developing as business intelligence concepts mature?

VB: Today we're seeing strong traction in SMS and MMS, for example. Those have traditionally been different environments but that is changing and a lot of application to application (A2A) environments are emerging that ultimately are being merged into telecoms.

There are 3-4,000 carriers that are left out there to bring into the fold so the potential is enormous. In addition, we're seeing new app providers enter the market every day. Telarix is agnostic to which media, we'll address anything that can be routed, billed or settled or bilaterally traded. Right now, our platform is capable of handling that.

Today, people have a strict mindset of what big data is and that is traditionally focused on the consumer market and the monetisation of traffic. We see a huge business to business big data play in the telecoms market which we focus on. There are so many intra-industry deals being done and the insights we can collect provide real business intelligence and ultimately significant value to CSPs. 



NEVER MIND

CONTENT THE

it's the experience that CSPs need to provide

There's a lot of big data to digest, but you need to make a start or someone will go OTT and eat your lunch, writes Nick Booth



Jennifer Kyriakakis:
Whatever you measure you need focus

A psychological study of many communication service providers (CSPs) might conclude that they're stressed out by an identity crisis, with the most identifiable symptom being passive aggression. They're aggressive towards the subscribers while being inexplicably passive over the important issue of content, where they are happy to allow themselves to act as a conduit for everyone else's over the top behaviour.

CSPs need to work out what they want to be, says David Pieterse, **HP Vertica's** vice president for EMEA. "They own the data but they still act like a dumb pipe because they still have the old mindset," he says, "obviously they're all different and not all CSPs want to be content providers. But they should definitely strive to be the experience provider."

Before they can reach that state, they have to prioritise which issues are tying them to their current mindset. Is it the number of silos of data? Or the sheer weight of data out there? Or are the outdated business and operational support system keeping the CSPs as co-dependents in a hopeless relationship? To some extent CSPs need a type of neuro-linguistic programme to help them change their habits. Is there a case to be made for simplifying subscriptions and lowering the number of variables?

Pieterse thinks not. The advent of 4G with all the possibilities for creating data on just about everything, would be the perfect time for a wholesale change, he says. "Now is the time to plan how they will be delivering that experience," says Pieterse. A priority might be to identify the 'keepers' – the top 10% of subscribers that CSPs want to keep engaged with. ▶

The mobile operator doesn't want to create the content, but they should be the publisher, says Dudley. "They can publish this data or provide trusted third parties access to it for the appropriate fees," he says.

But how do you keep them happy? If CSPs are generating billions of meta-data records every month, they should at least start thinking about joining them up and using them properly, argues Bill Dudley, **SAP** Mobile Services' group director of global product strategy and solutions.

They can find out how voice calls perform, how fast calls are set-up and the call quality and the 'who, what, why, where and when' of every message that's sent. But historically they haven't used this data wisely, says Dudley. "There's too much of it, it's too complex and often it only makes sense to a handful of mobile engineers."

In some cases the valuable data is summarised to provide various statistics for internal usage but it doesn't happen enough, he says.

"The question for CSPs is, can they use this data to achieve a clearer understanding as to what their subscribers are doing with their devices? In these scenarios, we are not interested in what the individual does, but what the collective does," says Dudley.

This is the type of data that can tell the CSP what apps are the most used by subscribers in some arbitrary location. If they know what apps everyone at Wembley stadium is using at 3pm, there are multiple money making opportunities. Then the CSP can start thinking of how to persuade subscribers to use service A rather than service B.

The mobile operator doesn't want to create the content, but they should be the publisher, says Dudley. "They can publish this data or provide trusted third parties access to it for the appropriate fees," he says.

Before you can manage all the billions of microscopic

transactions, you need to get a clearer overall picture, says David Heaps, senior vice president of corporate strategy at **CSG International**. Even if activities aren't billable, they are still interesting and there's a lot of stuff that's off the radar. CSG is investing time and money into simplifying the views of data with its Singleview system. "If you have one view of customers and interactions its going to be a lot easier to start working out how you're going to cater for them," says Heaps.

While the CSPs are simplifying their view on the networks it wouldn't hurt to simplify the packages they offer subscribers too, he says.

There does remain the problem of BSS/OSS systems that were, for the most part, built for a different world. "BSS was built for the circuit switched world and they can't manage the workload of a multi switched environment," says Jennifer Kyriakakis, chief marketing officer and founder of **Matrixx Software**, "many CSPs can't get away from the batch mentality."

One of the most unpredictable variables has proved to be the users as their behaviour has been changed by the possibilities presented by smartphones and, as happened with the internet, nobody really knows what's going to take off. There are endless variables that can be tracked, but the key to success is focusing on an area and doing it really well, says Kyriakakis. "It doesn't matter whether you're tracking dollars or minutes or megabytes, whatever you measure you need focus," says Kyriakakis.

Companies like Matrixx Software will provide the link between what the customer wants, the charging policy, the data silos and the systems. But what does the customer want? It's too early to say and the experience of 3G may not prove an accurate indicator of how the 4G customer will act.



David Heaps: Even if activities aren't billable, they're still interesting

EXPERT OPINION



CSPs can achieve better customer engagement through data-driven insights

How do CSP's engage with their subscribers and provide a superior service when they are no longer locked in and can leave on a whim? The answer is to become a data-driven company to deliver a personalised and relevant customer experience, write Julie Stoughton and Rani Goel



Julie Stoughton is head of telecommunications industry marketing at SAP

Mature markets are seeing massive disruption to their business. In some regions, age-old business models are being completely thrown out the door and forcing CSPs to reinvent the way that they interact with customers.

T-Mobile, in the US, removed the typical two-year contract allowing subscribers to leave whenever they want.

A new data-driven business model – with capability to get insight using next generation advanced analytics tools into massive amounts of big data, both structured and unstructured data like customer sentiments in real time at the core – is evolving as CSPs reinvent themselves. This approach is proving to be a powerful competitive advantage as they increase customer retention, reduce churn and drive revenue with new services.

Build customer-centric, data-driven relationships

In an overly competitive and saturated market, CSPs are struggling to maintain and grow their customer base in an industry where the cost of acquiring new

customers often outweighs their short-term value. The most innovative CSPs are realising that the large volumes of data they collect – information on customers, events, location, network usage, exact location of the mobile device and calling experiences – holds the key to their future success. They are quickly adopting a data-driven business model that helps them access this data and derive insights on the behaviours and preferences of customers, as well as how they interact with the world.

The harnessing of this data, which is growing with exponential velocity every day, can radically change how CSPs engage with customers, roll-out new programmes, and manage network traffic.

Deeper insights drive greater relevance

In the past, CSPs simply collected what seemed at the time to be overwhelming volumes of data. And they stored all this data without taking any action on it, because the technology to analyse and utilise this data effectively was slow and prohibitively expensive.

However, sophisticated in-memory database and analytics technology has changed all that. CSPs can ▶



now gather, monitor and analyse very large amounts of customer and network data in near real-time, reveal hidden insights with predictive modelling and sophisticated data visualisation which provides them with innovative new opportunities that weren't possible before. They are now using meaningful data to build revenue-generating, highly relevant offers that are delivered at the right time and in the right place across multiple customer-facing touch points.

For instance, CSPs can now build retention programmes that target very specific micro segments based on customer behaviours and characteristics using next-best activity technology. A CSP in Europe used a predictive model based on thousands of variables of customer profiling data, such as location-based and preference data, to provide timely offers to subscribers while they were away on vacation.

A data-driven model: The key to future success

Recently, SAP conducted a Perspectives on Big Data for Telecommunications survey to find out how quickly CSPs were adopting a data-driven business model. According to the results of the survey, most CSPs are well aware of the benefits that can come from intelligently tapping into big data assets. In fact, of the CSPs that participated in the survey:

- 71% believe that the ability to manage big data is key to their organisation.
- And 60% already have a strategy in place to do so, which underscores the importance of big data as a valued asset.

In spite of the belief in the value of big data, some CSPs are still hesitant. A quarter of survey respondents revealed that they are concerned about the ROI for big data investments, and whether they have sufficient funding for these types of projects.

A new way to create better customer offers

Industry-wide, many CSPs are already taking

advantage of big data to grow their customer base, slow down customer churn and increase conversion rates. In fact, one CSP has reduced churn by two-thirds and doubled the conversion rates of its programmes with data-driven insights.

For the CSPs that are moving forward with their big data strategies, 71% say they believe that they'll find the greatest value in real-time offers. To make this a reality, they are investing in easy to use and innovative predictive analytic capabilities that enable creation of sophisticated models that can be modified quickly for better customer segmentation. Data visualisation technologies that enable discovery of hidden customer insights are being used to collaborate and engage internally and with partners.

It's time to take advantage of big data

For many CSPs, a data-driven business model is quickly becoming a primary business enabler and an important part of their strategy for future success. Leading service providers are investing in an analytics platform that enables them to intuitively explore and present data to reveal new insights at-a-glance by providing agile visualisations and trusted data discovery that enables real-time understanding of data, both big and small.

In fact, more than half the respondents (64%) in the survey are in the production phase of rolling out real-time offers. A similar number (68%) are in the proof-of-concept stage of customer insights and segmentation as they explore the full potential of what a data-driven model can do for their business.

The opportunity is here and now

To remain competitive, it's imperative that CSPs roll out innovative, revenue-generating services faster than their competitors. Using big data for better insights into the customer will lead to more satisfaction and greater loyalty – and a positive impact on the bottom line. 



Rani Goel
is senior director of industry solutions marketing at SAP labs

To learn more about how global CSPs are using their data to drive greater customer centricity, visit

www.sap.com/telecom.



A big bang big data plan leaves CSPs struggling to prove project value



Francois de Repentigny:

Starting small isn't the only viable way but it's probably the way to maximise your chances of success

CSPs are starting to realise they don't have to embrace a big bang big data plan that requires huge investment and long term commitment to wait for results to make themselves apparent. Instead, they can tactically target specific areas and identify projects that can bring results in the medium term, writes George Malim

Big data was always going to be big and its sheer scale has hampered CSP efforts to extract early value from the concept. Some are well on the way to achieving the company-wide big data plan with analytics platforms plugging into the complex web of systems and data stores but others, seeing the sustained and substantial investment required are wondering how to construct a business case based on vendor reassurance that benefits will probably come.

Some CSPs are cautious; others can't see the business case for the investment a big bang big

data plan requires. So is there another, more manageable way for CSPs to engage in big data analytics without swamping their investment budget or getting bogged down in long-term project without being able to measure progress along the way?

"The short answer is yes, there are easy wins," says Francois de Repentigny, the vice president of marketing at **Guavus**. "If you allow some time to test things and do a very quick proof of concept you can avoid situations in which a customer has only a vague idea of what they want to do and ultimately what the value is going to be." ►



“Our approach is to do very rapid prototyping for a proof of concept and a vendor should be able to propose that,” he adds. “I’m not saying this will be an ongoing state of affairs as the market matures but proof of concept is the way to go to find out if the project is worth it or not.”

The early stages have been focused on building big data infrastructure and at least some of that remains essential to even a targeted project. “To move to a more holistic way, CSPs’ big data organisations are very focused on infrastructure and putting everything in a big data lake,” says Hadas Haran, the director of product marketing for big data and analytics at **Amdocs**. “A lot of CSPs don’t know where to start. They get an empty box of technology and they don’t know how to extract value.”

“Analytics is not new and CSPs are now talking about key, specific use cases,” she adds. “The big bang approach can work for some CSPs but they do need to overcome a lot of organisational challenges. However, it is intimidating for a lot of CSPs and they will benefit from a more focused approach but to do that they need a software platform that enables them to grow for the future.”

Others think a more measured approach is sensible at all scales of big data analytics project. “A step by step approach is good for any project regardless of project size,” says Gordon Rawling, the senior director of marketing at **Oracle** Communications. “There certainly has been a lot of noise but what’s very different now is the technical capability that can be delivered and genuinely has potential.”

“We’re trying to focus on delivering insight and unless you build in the application of that insight into the operator and customer affecting process of the CSP, you will be forever trying to work this out,” Rawling adds. “For us that relies on all those data aware capabilities [within OSS/BSS] providing insights as a matter of course. That’s the way it has got to go rather than just adding layer upon layer on top.”

“There are still ongoing, huge big data projects – the behemoths – but we’re trying to sell our Veris C3 big data appliance round the side as something

that plugs in, does the job well and gets quick results,” says Dr Andy Tiller, the vice president and CTO EMEA of **AsialInfo**, who sees a trend towards more manageable big data projects. “We’re hoping to ride that trend and offer a quick win with some proof points.”

For Haran, it’s not just about systems and technology. An improvement in analysis of the data is also required. With data scientists in short supply across the world, that’s something providers like Amdocs are starting to offer as a service.

“The market is starting to mature and we are seeing data science being provided as a service,” she says. “Some generalist data scientists don’t realise the context of their findings and try to find all sorts of patterns but don’t know how to correlate them.”

“We put a data scientist and a domain expert, such as a CEM or network operations specialist, together to do discovery sessions and drive the analytics journey,” she adds.

For Tiller, seeing is believing. “We can show the product in use in China,” he adds. “The context is different and some of the product is potentially illegal in Europe but CSPs can see the value. The concept is also deployed in Telenor and improving responsiveness to customers’ contexts is something CSPs really want to do to differentiate the experience.”

Others think there has been too much focus on volume and the early results will come from increased velocity. “The basic definition of big data addresses the huge volume of data involved and that plays a lot into the big bang aspect of projects,” says de Repentigny. “However, by focusing more on velocity you can assess what you could do differently if you had timely access to a wide variety of data. Can you prove the value at a smaller scale by focusing on speed and variety?”

“I don’t think starting small is the only viable way but it’s probably the way to maximise your chances of success and maximise the opportunity for positive return on investment by starting small and growing progressively,” he adds. “We see it as crawl, walk, run and that’s the approach we typically offer to our customers.” 



Dr Andy Tiller:
CSPs want something that plugs in, does the job well and gets quick results



Gordon Rawling:
A step by step approach is good for any project regardless of size



Style, substance and big data

In the rush to be seen as big data players, many IT vendors are contributing to the hype but not to the solution. So what, exactly, asks Thomas Vasen, is a big data platform, particularly for CSPs?

First big data was born and then, we had all manner of independent software vendors claiming their products were central in the new domain. As if.

Billing systems? They've always been in the big data business, so we were told. CEM companies? Big data is the central feed so that must make us the definitive solutions, they claimed. Analytics providers? Obviously. What, after all, is big data about if not analysing the haystack to find the needles.

No wonder CSPs were confused when it came to a question of where to find solutions to implement their nascent big data strategies.

Let's start the search by identifying some simple home truths about big data:

1. Big data by definition is the information created when actions or events are recorded such as customer business actions and/or network operational events. Therefore, big data is sourced from raw usage and other records that are generated when something is done.
2. These records need to be extracted from their source components – operation or business/network elements or enterprise software – and pre-processed. In raw form and in raw numbers/volumes, the records that make up big data are pretty much useless for handling by any downstream system. They're certainly big and they're certainly data, but they're not what we have to come to call usable big data at this raw stage.
3. Once the transformation above has taken place and the downstream system is reliant on the now usable big data and has been fed with it, big data becomes useful data. Useful data is the next stage

on the journey. A lot of people think useful data, which can drive CEM, analytics, marketing and other end-outcomes and applications, is big data – but it isn't. It's what comes next, after big data. The latter solutions could, in fact, be called useful data products, as that is really precisely what they are – products that do something with the input of useful data.

Accept this, and we're getting to an understanding of what the term big data really encompasses. Big data is the first two steps above. In very basic terms, a big data solution is an enterprise scale data processing and re-cycling programme; it has functional aspects of ETL and Mass Data Processing and more. And it is a function to itself. Furthermore, big data solutions don't need a new name or category of software because they already have one. It's called mediation.

Mediation is and always has been – and if efficient and well designed always will be – the native big data play. Let's look at why.

First, mediation has data and meets high volume data processing requirements embedded in its DNA. In the case of DigitalRoute, and for all functional mediation products, we could ride the wave of commodity hardware and blade servers that were emerging 15 years ago so we could always handle high data volumes very cost effectively. We've always designed our software to do end-to-end in-memory processing so that nothing touches disk while we process it. We take whole files in at once to give us a performance advantage. We built one of the first truly convergent systems and can today handle batch and real-time data in a hybrid way, also a key big data requirement.

One way to understand the impact is to see the mediation platform as a data access point and collection engine for the various downstream applications. An example of a use case would be our



The author, **Thomas Vasen**, is vice president of product management and marketing at DigitalRoute



work with SAP, taking CSP data and selling it as intelligence to advertising firms and marketing agents starting with the feed from our MediationZone product.

The idea here is to take raw geo-location and radio access network data and feed it, enriched with demographics information from CRM but anonymised of personal identifiers into SAP's HANA databases. The process sees different elements of big data componentry at work.

After the big data/mediation solution has done its job, SAP's analytics solution can analyse the feed for marketing purposes and detect interesting behavioral patterns. The resulting service – SAP Consumer Insight 365 – thus unlocks and monetises network-sourced data. So the typical marketing agency which consumes the results might, for example, serve the leading department store in Sweden. And that retailer might want to know what kind of people walk by its stores but never come inside. The intelligence big data can deliver is of great value because if the store can cross-correlate demographics with location data, it can market to a target audience much more effectively than ever before. But again, the analytics, though critical to using the data, aren't the big data play in and of itself. That's mediation.

Particularly in CSPs, mediation is an even better fit as a big data strategic jump-start because long-standing mediation products, as a result of their billing mediation experience, tend to be well versed in the language of the industry. This is important because CSPs have very specific data formats and different aggregation rules, especially when you get into the radio access network world. There, if you don't know what you're doing you won't get far at all because data can be tricky to extract and many so-called solution providers lack the knowledge or capacity to collect and process this accurately and efficiently. For established mediation offerings that have a long

standing record of intelligently merging CSP data streams and turning them into something manageable, this isn't a problem.

Of course, this isn't traditional billing mediation – CDR processing for BSS applications – which might have distracted some from grasping how central mediation is in the big data game. But don't be fooled. For an example of both its centrality and flexibility, let's look at deep packet inspection (DPI). DPI is an important new data stream mediation commonly works with today. In our own case, we don't capture DPI directly: we take in the records reported by various DPI engines or probes from companies like Ericsson, NSN, Sandvine, Allot, Tek, Procera, and others. We then cross-reference it to identify what kind of service the customer has or which URLs are being served. This DPI data is invaluable in measuring customer experience. For the end user, it's not just about knowing what customers are doing but also looking at dropped sessions and figuring out what the customer did before and after the drop.

Many mobile operators are not using big data strategically like this right now because the volumes are so massive, and they haven't learned how to manage them. Mediation allows CSPs to be really clever about the questions they ask of the data up front. Most CSPs know exactly what they need to do with their network data. It's pretty structured. The challenge is to filter it down to a reasonable size so it can be easily digested and worked with. The functionality needed to do that is already, via mediation, in the data centre.

Let's conclude with a few realities. Big data has a front end (its sources) and a back end (its downstream applications). In the middle sits the big data engine itself and that's where the journey is both centred and where its success ultimately rests: in mediation, we should be totally clear about that. 



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Mobile context data in China, Japan and Korea offers potential US\$11.9bn opportunity

Opt-in subscriber data creates value for operators, brands and consumers claims research from consulting firm SEEC

The potential market value for mobile context data in China, Japan and Korea is expected to reach US\$11.9 billion annually. In a research report commissioned by Syniverse, economic consulting firm SEEC estimates the value of these markets. The report also cites the key drivers of opportunity for mobile context as the prevalent use of mobile devices and social media, increased travel and tourism to the region, and the growing popularity of mobile banking.

Mobile context is the insight into subscriber information, behaviour and location – for those end users that opt in – that is available to CSPs and that can be offered to brands for the purpose of improving end-user engagement and experience, which can result in increased brand loyalty and revenue.

“Mobile context enables brands to customise interaction with end users and further enrich their experiences,” said Mary Clark, the chief marketing officer of Syniverse. “With China set to become the largest mobile phone market in revenue this year, and with Japan and Korea having two of the world’s most advanced mobile networks, this region offers a critical opportunity for mobile innovation. Mobile context has the potential to deliver enhanced benefits to consumers, the companies they trust and the operators that serve them.”

In the SEEC study, the projected market value is based on brands and mobile operators that develop mobile context offerings for a platform market model in which brands connect to multiple mobile operators through a single neutral third party rather than through numerous CSPs through separate agreements. Specifically, the market applications of mobile context that are considered in the valuation constitute opportunities in mobile banking, travel and retail advertising. The platform market model would generate approximately US\$11.9 billion in annual

revenue for mobile operators in China, Japan and Korea, assuming a mature market.

When broken down, the potential annual value of mobile context by country is as follows:

- US\$5.9 billion for China
- US\$4.5 billion for Japan
- US\$1.4 billion for South Korea

An example of the benefits mobile context can deliver is the ability to improve consumer peace of mind for making payments while traveling, as illustrated through Syniverse’s work with MasterCard – in particular efforts to use mobile context to confirm the location of an end user is the same as their payment card transaction. In addition, the growing popularity of mobile banking in China, Japan and Korea means brands can build consumer loyalty programmes and issue incentives through mobile devices. As the market evolves, Syniverse believes mobile operators will increasingly develop their mobile payment solutions to unlock the value of data traveling through mobile networks to enhance the end-user experience.

Mobile penetration rates in countries like China, Japan and Korea continue to grow with the transition to 3G and 4G service. SEEC’s research proposes a sustainable long-term market structure with a balanced, mutually beneficial relationship between operators, brands and consumers. Operators stand to benefit from the sale of opted-in mobile context data; brands can enhance their ability to target and engage with their audiences; and end-users can gain value from highly personalised, relevant brand engagement.

At Mobile World Congress 2014, Syniverse reported on the global market value for advanced services based on mobile context insights, a global figure estimated to be worth up to US\$44 billion annually, based on another SEEC research report commissioned by Syniverse. 



Mary Clark: Mobile context enables brands to customise interaction with end users



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Oh dear – That really is too much innovation

As the Chinese saying goes, we live in interesting times – and that's swearing, writes Nick Booth



The author, **Nick Booth**, is a contributor to VanillaPlus and a technology journalist

Some of the biggest runaway successes in life are the simplest. The text message. Web sites featuring kittens that look like Adolf Hitler. Advertising campaigns based on the words Hello and Boys.

On the other hand, there are some ingenious inventions that, in spite of massive expectations, failed miserably. One of the species that died out before man came on the scene was a mutation of the crocodile family (crocodylinae) that had evolved the ability to climb trees and hunt by ambush. By all accounts, they were both intelligent and indestructible. How on earth did they fail? Nobody knows, but they did.

One of the explanations for the success of the airport novelist Jeffrey Archer was that his uncomplicated approach took him right to the heart of the matter in hand. Whereas his more intelligent peers might have had to wrestle with a tangle of competing ideas and emotions, Archer's thought processes was a lot less complicated. Which made it easier for others to understand and a lot easier to execute.

Given the pace of change in this industry, with so many different dynamics, it's difficult not to conclude we have been subjected to the ancient Chinese curse: May you live in interesting times.

Everything is in a state of constant flux: the handsets, the broadcasting techniques, the infrastructure, the databases. The infinite possibilities that are being created are having a destabilising effect on the most variable entities of all, the end users. Who knows how they'll behave once LTE is fully installed. The pace of change seems to be spiraling ever faster. Smartphones changed the way users behave. The behaviour of users has changed the way CSPs want to connect with them. The new IP networks will stimulate new rounds of invention among the handset makers, whose only method of competing seems to be to make handsets ever more complex.

Have you ever attended a product launch and been tempted to shout, "Stop right there! This is too much innovation."

You have to feel sorry for anyone involved in creating business support systems to underpin all this activity. According to Jennifer Kyriakakis, a founder of Matrixx Software – which sets out to rationalise what users want to do with how CSPs want to charge them – a single film viewing can launch a thousand sessions. It's known as 'doing a Cleopatra'.

The challenge for the CSPs is to somehow rationalise all the thousands of variables involved – the types of subscriber, device, location, bandwidth, payment, credits, content being consumed, services being used – and calculate their inter-relationships and modify the way service is delivered, millisecond by millisecond. Whoever sets the unachievable deadline for delivery has, by a cruel irony, decided to call it 'real-time'.

Who could blame the engineers and developers, who have to meet this impossible brief, if they exclaimed! 'real-time? They're having a laugh aren't they?'

One of the primary principles of engineering is that the more moving parts you have in your system, the more likely it is to fail. Would it be a good idea to fix some of the variables? Surely it would be better to devise packages for types of users, based on their predicted types of consumption? By now, most of us know what types of consumer we are and whether we're more likely to spend our train journey catching up on TV shows, joining a twitter storm about Network rail or texting our friends to explain why we're going to be late.

All it needs to execute the plan is for the people who sell us our phones be they online or on the high street to listen to us. But that's not my experience of the salesmen in my local Orange or Vodafone or 3 shops. Usually they don't care what you want. They push you down one track. They're almost Archer-like in their single mindedness.

Which is a shame because if they gave more thought to the initial design of the package, when the customer's relationship with the CSP was first being created, everything could be a lot simpler to execute and understand. 

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