

A full-length portrait of a middle-aged man with grey hair and a beard, wearing a dark suit, white shirt, and a patterned tie. He is smiling slightly and looking towards the camera.

# BILL & CHARGE

Will charging capability enhance CSPs' roles in the digital ecosystem?

- **ANALYST REPORT**  
Analysys Mason finds that changed user behaviour means changed billing for CSPs
- **TALKING HEADS**  
MATRIX's Dave Labuda on why digital transformation is no longer just an IT project
- **DIGITAL SERVICES**  
Are billing systems a bottleneck?



**PLUS:** Cerillion floats on AIM ■ Vasona wins series C venture capital funding ■ Openet Weaver free NFV software released ■ Astellia launches Flex user plane monitoring ■ Comarch consolidates network inventory systems at T-Mobile Austria ■ DigitalRoute puts Hi3G on track for Wi-Fi calling ■ Bhutan Telecom selects Ericsson for BSS transformation ■ Kachlon appointed chief executive at FTS ■ New chief scientist for Guavus ■ Read the latest news, opinion, blogs and features at [www.vanillaplus.com](http://www.vanillaplus.com)



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# Will CSPs use digital to dig out of their commoditisation hole?

It's an odd phenomenon that a word associated with cheap watches, your desk calculator and early forms of computing has become synonymous with all forms of network-based activity but we are now firmly in the era of digital everything, writes George Malim



Setting aside thoughts of 1980s computer games, there is an inevitability about digital becoming the word to describe services, content and applications delivered over networks. After all, these aren't physical services or products and terms such as weightless goods or adding an e in front of everything are too clunky for regular use with anything approaching a straight face, so digital it is.

Beyond acknowledging that this is a digital world composed of digital commerce, making up a digital value chain, supporting digital ecosystems that service digital tribes who work in digital businesses and live in digital homes in which they enjoy digital experiences, it doesn't really matter what labels digital is appended to – even for service providers, who, of course, are now digital service providers.

What's important about adding the word digital is what it signifies and I think that ultimately comes down to a notion of novelty. Digital shouldn't be taken literally to mean non-analogue, instead it should be taken no more seriously than adding an i in front of phone or an e in front of commerce. It's a descriptive tag, a little marketing graffiti, a shorthand for a new way of doing things.

Digital, in this definition, means collaborative, flexible and agile. It describes a world in which companies can compete with each other at the same time as being partners in other aspects of their businesses. It suggests a situation in which organisations can respond to shifting demands instantly, rapidly breaking down current structures and reforming quickly into something else.

Yet, in this digital era, some fundamentals remain rigidly traditional. Perhaps most important among

these is that providers of content, services and apps and the providers of the delivery mechanism, the network, need to be paid. It doesn't matter how the business model is constructed or which organisation pays which or how revenue is apportioned or shared, a common factor is the need for accurate, rapid and demonstrably fair charging for the consumer and the participants involved in delivering the service.

This could still be CSPs' strongest opportunity. They know how to charge, they know how to apportion revenue and they know how to control credit. The question then remains one of whether CSPs can use this capability to become more than network and charging providers and become truly digital service providers, thereby gaining more of the revenue available in the digital ecosystem.

Enjoy the magazine (whether on paper or our digital issue!)

George Malim



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## Cerillion successfully floats on UK's AIM market

Cerillion, the billing, charging and CRM software provider, has achieved a quotation on the AIM market in the UK.

Dealings in the shares began on 18 March 2016 and the company's market capitalisation at admission to AIM was £22.4 million, with a placing price of 76p per share. Shore Capital acted as the company's Nominated Adviser and sole broker. Established in 1999 following a management buyout from Logica, Cerillion develops, installs and supports billing, charging and customer relationship management systems, predominantly to the telecoms market. The business has a global customer base, across 40 countries and its customers include Cable & Wireless, KDDI and MTN.

Cerillion has reported revenues of £14.0m,

EBITDA of £2.9m and profit before taxation of £2.1m for its financial year ending 30 September 2015. The company has generated £8.5m cash over the last seven years. It intends to declare a maiden interim dividend and pay out between a third to half of the group's free cash flow as dividends each year.

"Cerillion has established itself as a leading provider of billing, charging and CRM solutions to the telecoms industry, with a global spread of customers who rely on our solutions to provide this critical function," said Louis Hall, the chief executive of Cerillion. "The company's admission to AIM represents an important milestone for the business, helping to increase our profile and improve our market positioning. As we look forward, we intend to grow the business, principally organically, winning



**Louis Hall:** Admission to AIM is an important milestone for Cerillion

new customers for our core enterprise product suite. At the same time, we continue to innovate to meet the evolving requirements of our customers. Our newer products, especially our convergent charging solution and our SaaS-based billing platform, reflect this level of innovation and open up further growth opportunities for the business."

## Vasona Networks adds US\$14.6 million in venture capital backing

Vasona Networks has announced a US\$14.6 million series C funding round, bringing total funds raised by the company to US\$48 million. The financing builds on global momentum that has seen the company's solutions used by tier-one mobile network operators in four of the world's largest cities, including announced use by Telefónica UK in its London O2 system.

The additional venture capital supports these deployments and drives ongoing research and development efforts, such as extension of Vasona Networks' activity in the emerging edge computing movement. Participants in the funding round include Bessemer Venture Partners, New Venture Partners and NexStar Partners.

"Vasona Networks is succeeding with solutions that improve the bottom line for mobile network operators at a time when budgets are under heavy scrutiny and competition is stronger than ever," said Bob Goodman, a partner at Bessemer Venture Partners and member of Vasona Networks' board of directors. "This new financing underscores Vasona Networks' mobile edge leadership and provides a foundation to continue bringing innovations to market, expand deployments and pursue new opportunities."

Vasona Networks' says its systems are achieving field results that demonstrate performance benefits for video and interactive social media apps during

congestion, and substantial reduction of service latency. The company is also working with customers to address emerging challenges, like rapidly rising encryption of video and data traffic, which pose management challenges that can negatively impact network efficiency.

"We are working with the world's top mobile network operators on pressing and emerging needs, including the constant pursuit of better mobile experiences," said Biren Sood, the chief executive of Vasona Networks. "As operators turn their focus to edge-based traffic management for the most value, flexibility and control, our capabilities best meet business and network demands in any market."

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**Dave Labuda:**  
Deal continues our customers as investors model

## MATRIXX wins funding from PLDT and supplies SMART unit with digital commerce platform

SMART Communications, a wholly-owned subsidiary of the Philippine Long Distance Telephone Company (PLDT), has selected MATRIXX Software's real-time Digital Commerce platform for its mobile business. Subsequently, PLDT has invested in MATRIXX through its investment arm, PLDT Capital.

SMART Communications, the country's largest mobile network, is deploying the MATRIXX platform to deliver an array of lifestyle services and content that can be individually purchased and customised. SMART's customers will have the freedom to manage their mobile account usage and spend, tailor services and choose sachet-

sized packages based on their preferences and budgets.

MATRIXX provides a real-time Digital Commerce platform for creating and monetising content and services. SMART Communications chose MATRIXX because it needed a real-time, customer-centric platform that could jump-start entry into the digital market without a lengthy IT project. MATRIXX installed and integrated the solution within weeks, allowing rapid time-to-market for future service propositions that will capture wallet-share and customer loyalty in a dynamic, fast-paced market.

Winston Damarillo, chief strategy advisor at PLDT and the co-managing director of PLDT Capital, said: "Evolution of the telco

into a digital service provider requires viewing the customer through a different lens, in order to identify new ways of serving them. We're transforming the customer experience, and we chose MATRIXX Software because its technology and performance is unmatched, and they are able to help drive the PLDT Group's digital vision more rapidly than anyone else."

Dave Labuda, the founder, CEO and CTO of MATRIXX Software, added: "The PLDT Group continues our model of prestigious companies that are investors as well as customers. It is genuinely changing the game in Asia when it comes to digital service innovation, and we're excited to help deliver outstanding experiences to customers of its wireless service provider, SMART Communications."

## Openet's Weaver free NFV software now available

Openet, a supplier of real-time BSS (business support systems), has announced the global availability of its free of charge VNF Lifecycle Manager software. Openet's NFV software, named Weaver, is now available to CSPs, system integrators and VNF/NFV vendors as a community edition.

NFV will see the need to manage carrier grade production solutions across distributed systems at scale. These multi-vendor solutions will also feature a rapid evaluation of features and functions in VNF services leading to significant operational complexity. Weaver helps reduce this complexity.

Weaver works to upgrade software and/or configurations within the existing VM (virtual machines) instead of simply creating new VM instances. This is key to supporting efficient in-service VNF management, and greatly reduces the operational time and complexity.

Deployments that manage VNFs only at the VM level operate with coarse control and significant blind spots. Weaver, in contrast, provides superior fine grain control and visibility over the deployed VNFs, resulting in deployment that is not only faster but also more robust and less error prone.

Michael O'Sullivan, the global vice president of engineering for Openet said: "Our goal with Weaver is to drive the adoption of NFV within the operator community, and since our original announcement we've had an overwhelmingly positive response."

"For operators, managing multiple VNFs from different vendors using bespoke VNF managers is complex, and not in any way cost efficient," he added. "Software such as Weaver can help them successfully manage multiple VNFs at scale, avoiding potential vendor lock-in."

### NEWS IN BRIEF

#### MDS enhances managed service with Cyber Essentials certification

MDS has announced that its Managed Service been awarded Cyber Essentials certification. Cyber Essentials is a new UK government-backed and industry-supported scheme that guides businesses in protecting themselves against cyber threats.

The certification further enhances the MDS' accreditations, having received TM Forum Framework Conformance certification in December 2015. With data assurance and security at the forefront of many MVNOs' agenda, MDS has reinforced its credentials, with independent testing by two respected bodies.

The Cyber Essentials scheme was developed by UK government and industry with two clear

purposes in mind. The first is to provide a clear statement of the basic controls all organisations should implement to mitigate the risk from common internet based threats, within the context of the government's 10 Steps to Cyber Security. Secondly, through the Assurance Framework, Cyber Essentials certification offers a way for organisations to demonstrate to customers, investors, insurers and others that they have taken these essential precautions.

#### Aria Networks awarded new AI patent

Aria Networks has been awarded a new patent from the United States Patent & Trademark Office. The patent relates to network capacity management of traffic over telecoms networks, including data communications. It introduces a capacity

computation engine, driven by Artificial Intelligence (AI), which interfaces with a network optimisation evolution engine to determine optimum paths for traffic in a multi-layer network.

Defining network topologies has traditionally been costly and time consuming. Whilst modelling tools are available, they are only effective if a network can be made to fit the criteria defined by the toolbox. Aria Networks' patent granted capacity computation engine enables network service providers to combine computing power, memory, storage and services on demand to create the most efficient network orchestration against multiple – and often conflicting – criteria such as quality of service and cost. An unnamed "major European telecommunications service provider" is already said to be implementing this patented functionality.



## Mycom OSI releases ProAssure digital services management platform

Mycom OSI has launched ProAssure, a proactive digital services management platform that monitors native, OTT and IoT digital services in near real-time, identifies service performance degradations and provides root cause analysis.

ProAssure is at the heart of Mycom OSI's Experience Assurance and Analytics (EAA) solution blueprint, launched at Mobile World Congress. EAA enables CSPs to manage digital services in highly automated virtualised network environments, and especially the digital experience of its corporate customers and Internet of Things (IoT) partners. Several key network operator challenges are

addressed with EAA including managing the customer experience, evolving to network virtualisation (NFV) and exploiting the digital/IoT opportunity.

"The virtualisation of the network combined with the explosion in IoT opportunities is driving digital transformation into the very heart of the operators' core systems," said Mounir Ladki, the president and chief technology officer of Mycom OSI.

"Traditional OSS boundaries are collapsing with operators now challenged to take a holistic view of their network and services, bridging assurance, fulfillment, orchestration and IoT network management. By enabling near real-time

monitoring of native, OTT and IoT digital services, ProAssure is also opening up new opportunities in experience assurance and Analytics by giving both network and customer service teams a single view of their network." 



**Mounir Ladki:** Traditional OSS boundaries are collapsing

## Astellia launches Flex user plane monitoring product

Astellia has announced an intelligent traffic load balancer for its flexible user plane monitoring and troubleshooting solution, called Flex. The product has been developed in response to communications service providers' (CSPs) needs for more flexible, scalable and future-proof monitoring solutions. Astellia says Flex is an important milestone within its next generation monitoring offerings that address the industry's migration towards NFV/SDN. Flex is available as software,

running on commercial-of-the-shelf (COTS) hardware, which the company claims reduces the required hardware footprint by 40%. Flex intelligently load balances traffic across different soft probes to ensure monitoring stability.

In order to reduce user plane monitoring costs and improve scalability, Flex can target user plane traffic based on criteria such as IMSI, mobile app, APName, QCI, geographical areas, handset and IP address

while still generating QoS information – throughput and volume – for every subscriber.

"User plane analysis is valuable and important for CSPs to understand network usage and customer experience," said Cedric Arnaud-Battandier, the chief marketing officer at Astellia. "Flex allows them to control their user plane monitoring budget by selecting full or on-demand deep packet inspection analysis and invest as they grow." 

### NEWS IN BRIEF

#### TIBCO announces MDM 9.0

TIBCO Software has announced the latest edition of its master data management (MDM) solution, MDM 9.0. With this release, companies can now intelligently ingest virtually any type of digital data to provide a real-time view across an omnichannel business. With a reported 50% performance increase over previous versions, TIBCO MDM 9.0 is claimed to enable companies to capitalise on opportunities, develop stronger customer relationships and avert potential issues.

"In the digital business era, having access to a real-time consolidated view of the organisation, including customers and products, directly contributes to a company's ability to take advantage of opportunities that improve the customer experience, increase

cross-sell or up-sell opportunities, and refine operational efficiency," said Matt Quinn, the executive vice president of products and chief technology officer of TIBCO. "With MDM 9.0, companies can get to that single, integrated real-time view across their physical and digital business much faster, enabling them to seize opportunities more quickly and easily."

#### EXFO helps network vendors with new lab system

EXFO has launched its new lab solution comprising the LTB-8 Rackmount Platform, the FTBx-88200NGE Power Blazer 100G Multiservice Test Module and web-based multi-user interface, EXFO MultiLink. With the goal of helping network solution vendors to innovate faster and test more

efficiently, the LTB-8 is a scalable, compact platform offering the industry's best 100G port density to maximise valuable shelf space while minimising costs. The eight-slot configuration supports simultaneously testing of eight 100G modules supporting multiple interface test combinations.

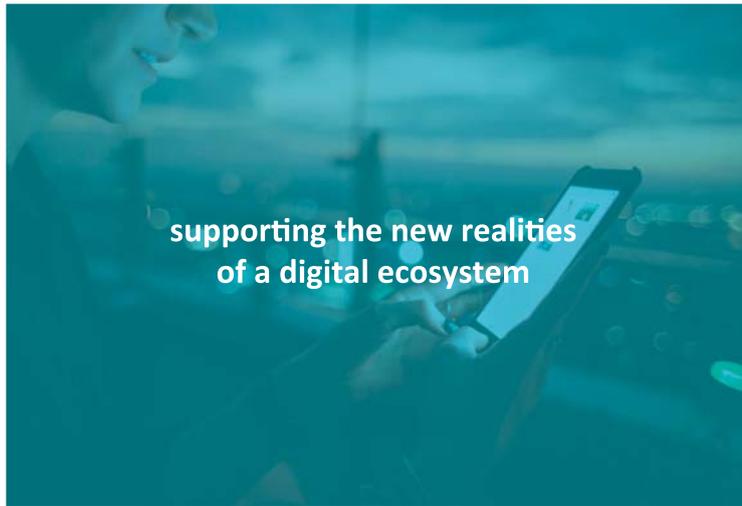
The platform delivers a full suite of lab testing features developed for system design, development and deployment testing. LTB-8 remote access is supported via EXFO MultiLink. EXFO MultiLink is a unique lab test management system with a multi-user interface that offers remote access to multi-modules, multiplatform across multiple locations. It is the only true web-based interface that enables this capability, the company claims. 

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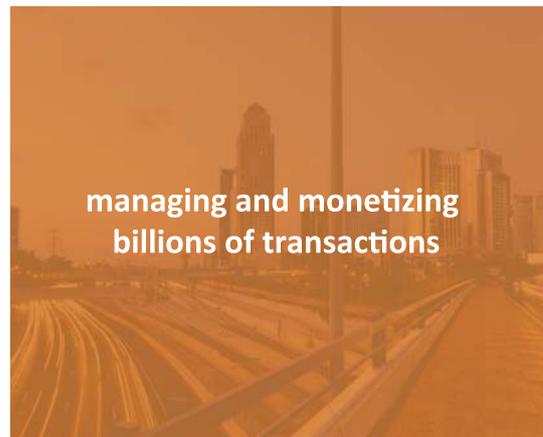
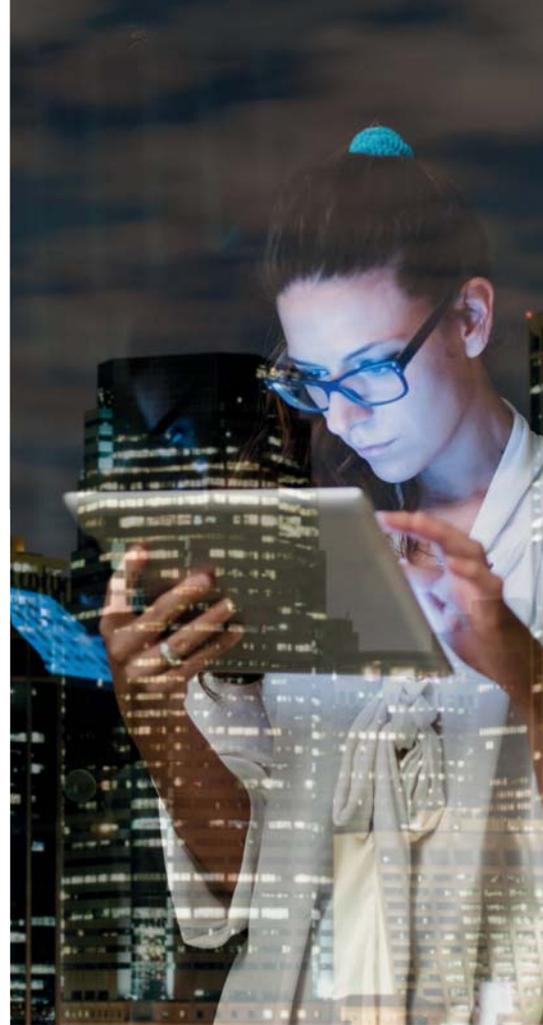


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**Jonah Bergh:** Advanced data integration and management technology is key to enabling innovation within CSPs

## Hi3G selects DigitalRoute MediationZone to support Wi-Fi calling

DigitalRoute's MediationZone product is being deployed by 3 in Sweden and Denmark, which trades under the Hi3G brand, to support the launch of the company's Wi-Fi calling service across the two countries' domestic markets.

the mobile signal is weak. The service itself has no additional charge and is available to all customers with fixed price subscriptions.

DigitalRoute's MediationZone software supports 3's rapid launch of the new service by providing benefits including efficient integration with the other systems involved.

DigitalRoute's solution enables a gateway for CSPs that want to access individual functions for specific devices, such as synchronising certain online services with supporting applications like CRM and billing. It also enables tethering limitations and control for VoIP and VoWF services. 3's new service provides an important advance in the mobile marketplace. "We

know there are Swedes who have problems with their indoor coverage and therefore we have worked intensively with both technology vendors including DigitalRoute and handset manufacturers to launch Wi-Fi calling," said Nicholas Högberg, the chief executive of 3 Sweden.

DigitalRoute CEO Johan Bergh added: "Our work with 3 provides another proof point that advanced data integration and management technology is key to enabling innovation within the telco service market. Our software's ability to converge functionality that includes aspects of traditional mediation with policy control and usage management in one horizontal solution underlines the growing value of DigitalRoute as a partner to the innovative service provider."

DigitalRoute is delivering the Entitlement component, which involves the end-user being entitled to access specific functions from within the handset. 3 is the first CSP in Sweden and Denmark to offer Wi-Fi telephony by default, with automatic connection to the wireless network when

## Comarch to consolidate network inventory at T-Mobile Austria

T-Mobile Austria, the second largest mobile provider in Austria with more than four million customers, is to implement the Comarch Network Inventory system to provide a comprehensive view of its network and enable more efficient network management.

Comarch will be responsible for the system's implementation and integration. In addition to the Network Inventory system, Comarch's Auto-Discovery & Reconciliation module will be implemented to ensure automated handling of any discrepancies between the data in T-Mobile's inventory

system and the real state of its network.

"They say your decisions are as good as your information," said Athanasios Avgeridis, the senior vice president of operations technology at T-Mobile Austria. "This is why we believe that superb network management and planning starts with the accuracy of the inventory data. A modern inventory tool, like Comarch Network Inventory, will therefore not only help us see the complete view of our network in a single place. Ultimately it will also help us optimise network investment plans, improve our reporting, resolve any

network issues faster and in the end – improve our customer experience."

Comarch has been a partner for the T-Mobile Group since 2006. Throughout the years various projects have been realized in both the BSS and the OSS domain for the Group's subsidiaries in various European countries, including Germany, Austria and Poland. The Next Generation Network Inventory project carried out with T-Mobile Austria is the next step towards strengthening the cooperation between the companies, says Comarch.

### NEWS IN BRIEF

#### Netcracker wins Vivo activation deal

Vivo, the largest communications service provider in Brazil, is upgrading Netcracker's Activation Manager system to streamline the process of bringing innovative new services to market. The upgraded solution's newer features will support Vivo's long-term business growth strategies and reduce total cost of ownership.

Vivo is the leading CSP in Brazil, offering fixed-line and mobile voice, television and broadband services to nearly 3,400 cities across the country.

"Quickly configuring, provisioning and managing new services is a critical factor in being able to optimise customer experience and succeed in a marketplace that is constantly changing and innovating," said Christiane Edington, director of IT at Vivo. "As the industry evolves, it is

important that we remain ahead by providing the channels that our customers demand and ensuring that our services are delivered effectively. By continuing our partnership with Netcracker, we are confident in our ability to hit these benchmarks."

#### Bhutan Telecom agrees BSS transformation contract with Ericsson

Ericsson has signed a Business Support Systems (BSS) transformation contract with Bhutan Telecom, Bhutan's largest CSP. Under the terms of the agreement, Bhutan Telecom's complete billing systems will be transformed into a convergent environment supporting mobile, fixed line and DSL broadband subscribers. As a result, Bhutan Telecom will be able to launch promotions and notifications, product and service cross-bundling, cost-control for postpaid subscriptions and service personalisation. The

CSP will be able to design and offer promotions and campaigns in real-time and in accordance with subscribers' interests, while monetising ongoing growth in data traffic.

Ericsson will be responsible for design, deployment and systems integration of the solution. The convergent charging solution, based on Ericsson's BSCS iXR4 offering together with data monetisation features such as PCRF will be integrated with Bhutan Telecom's existing infrastructure. Bhutan Telecom will migrate its subscribers onto the new platform by the third quarter of 2016. Tshewang Gyeltshen, the chief executive of Bhutan Telecom, said: "We are delighted to further strengthen our partnership with Ericsson. This transformation will help us to standardise and modernise our billing systems. We will be able to introduce innovative offers for our customers, and at the same time manage differential charging options effectively."

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## VanillaPlus Hot List: April 2016

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](mailto:editorial@vanillaplus.com)>

Vendor(s)	Client, Country	Product/Service	Date
Amdocs	Three, Ireland	Agreement of five year managed services contract to transform IT infrastructure and deliver customer experience innovation	3.16
Anritsu	O2, Czech Republic	Expansion of service assurance systems provision deal with the addition of Anritsu MasterClaw	3.16
Comarch	T-Mobile, Austria	Comarch selected to provide next generation network inventory system plus Comarch Auto-Discovery & Reconciliation product	3.16
CSG International	Sony Home Entertainment, global	CSG Ascendon digital services platform selected to power Sony's new ULTRA 4K streaming service	4.16
DigitalRoute	Hi3G, Denmark and Sweden	Deployment of MediationZone product to support CSP's Wi-Fi calling offering	4.16
Digital Route	Vodacom, South Africa	Extension of agreement to supply DigitalRoute MediationZone for next three years in support of BSS transformation	2.16
Ericsson	NTT DoCoMo, Japan	Launch of multi-vendor NFV solution using Ericsson's Open NFV platform	3.16
Ericsson	Bhutan Telecom, Bhutan	Ericsson to transform CSP's billing systems into a convergent environment for fixed and mobile	3.16
Ericsson	Telefónica, global	Ericsson selected to support CSP's UNICA virtualisation programme, starting with NFV deployment in Germany	2.16
Ericsson	Telefónica, Colombia	Deal to supply first commercial virtual network for VoLTE services in Colombia	2.16
Ericsson	Vodafone Group, global	Ericsson Expert Analytics selected by Vodafone as strategic system for CEM across operations in 22 countries	2.16
Ericsson	Swisscom, Switzerland	Ericsson chosen to transform core network with deployment of telco cloud infrastructure and virtual network functions	2.16
Ericsson	STC, Saudi Arabia	Deal agreed to supply OSS/BSS including Ericsson Charging System	2.16
Fortumo	Viettel, Vietnam	Launch of carrier billing on Google Play for Vietnam's largest mobile operator	3.16
Hewlett Packard Enterprise (HPE)	Swisscom, Switzerland	HPE to work with Swisscom to deploy new virtual network functions using HPE OpenNFV solutions	2.16
MATRIX Software	SMART Communications, The Philippines	PLDT subsidiary selects MATRIX to provide real-time Digital Commerce Platform	3.16
Netcracker Technology	Vivo, Brazil	Upgrade of Netcracker Activation Manager to streamline innovative services introduction	4.16
Netcracker Technology	TOT, Thailand	Implementation of Netcracker Convergent Billing to consolidate CSP's prepaid and postpaid mobile rating, charging and billing processes	2.16
Netcracker Technology	T-Mobile, The Netherlands	Deployment of Netcracker Product Management to obtain centralised view of product catalogue	2.16
Netcracker Technology	BT, UK	Expansion of relationship for revenue and billing management technologies and professional services to support digital transformation	2.16
Netcracker Technology	SmarTone, Hong Kong	Upgrade and extension of relationship covering Netcracker Revenue Management plus systems integration and professional services	3.16
Netcracker Technology	Telefónica, Germany	Extension of use of Netcracker Revenue Management to simplify and accelerate rating and billing processes for B2B operations	3.16
Sigma Systems	Mobistar, Belgium	Selection of Sigma Configure, Price, Quote (CPQ) system to streamline purchase process across consumer and enterprise markets	3.16

## Amdocs wins €65m managed services deal with Three Ireland

Three Ireland has entered into a five-year managed services contract with Amdocs to transform its IT infrastructure, and deliver customer experience innovation across all lines of business. The contract, worth €65m with Amdocs, includes the integration of former O2 IT systems, the elimination of duplicate IT costs and the delivery of a world-class customer experience through innovative and digital services.

This investment is in addition to Three's previously announced network investment of €300 million, which is well-underway in delivering a superfast 4G network for Three's two million customers. The overall

investment is set to ensure that Three continues to be an innovative and cost effective telecoms provider both now and into the future.

Robert Finnegan, the chief executive of Three Ireland, said: "This €65 million investment is the next step in what is an exciting journey for Three as we continue to deliver on the promises we made when we acquired O2 in 2014. At that time we promised two new MVNOs, which we have delivered. We promised new jobs, which we delivered by creating 100 new roles when we transferred customer care calls to Limerick from Mumbai. We also promised

innovation and delivering the best experience for our customers and that is what this project will achieve."

Eric Updyke, the group president of Systems Integration and Operations at Amdocs, added: "Our industry is changing rapidly and in this fast-moving digital world customers expect new services and capabilities at unprecedented speed. Our software and services will provide Three Ireland with a comprehensive, digital experience solution, using customer data, digital interactions and new engagement channels to capture the world of digital immediacy and rise to a new level of customer experience."



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**Avi Kachlon:**  
Will look to DSPs,  
MVNOs and the  
IoT sector for  
growth

## FTS appoints Avi Kachlon as new CEO

**FTS**, a provider of billing, charging, policy control and payment solutions, has appointed **Avi Kachlon** as chief executive. Kachlon brings more than 20 years' experience in the telecoms and software industries to FTS. Having previously spent many years at **Amdocs** as vice president of Customer Delivery & Services, he has extensive expertise in the telecoms billing, CRM and policy control markets.

Prior to Amdocs, Kachlon held senior management positions at various global and Israeli companies,

acting as COO at Matrix Global and holding various positions at Amdocs and Bank Hapoalim, Israel's largest bank.

"I am honoured to be joining FTS and to have the opportunity to be at the forefront of innovation in the BSS industry. I look forward to utilising my experience to grow the company's business within the telecoms sector and beyond, and to further strengthen relationships with our customers," said Kachlon. "I am excited to work alongside FTS' experienced employees and dedicated partners around the world to create greater value together as we focus on existing and new markets, including digital service providers, MVNOs and the IoT sector." 🌐

## Brite:Bill hires new global head of sales

**Brite:Bill** has announced that **Aaron Fullen** has joined as global head of sales, providing executive leadership to the company's growing sales force. Fullen is a senior sales leader with a wide range of experience in the technology sector, most recently serving as head of sales, North America at **SundaySky**, the personalised video platform provider, where his teams grew annual bookings by more than 750% during his four year tenure.

Prior to SundaySky, Fullen held senior positions at LivePerson where he was instrumental in growing revenues from US\$17m to US\$145m during his seven year tenure, and CA, where he led the company's efforts with BellSouth and Cingular Wireless. He brings to Brite:Bill direct knowledge of building and scaling high-performing sales organisations.

Commenting on the appointment, **Alan Coleman**, the chief executive of Brite:Bill said: "We are delighted to welcome Aaron to the team. This is a key position for Brite:Bill and Aaron's expertise in focusing on customer needs and driving high performance will be key as we continue to scale and grow the business."

Fullen added: "I am incredibly proud and excited to be joining Brite:Bill. Our technology solves one of the largest problems impacting Global 1,000 firms in a way that's cost effective, low risk and customer-centric. Our job is to build the team that takes this technology to the world, to the great benefit of brands and their customers." 🌐



**Aaron Fullen:**  
Brite:Bill solves  
the largest  
problems  
impacting Global  
1,000 firms

## Brooks joins Guavus as chief scientist, Tuomi to lead cable industry sales



**Dr. Roger Brooks:**  
Contextual  
insights translate  
directly into action

**Guavus** has appointed **Dr. Roger Brooks**, an expert in analytics based on large-scale machine learning, as its chief scientist. Brooks joins from **HP Software** where he focused on advancing the use of data mining to help businesses strengthen IT operations, engineer new products, optimise marketing and deliver real-time personalised content.

"We are delighted to add Roger to our team," said **Anukool Lakhina**, the chief executive and founder of Guavus. "His real-world experience in using analytics for actionable insights will bring value to our customers who are looking to drive costs out of their business, generate new revenue streams and

transform into data-driven businesses."

Brooks has held various executive positions including an eight-year tenure at Hewlett-Packard, most recently as chief architect in the new HP Software. Prior to that he was distinguished technologist and chief scientist in HP's Marketing Optimization business, where he was

responsible for marketing analytics. He also served as CTO for Applications at HP Autonomy, driving innovations for next-generation products.

"Guavus is pioneering the use of analytics to provide extremely precise, contextual insights that translate directly into action. This results in better customer experiences, more personalised care and more efficient network operations," said Brooks. "I look forward to working with the Guavus team to help our customers exploit their data by utilising our unique multidisciplinary science."

**Pirjo Tuomi** has also joined Guavus as vice president of sales for the cable sector. Tuomi will head Guavus' cable global sales team, working closely with CSP customers around the world.

"Pirjo is a great asset for us as we advance our global cable sales strategy," said Lakhina. "Our company is experiencing explosive growth of our analytics products and Pirjo's appointment will help us build on our forward momentum and enable Guavus to sustain this rapid growth and new customer acquisition." 🌐

## Etiya appoints Kallis to lead business development

**Etiya**, a provider of CRM, catalogue-driven B/OSS, social CRM and big data analytics, has hired **Apostolos Kallis** as senior vice president of business development. Etiya has offices and customers in Canada, Singapore, UK, Azerbaijan and Turkey. With the appointment of Kallis the international team gains a senior executive in the telecoms and ICT industry and strengthens Etiya's fast international expansion.

Kallis has been a member of the **TM Forum**'s senior leadership team and responsible for its global sales and account teams. Over the last 13

years he was a key part of growing the TM Forum into one of the world's leading trade associations with over 1,000 members in over 100 countries. He has also been supporting a number of companies as an advisor through his own consulting practice working with both start-ups as well as more mature companies on international expansion, partnering and growth. 🌐



**Apostolos Kallis:**  
Appointment set  
to strengthen  
international  
expansion



# Data analytics is a game changer for CSPs in the digital era

**As communications service providers (CSPs) struggle with their transition from CSPs to digital service providers (DSPs) it's clear their business needs to be about far more than the network. In fact, it is CSP data – and, critically, the capability to derive insights from it – that will enable them to take their place in the digital era, writes Mario Nolla**

**V**anillaPlus: In the telecoms industry, there seems to be a renewed focus around analytics. As someone who has worked on both sides – CSP and vendor – how do you look at this trend?

**Mario Nolla:** Historically, CSPs have used analytics extensively to run their businesses. However, when the environment gets challenging, objectives get harder and resources get constrained, you will always fall back on proper planning and analysis to achieve the desired goals. With CSPs now exploring newer means of increasing revenues and optimising margins, analytics has gained centre stage again – although expectations from analytics function are different now. Analytics is perceived as a game changer for CSPs in the digital world. The sudden rise of c-level data executives is evidence of how CSPs are warming up to the cross-industry trends that are driving a shift in digital business.

CSPs now wish to move beyond traditional descriptive and exploratory analytics, which were mainly used for postmortems of business decisions, to advanced analytics and machine learning-driven automated decision making. These new big data analytics technology platforms are improving personalisation at a transformational scale by allowing CSPs to manage customer expectations in the very moment of truths.

The other expectation involves breaking down the traditional silo-based decision making. Instead of having fragmented data management and analytics, specific to different business units such as marketing, network and so on, big data analytics is allowing the CSPs to have a single view of customers and the business. It is allowing them to bind tightly together their operations and customer expectations. Analytics has the calibre to be the nerve-centre in the digital economy. This is possible through providing enterprises with consumer insights that enable them to make much more informed decisions that can

generate higher incremental business value. It's important to understand that success in this new digital world not only depends on a CSP's ability to know their customer holistically but also with reference to different contexts. This means going well beyond traditional data sources and integrating other sources such as location, devices and over-the-top (OTT) data, as well as acquiring the ability to make sense of customer actions in real-time. There is also an increasing regulatory pressure on data privacy and security, which again modern analytics systems should cater to.

**VP: The competitor landscape of CSPs is shifting. How do you see them adapting to this new world of customer experience?**

**MN:** Today, digital disruption has put almost all enterprises on the same footing when it comes to customer ownership. This means CSPs are going to have new competitors, especially when they move beyond their core services to offer digital lifestyle services like mobile payment, m-commerce and others. Every service and process in the digital realm demands customer-centric thinking and execution so a deeper understanding of a customer's persona and their changing needs is a must. However, the real challenge of managing customer experience is not in the analytics part. That is a relatively easier part to fix with the proper analytics tools and team. The harder part of it is to be able to do all the operational changes that are necessary to bring those insights at the right time to the right person. For example, how do you make the insight available to the agent in front of the customer in the moment of truth? That is the hardest part.

Empowering the last mile brings its own set of challenges to the CSPs as they won't have much control in the traditional sense. In many of the markets that we work, some divisions of our CSP clients are contracted out to franchises, especially sales and distribution and customer care. Providing that much



The author, **Mario Nolla**, is senior vice president of Analytics and Consulting at Flytxt



**There is a continuous focus around creating suitable analytical models for the telecoms business environment, utilising advanced machine learning algorithms. We call this packaged analytics**

information and power to the channel executives and touchpoint personnel is a sensitive proposition for CSPs. However, many CSPs are increasingly looking at shifting the focus from indirect channels to direct channels in order to have more control over the customer experience. Here again, if decision making can be automated across touch points, and channels are backed up with a deeper enterprise-wide view of the customer, CSPs can nail it down without making drastic changes to their current processes. Analytics needs to be seen as an enabler for better decision making and not as a change agent for overhauling the processes.

**VP: What are the skillsets required to get analytics right? How does Flytxt support CSPs in creating business value through analytics?**

**MN:** We've talked about how expectations from the analytics function are changing for CSPs so traditional analytical tools and practices may not be enough. The focus of CSPs has clearly shifted from IT-led reporting to business-led self-service analytics.

Flytxt's mission is to liberate CSPs from worrying about how to get analytics right and allow them to just focus on business strategies. We take it upon ourselves to provide the required technology, business applications and services and help them transform their underlying data asset to significant business value through advanced analytics.

Internally, we have evolved an analytics practice cutting across technology, business consulting and operations teams. There is a continuous focus around creating suitable analytical models for the telecoms business environment, utilising advanced machine learning algorithms. We call this packaged analytics. The objective is reducing the time taken to create and deploy a model that can help in solving CSPs' specific business problems like churn mitigation, fraud detection, bandwidth utilisation and others. This calls for data scientists and decision scientists working together. However, you may still need some kind of fine-tuning when you deploy the model in live environment. But again, we are talking about a two to three week kind of time frame for deploying a model in place compared to months with a traditional approach.

Decision scientists use Flytxt's packaged analytics models for self-serve analytics and data discovery. The evolution of Flytxt's Big Data Analytics platform into a self-service platform for end users like decision scientists, the IT operations team and data scientists offers significant benefits to these end users in terms of productivity improvements, faster decision making and optimal realisation of economic value. Measurable economic value through faster and efficient decision making is the end goal of Flytxt's analytics and consulting practice.

**VP: What are the barriers CSPs face in adopting analytics capabilities? ►**

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**MN:** The major challenge in adoption of analytics is the alignment of overall operational processes with the analytics objectives. Analytics gives actions and recommendations, which still need to be executed within the window of relevance to realise desired business impact. The exponential growth in the volume, variety and complexity of data, has changed the paradigm of deriving business value from analytics. To meet the time-to-insight demands of today's competitive business environment, CSPs need to democratise analytics with self-service capabilities.

Another aspect is ensuring the quality and reliability of data. CSPs have built the traditional data warehouse in a Frankensteinian approach as the business was growing organically or through mergers and acquisitions. And still data analytics teams spend a lot of time reconciling different definitions of key performance indicators (KPIs) across various analytics systems. It has to give way to a more nimble footed approach, where required data for analytics can be integrated and accessed in a short time. Thanks to the capabilities of new age analytics tools, the barriers of consumer privacy and data security seem to be no longer a show-stopper now.

**VP: How do you see the analytics landscape evolving in the next few years?**

**MN:** What analytics delivers to the CSPs is the ability to make smarter decisions faster. Its scope could extend from in the moment of truth decisions taken on customer touchpoints, to the strategic decisions made by the CxOs. There are two important sides to the evolutionary landscape. On one side, an increasing emphasis will be laid on the ownership of the analytics function and on the other side the usage of insights from analytics will become widespread across departments and functions.

As analytics is fast emerging as a core competency and competitive differentiator for CSPs, its importance has risen to the executive level. CAOs (chief analytics officers) and CDOs (chief data officers) are emerging as senior business executives responsible for creating the analytics strategy to drive digital business transformation. In the near future, these executives will be seen directly reporting to the CEO with an organisation-wide executive authority for data and analytics, having a clear mandate to foster

collaboration across departments in making smarter and faster decisions.

On the usage aspect, the progression of analytics into the future will be guided by how the analytics practice is adopted by multiple teams for different objectives. The evolution of self-service analytics tools will allow people with very little knowledge of analytics to use advanced analytics and gain benefits from them. However, the need for specialists will not go away, in fact that will rise further to ensure they manage and provide the whole infrastructure and foundation for decision making across the organisation. Use cases will extend beyond the telecoms business to digital business and the connected world, creating new business models and partnerships for CSPs.

**VP: Can you elaborate on some of those analytics driven monetisation opportunities for CSPs?**

**MN:** CSPs have predominantly focused on customer value management (CVM). It has given them measurable revenue uplift as analytics improved their ability to micro-segment the customer base and to personalise offers and services over touchpoints across customer lifecycle. We are definitely seeing use cases like contextual marketing and churn detection maturing across the markets. With new customer engagement channels emerging like social media, a set of new use cases like social network analysis and sentiment analysis are showing lot of promise. We also expect the other departments and functions to take a cue from marketing and increase their analytics focus for operational and strategic decision making. It could find applications across optimising network utilisation, customer care efficiency as well the sales and distribution network.

In the future, analytics will transcend the realm of internal business workflows to enable CSPs to profitably participate in the digital economy by offering innovative digital services on their own or in partnership with other enterprises.

The economics of data monetisation is changing dramatically with new business models predicated on new data sources and external monetisation use cases. Some use cases involve scenarios where consumer data is analysed to extract insights that can be monetised with other verticals, such as advertisers, the healthcare industry, transportation players, governments and retailers.

**In the future, analytics will transcend the realm of internal business workflows to enable CSPs to profitably participate in the digital economy by offering innovative digital services on their own or in partnership with other enterprises**



## Five years – is that all we've got?

**We know that telecoms is on the point of radical change – but which way will the cards fall for the industry? The shape and quality of communications service providers' (CSPs') business systems – and how those systems change over the next five vital years – will be a decisive factor, writes Robert Machin**



The author, **Robert Machin**, is director of product marketing for EMEA at CSG International

**A**s must be clear by now to anyone who works in the industry, telecoms is on the cusp of radical change – in terms of its technology, the products and services that it offers, and perhaps more importantly, in terms of the business models that make it profitable. Telecoms is changing its fundamental shape – from a buoyant, highly remunerative industry, dominated by a relatively small number of large players working within regulated national frameworks, to a digital services business where if CSPs choose to compete, they will do so on a much more open, global playing field, taking on powerful internet giants and an unceasing tide of smaller digital native organisations.

The coming five years will see CSPs redefine their role in this emerging digital economy. Developing and delivering new kinds of content and services will be only a part of the challenge. More significant, we suspect, will be the industrial internet and the gradual emergence of 5G networks that will make connectivity truly ubiquitous. These will radically change the way we use communications and IT in many industry verticals.

The good news is that in this fast-changing world of internet-based services and digital transformation, telecommunications will be a key enabler. Machine to machine communications and the Internet of Things won't work without networks. The bad news is that CSPs will find that their traditional strengths – such as network ownership and reach, engineering rigour and

standards compliance – will count for less. Instead, like every other kind of digital business, they will live or die by the strength and appeal of their value proposition to the market, the speed with which they can refresh and improve that proposition, and the quality of experience that they can offer to customers and partners. In this they will be going head-to-head with some much younger and leaner competitors.

Traditional network services such as voice and data connectivity and pay-tv services will of course continue to be important. They will have a long tail of revenue, and the physical networks that enable them will continue to be vital – but there's little doubt that traditional telecoms and cable business models face a slow decline in terms of revenue. Future profitability depends on finding success in the digital economy and in particular, a significantly monetisable role in the industrial internet.

### **Where now for BSS?**

Many CSPs are now facing a dual challenge – to slow the decline in profit from their traditional business while accelerating the growth in new digital revenue – and must respond with a correspondingly balanced strategy. This strategy must defend vulnerable margins in their communications services, while improving agility and market responsiveness in their future business.

It would be tempting to spin traditional and future businesses off into separate silos, and treat them as ►



the very different businesses that they are – but this would be ill-advised. Although the operational demands of telco past and telco future will significantly differ, many functions will be common and if CSPs are to maximise their natural advantages, those functions must be integrated around key business entities – in particular the customer, to optimise the quality of customer experience, and the product catalogue, that will allow compelling offers, mixing network and digital services, to be built and delivered.

CSPs don't need to set up a completely different set of business support systems. What they do need is a different kind of BSS – one that combines the real-time agility needed to meet the demands of today's online customers with the performance needed to process and securely monetise very high numbers of network and digital transactions. One that allows new and more efficient ways of managing the back and front office – out of the cloud, for example, or as a managed service that will align operational costs with new revenues, improve strategic focus on future revenue, and mitigate the investment risk of new ventures.

### The future is unwritten

Some tough questions need to be addressed. Is your BSS powerful enough to deal with the baseline performance demands of present and future services, responsive enough to give your customers an unbeatable online experience and resilient enough to let you anticipate the as-yet-unwritten demands of a still-evolving business with a high degree of confidence? How CSPs answer these questions could go some way to defining what kind of role they will be playing in the digital economy in five years.

Notwithstanding the many challenges arising from change and transformation, there has never been a more exciting time to be in IT and communications, and CSPs are perfectly placed to take advantage of emerging opportunities – but only if their supporting systems allow them to do so. We believe that if the right choices are made, there are many ways for CSPs to move towards future profitability while maximising the lifetime revenue of their hard-won legacy – but time is starting to run out for those choices to be made.

**CSPs don't need to set up a completely different set of business support systems. What they do need is a different kind of BSS**

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# BILL & CHARGE

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## BSS for digital commerce is a business imperative, not an IT or networking project

**Dave Labuda is the founder, chief executive and chief technology officer of MATRIXX Software, the provider of systems that enable digital commerce. Here, he tells George Malim that the functionality previously covered by the BSS domain is no longer about IT or the network. Instead, the responsibility for digital transformation is moving to chief digital officers who are specifying systems to enable new digital business models and brands**

**V**anillaPlus: Where did MATRIXX Software come from, and where are you going?

**Dave Labuda:** MATRIXX was born out of a culture and mission that started decades ago. I've been in the Silicon Valley for 30 years now and I've really enjoyed building software that solves real problems and provides real value. I've assembled a team that's been working together for 20 years, having got into telecoms BSS with Portal Software before starting MATRIXX.

We've watched the mobile industry develop. When the iPhone came out we realised it wasn't a phone, it was a window to the world and we recognised that would present a generational shift to the telecoms industry. Just like in the 1990s, with the emergence into the mainstream of the fixed internet, there was an opportunity for us to get involved in a generational change in consumer behaviour. Our opportunity was that mobile device makers focus on the marketing and sales elements of the device but tend to underestimate the problems behind the curtain.

We recognised that managing a network of 100 million smart devices was going to be much more difficult than previously thought so we worked to create a next generation platform and experience. In terms of where we're going, our focus is on building more and more pieces of the platform to enable an end-to-end experience for communications service providers' customers. ►



**VP: What’s the single biggest challenge the telecoms industry faces?**

**DL:** For me, there’s a great analogy to the US auto industry in the 1970s. The industry became fat and lazy because they made good money but they didn’t innovate to improve their customers’ experiences. Asian players came in and absolutely disrupted that industry. The same thing is happening in telecoms with the over-the-top (OTT) players. CSPs come from a regulated world where they had to ask the government to change the price of a service, so they didn’t see this transformation coming. The problem with that is you get behind very fast. That has now become apparent and some CSPs are losing 20% of their annual revenues as voice and data service incomes fall with nothing to replace them.

But the money is there if you add up the total communications-related services spend of users – it’s just that CSPs aren’t necessarily gathering their share. The CSPs stood at the kerb and watched this happen so they now have to fight for every dollar.

**VP: MATRIXX talks about digital commerce instead of real-time charging or policy. Why is that?**

**DL:** Because the real goal for us and for CSPs is the end-to-end subscriber experience. What you see when you approach that is a dozen different boxes in the network including charging, policy and CRM. The reality is that you can’t create compelling customer experiences by duct

taping together 12 systems, each with their own view – because you end up with a Frankenstein’s monster; consumers encounter a disconnected experience right at the very point where CSPs are trying to impress them.

We’re the only vendor in the market with a single coherent architecture across that entire end-to-end spectrum; we built real-time charging and policy together on the same platform. Vlocity and Salesforce are our partners, and they facilitate integrated CRM and make it available as a service from the cloud.

So many other vendors’ technologies are so cumbersome that their systems can’t deliver a compelling customer experience. Our strategy is to solve the end-to-end problem without having those moving parts. One of the reasons why we win business from our customers – Swisscom, Telstra and PLDT are good examples – is that we take the pain out of integrating a new system. With MATRIXX, CSPs can launch a new digital brand in just three months, compared to three years for a big transformation project, and quite often, those projects fail. They’re always expensive, too.

To be a digital commerce platform you need to support a business offering where, say, a football app might generate 20,000 users in a 90,000 seat football stadium when an offer of a streaming clip package is pushed out. Those 20,000 fans may all accept at once and expect to receive excellent service. If you try to support that offering with a classic system it is going to collapse in a heap. ►

**To be a digital commerce platform you need to support a business offering where, say, a football app might generate 20,000 users in a 90,000 seat football stadium when an offer of a streaming clip package is pushed out**

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**We've had great business results from our customers so far. Telstra is a good example because they have been live on our platform for two years**



**Dave Labuda:** You can't create compelling customer experiences by duct taping together 12 systems with their own views

There is now a shift in how CSPs are looking at IT infrastructure and solving problems. 25% of mobile service providers have hired a chief digital officer in the last three years to drive digital transformation throughout the organisation. They're change-makers, often hired from outside of the telecoms industry because they bring a new mindset. They're not specifically focusing on policy or charging, or their network or IT systems, they're thinking of how to deliver a digital experience to their customers.

All of our discussions are led by the chief marketing officer, the chief digital officer or the chief strategy officer. That's a business-oriented view and that's correct because this isn't an IT project anymore.

**VP: How does your partnership with Vlocity and Salesforce change anything in the race to go digital?**

**DL:** The partnership essentially provides an MVNO in a box; an end-to-end solution that covers all business aspects and creates an absolutely real-time, precise and instantly gratifying view of the subscriber that can satisfy demand from any channel. It lets an organisation deploy an experience very quickly and capitalise on the new digital market, instead of facing a three-year billing project that misses the current window and is ultimately based on expensive, legacy technology.

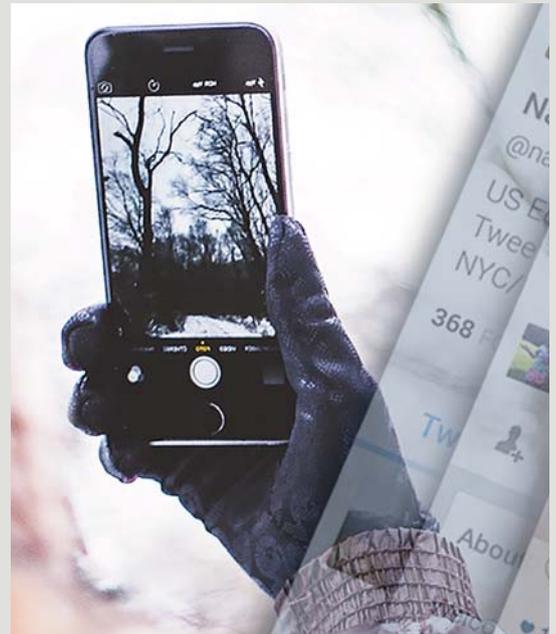
It lets service providers get into the market and start delivering return on investment very quickly and has the advantage of letting them put their toe in the water and scale up if the offering is a success. There's much lower risk and much faster time to return on investment.

**VP: Doesn't the Uberisation of telecoms mean that CSPs will inevitably make less money from their customers?**

**DL:** We've had great business results from our customers so far. Telstra is a good example because they have been live on our platform for two years. They've increased their data ARPU by 5%, made significant cost savings in their contact centre operation, and they've achieved improved satisfaction, measured by Net Promoter Score. In addition, bill shock refunds have also decreased which means the increased spend is not surprising people. Customers are, as I said earlier, happy to spend money for good experiences.

**VP: What questions do chief digital officers ask you behind closed doors?**

**DL:** Essentially, what's happened for the last 20 years is



that IT and network departments have owned decision making and have tried to map solutions to the needs of the business. What's happening now is the normal evaluation and procurement processes aren't working so chief digital officers are asking for our help to get IT and network departments to see the magic and understand that the traditional approach will be dead before it produces fruit.

CDOs know the platform needs to be much more agile and that a lower cost set of solutions is needed for the business to drive into new markets. It's a tricky game because there are a lot of careers depending on this.

**VP: Some of your customers are also investors in MATRIX. What's the strategy behind that?**

**DL:** There are tremendous advantages in both directions. From our point of view, having strategic customers become investors provides another pillar of strength in our relationship – these are marriages, not just dates. For instance, we've had relationships with Telstra and Swisscom through Portal for 25 years, and that adds another level of openness and commitment to the engagements.

The benefits for the investing CSP are that they get visibility into what's going on at the company. The flipside is that the customers are putting a big bet on us so they want a reward for making that bet. That takes the shape of a financial return for them on our success.

This investment model helps alleviate the traditional concerns about what happens when a company like us gets bought by a one of the big vendors and the innovation stops. Financial investors have a horizon in mind by which they want to receive a return – but we've found investors who want a better alternative, a long-term relationship. The strategic investors will be as patient as we need because their goals are aligned to our goals. I think that puts us in a privileged position. 

[www.matrixx.com](http://www.matrixx.com)



The author, **John Abraham**, is a senior analyst at Analysys Mason

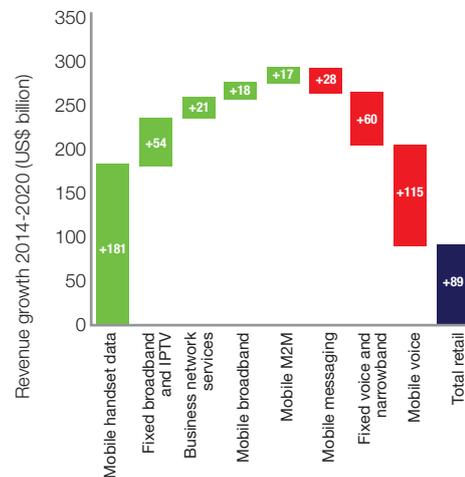
## Introduction

**Billing systems have always been central to communications service provider (CSP) operations. The first modern CSP billing systems were deployed in the 1960s. In the early days, such systems were mostly developed by the CSPs themselves and were quite basic in what they could do. Billing supported a single service type and all charges were billed monthly. It was not until the 1980s that CSPs started considering billing systems from third party vendors. As the billing function evolved following the arrival of mobile telephony, a growing number of CSPs looked to independent software vendors to supply their need for a billing system**

In the 1990s the growing popularity of prepaid mobile plans also had a significant impact on how CSP billing and charging systems evolved. Prepaid IN platforms were based on proprietary vendor hardware and designed to track in real-time all service usage. It was viewed as a network function unlike postpaid billing, which remained within the business function. Over the next decade the prepaid and postpaid charging functions grew closer to each other, driven by the changing market environment and customer behaviour, resulting in convergent charging platforms that could manage both prepaid and postpaid users from a single instance.

While the CSP billing function has changed considerably over the years, the evolution has been steadily consistent rather than occurring in rapid bursts. Billing systems have consistently attracted a substantial portion of CSP investments primarily led by the traditional view that any service is only as good as it can be accurately billed for. To this day, the revenue management functions within CSPs continue to attract the largest investment among all BSS functions. The result has been that CSP billing systems are generally viewed as a mature segment and mostly ahead of the curve compared to retail or enterprise billing systems, unlike customer care or CEM systems which tend to trail leading retail and enterprise deployments.

The biggest impact on CSP billing systems in the past decade has been caused by the explosive rise in mobile data usage. The ubiquity of the internet and the rising penetration of smartphones have fundamentally altered CSP operations and revenue streams. There has been steady decline in traditional voice and messaging revenues while revenues have shifted to mobile data as can be seen in Figure 1 below. ▶



**Figure 1: Telecoms retail revenue growth by service type, worldwide, 2014–2020**



As the data driven digital economy era takes centre stage, CSP spend on policy engines has increased as well, as most data need to be tracked in real-time for effective monetisation. Besides, an increasing number of CSPs are also evolving to become digital service providers (DSPs) in order to improve their customer engagement and experience, which also requires a robust policy and charging platform.

This article analyses three of the recent key trends that have impacted or may impact billing and charging systems – the widespread acceptance of convergent billing platforms, the increasing significance of policy in charging systems and the potential for cloud based billing systems delivered as a service.

### Convergent billing systems are the norm, not the new

One of the foundational requirements for a modern billing system is that it provides support for both prepaid and postpaid charging from the same platform. Before convergent systems, most CSPs had separate billing systems to support prepaid and postpaid use cases.

Prepaid IN platforms were first deployed in the 1990s, and supported only SS7 and other legacy protocols. They were built on proprietary telecoms platforms and were initially tied to proprietary hardware, to reduce network latency for real-time support. Prepaid IN was considered a network function within telecoms, and was supported by NEPs (network equipment providers). On the other hand, postpaid billing platforms were the legacy of independent software vendors. These platforms evolved from the early billing systems at CSPs and were considered as part of the billing function. Over time the postpaid billing platform expanded to support complex features such as account hierarchy and invoicing and billing functions as well.

	Prepaid platform	Postpaid platform	Convergent platform
Invoicing and billing	✗	✓	✓
Traffic rerating	✗	✓	✓
Account hierarchy	✗	✓	✓
Enterprise account support	✗	✓	✓
Real-time charging	✓	✗	✓

**Figure 2: Some of the feature differences between prepaid, postpaid and convergent billing platforms**

The emergence of innovative new use cases such as hybrid plans, carrier billing, time-based mobile broadband speed, real-time subscriber control and others have resulted in the need for a common platform to drive different use cases. While convergent billing systems have been around since the early 2000s, it is only in past six years or so that they have become mainstream across regions and CSP types. CSPs generally have been notoriously slow to move established subscribers over to new systems since large-scale transformation projects involving billing systems are complex, risky and expensive. This has been a key reason why adjunct systems, which are deployed alongside existing billing systems to extend the overall billing and charging capabilities, have had a successful run within many CSPs.

These adjunct systems can be deployed more easily and involve a slower migration which results in more- ▶



manageable projects. However running multiple systems significantly increases the costs and the system complexity and has been a key driver for many CSPs deploying convergent billing platforms. Besides, the falling margins on traditional voice and messaging services and the need to launch new services and respond quicker to market changes have also driven the take up of convergent platforms. While there continues to be demand for prepaid-only and postpaid-only use cases in some regions, almost all new platforms currently being deployed are convergent in nature. However, there continues to be a significant maintenance and support spend on legacy postpaid systems.

Some of the key drivers that have accelerated the shift towards convergent billing platforms include:

**Reducing costs and shortening time to market** – Separate charging silos for prepaid and postpaid are a constraint on CSPs and stifle service delivery and innovation. This results in unnecessary duplication of effort and a longer time to market for marketing offers and new services. A convergent OCS (online charging system) platform onto which legacy IN solutions can be migrated eliminates separate workflows for prepaid and postpaid teams. The reduction in support costs means a convergent platform provides a better return on investment, while also providing carrier-grade performance and reliability.

**Creating new revenue streams** – Although variations on existing revenue streams will remain the most significant sources of revenue for CSPs in the short and medium term, in the longer term they will increasingly need to earn revenue from non-traditional service types to drive up ARPU, especially in saturated markets. These may include services such as mobile payments, the supply of real-time data for mobile advertising, new business models based on sponsored data from over-the-top players, and the

ability to offer services as part of a loyalty scheme.

**Improving the customer experience** – Customers increasingly expect a better service experience from their CSPs. This includes the ability to obtain services that are more tailored to their particular requirements, such as access to self-service – with real-time billing and account information, and the ability to quickly resolve account, service and payment issues. European Union and US regulations also require CSPs to implement mechanisms to manage and prevent bill shock. By providing customer account information in near real-time, convergent platforms help CSPs better control and manage the customer experience.

**Rapid subscriber growth** – Developing and emerging markets such as China, India and those in Africa and Latin America are experiencing rapid growth in the number of mobile broadband subscribers. Meanwhile, CSPs in developed markets are gaining subscribers for new data services such as mobile advertising and IPTV services. As a result, CSPs have been driven towards convergent platforms, which support a larger number of subscribers on fewer systems and so reduce the complexity for CSPs.

**Scale and robustness** – OCS can run off commercial off the shelf (COTS) software and standard IT hardware and so are cheaper to scale. These systems support standardised programmable interfaces for third-party developers, which makes them more extendable and future proof.

### **Explosive data usage growth continues to drive demand for policy engines**

The emergence of the digital economy and the shift towards IP-based traffic has significantly impacted CSPs' operations as revenue has shifted from traditional voice and messaging services to data- ►



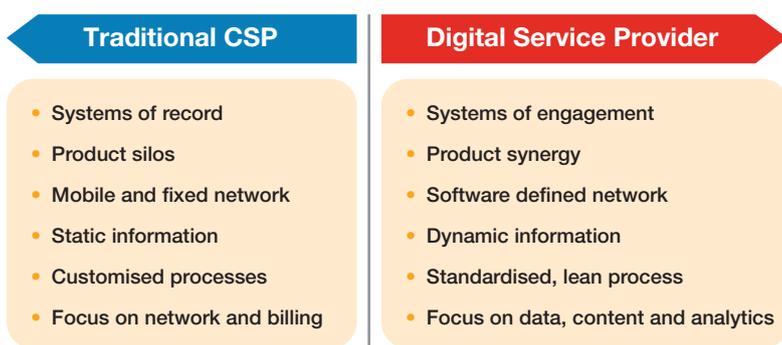
driven services. Increasingly for all data services, rating has to be done in real-time because users have limited allowances and CSPs are required to provide real-time notifications and alerts to avoid data consumption shocks. Customer expectations and behaviours have also changed considerably, driven mostly by real-time control and seamless user experiences provided by other online digital companies such as Amazon and Uber. An increasing number of CSPs are evolving to become digital service providers (DSPs) in order to improve their engagement with their customers and to compete more effectively against a new breed of digital economy competitors. One of the key requirements of future DSPs will be the necessity to support customers in real-time, which demands a robust online policy and charging platform.

subscribers' billing information and combine it to subscriber and other data. This linkage between charging and policy management solutions enables CSPs to create new service offerings based both on network and billing information. Initially, this provided support for tiered pricing plans, whereby subscribers select a service based on data usage. A flat-rate fee for usage is charged up to a given amount of data. Once this figure has been exceeded, policy management rules are applied to: reduce throughput, stop the service entirely, or increasingly to charge for the data.

Monetisation of data services has been followed with other use cases that include pricing based on a limited time window, on the URLs or applications, quality of service and content type and others as the initial tranche of policy-based charging services is being followed by many more. Over time the capability of the CSP in offering complex services for consumer and enterprise driven by advanced policy management functionality will improve even as the support cost of launching new services decrease.

Some of the key factors that will drive investments in policy management systems include:

1. Growth in the consumption of mobile data services (more than fixed), which will be fostered by new technology roll-outs and the prevalence of smartphones. Hybrid and tiered data tariffs will become the norm for mobile data usage, driving spend on new policy rules and convergent data plans.
2. Typical policy management and real-time charging (RTC) software licences are related to the number of subscribers and therefore as subscribers increase the overall spend on these systems increase as well. Developing and emerging markets such as China, India and those in Africa and Latin America are experiencing rapid growth in the number of new broadband subscribers. ►



**Figure 3: Differences between a traditional CSP and a DSP**

Policy management was created primarily to provide traffic management solutions and ensure that a network did not become overloaded. Increasingly, these solutions are being used in different ways to create and support new service offerings for service providers. OSS/BSS system interfaces were defined by the GSMA for both offline and online charging. They enable service providers to build rules or policies based on information dynamically taken from the



3. New policy management deployments and migration to convergent billing systems will drive growth as CSPs' network architecture becomes more IP-based. LTE's evolved packet core (EPC) is driving CSPs to have an IP Multimedia Subsystem (IMS) architecture. Furthermore, CSPs are using the 3GPP's PCC architecture to deploy policy management solutions and real-time communications (RTC) solutions in order to gain the maximum benefits of being able to flexibly implement network protection and revenue-generating use cases.
4. Increasing need for service differentiation as CSPs in all telecoms markets increasingly compete for the same customer base. CSPs will continue to invest in policy management and innovative RTC data plans in the bid to retain customers, increase ARPU and create new revenue streams. CSPs are partnering with OTT content and advertising providers using a two-sided business model with revenue sharing in order to differentiate their data services.

There continues to be some inhibitors which can hold back the growth of policy management systems, such as:

1. Net neutrality, privacy laws and related concerns enforced and raised by regulators continue to be a major hindrance for CSPs that would like to track and analyse customers' usage, preferences and location data in order to develop innovative, personalised services.
2. The complexity and disruption that billing integration and transformation projects can cause are risky for CSPs and hinder full integration between the policy and charging rules function (PCRF) and RTC as well as migration to convergent billing systems.

### Billing in the cloud – will it catch on?

The rising popularity of XaaS-based deployment models, driven by implementations in enterprise and retail, has compelled CSPs to closely examine the prospect of deploying their own billing functions as a service in the cloud (Note: in this report SaaS is defined as a software licensing and delivery model on a subscription basis that is different from managed services). There are many reasons why such a proposition would be attractive: it is cost-effective and based on a sustainable opex model, the architecture is agile and permits easy scalability, and migration challenges will be eliminated.

However, a cloud-based model may not be suitable for all CSP support systems, and there are significant drawbacks to deploying billing systems in the cloud. For example, CSPs would have less control over a critical part of their operations. Furthermore, the feature functionality offered with cloud-based models is generic, with limited opportunities for customisation, and this will be highly disruptive, particularly for large CSPs. The billing-as-a-service model is best suited to mobile virtual network operators (MVNOs) and smaller CSPs.

Key factors that will stand in the way of widespread adoption of billing as a service in the cloud include:

#### Organisational structures and business

**strategies within large CSPs** Although SaaS-based revenue management solutions offer multiple benefits, a comprehensive shift to the cloud is beyond the scope of most large CSPs. The systems that would be impacted in a potential move to the cloud are served by multiple teams that often work in silos. Therefore, in order to make the shift, these teams would first need to be streamlined, which is a highly improbable task for large CSPs. For CSPs that have undergone M&As, the organisation and system complexities are multiplied, making cloud-based deployments highly unlikely. ▶



In addition to this, CSP billing systems are considerably mature because of a steady stream of investments over the past several decades and therefore less likely to undergo radical changes. Besides, larger CSPs have greater incentive to continue with the current model of deployments because it gives them greater flexibility through customisation, while also offering them greater control over the operations. Furthermore, the demands of new SaaS processes on large CSPs with several decades of legacy billing platforms will reduce the chances of success for such initiatives. MVNOs and CSPs with smaller footprint are most likely to adopt SaaS-based billing platforms. Unlike larger CSPs, they have lesser demands on customisation and have a simplified organisational culture that will make it easier to adopt SaaS-based billing.

**Cloud based deployments are not customisation friendly** CSP billing systems are almost never deployed off-the-shelf. Instead, deployment involves a substantial amount of customisation to ensure that the feature functionality of the new platform reflects the existing processes and organisational culture. This is because, in almost all cases, little effort is made to modify the existing organisational culture or processes to adapt to new business environments.

The key to widespread SaaS deployments is to prioritise configuration over customisation. Extensive customisation is antithetical to the basic premise of SaaS-based deployments. Successful SaaS models in the enterprise have been built around single instance platforms with the capability of offering multiple flavours of the solution through extensive configuration. In addition, comprehensive customisation increases complexity and creates a cycle of constant upgrades and change requests. From a vendor perspective, the benefits of SaaS deployments that support only a single instance of the solution disappear if the platform is customised extensively for certain CSPs.

SaaS models require CSPs to adapt to a standardised, structured way of managing business processes. Large CSPs are not ready to adopt SaaS for their billing and charging systems, primarily because their current requirements are too complex to be supported purely as a SaaS model. Crossing the chasm to become a fully SaaS-enabled CSP is considered too disruptive and risky.

Large CSPs will continue to discount SaaS deployments for billing, primarily because they require a degree of customisation that makes SaaS unviable. Smaller CSPs will experiment with some variants of SaaS, mostly hosted in private cloud environments. MVNOs and smaller CSPs in emerging markets are most likely to embrace SaaS-based billing services, mainly due to simplified internal organisation and focus on effective cost management. For vendors, a widespread shift to cloud-based services will have a significant impact on their overall revenue, primarily in the form of reduced licensing fees and fewer customisation opportunities. For vendors focused on large CSP accounts, the potential for selling SaaS-based billing solutions is very limited.

	Tier 0 and Tier 1	Tier 2 and Tier 3	Tier 4 and smaller	MVNOs
Own data centre				
Private Cloud				
Hybrid cloud				
Public cloud				

Source: AnalysysMason

**Figure 4: Mapping CSPs by size against the most likely future billing system deployment strategy**



## Conclusion

Changing customer expectations and behaviour, driven by their engagement with online digital companies and the rising might of internet enabled digital companies, have a significant impact on CSP operations. CSPs have seen their traditional voice and messaging revenues decline alongside a need to invest heavily in next generation technologies that would enable faster internet access. CSPs therefore have a strong focus on effective monetisation of their services to ensure their network investments are sufficiently protected. CSP billing systems therefore continue to attract the largest investment in all BSS segments even as they continue their steady evolution.

Convergent platforms have become the norm for all new billing system deployments, with CSPs

deploying such platforms even in scenarios where their requirements are explicitly for prepaid or postpaid use cases. Most large CSPs have some type of convergent billing platform already in place, while upgrades from the smaller CSPs continue to drive the market. As CSP revenue growth continues to shift towards data based services, there has also been a rising demand for deploying policy engines to support accurate real-time charging for mobile data.

CSPs are also considering newer ways of deploying billing systems, driven by the rising popularity of SaaS based deployments in the enterprise. However considering the complexity and real-time nature of the modern billing systems, no large CSPs are expected to adopt billing as service model in the near future. 



## About Analysys Mason

Analysys Mason has been a global specialist adviser in telecoms, media and technology (TMT) for more than 30 years. Since 1985, Analysys Mason has played an influential role in key industry milestones and helped clients through major shifts in the TMT market. We continue to be at the forefront of developments in digital economy and are advising clients on new business strategies to address disruptive technologies.

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# Software will drive the monetisation opportunities in next-generation wireless networks

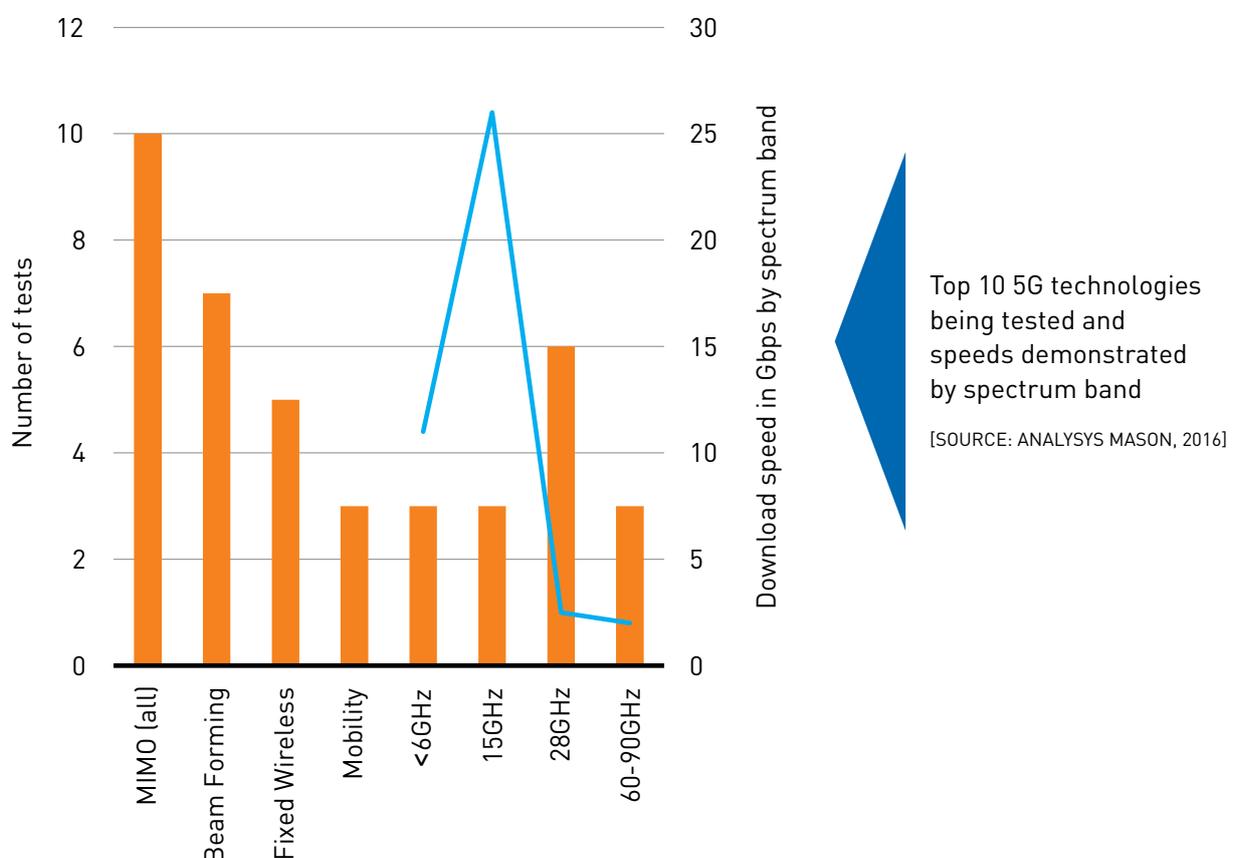
“Latest research from *Analysys Mason’s Next-Generation Wireless Networks programme* shows that the major value-add for 5G will come not just from virtualising the network, but from specific software features that are starting to come into the test programme.”

Network slicing in particular will play a critical role in creating multi-application and potentially multi-tenant networks capable of supporting variable cost connections.

Analysys Mason has extensive and in-depth research and insight on the on-going standards and technology developments, and how these will impact the use cases for mobile networks and 5G.

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Our primary research and understanding of telecoms software puts our expert analyst team at the forefront of next-generation networks research and forecasting.



*Analysys Mason is the global telecoms specialist advisers on telecoms, media and technology*



## infonova



## AsialInfo

### Company summary

Founded	1989
HQ	Graz, Austria
Employees	400 (within BearingPoint Group: 3,500)
Revenue	Not disclosed
Customers	BT, eir, Dimension Data, HD+, iiNet, Liberty Global, Telekom Austria Group, Kabel BW / UPC, Cloud212
Partnerships	Pactera, HP, Tech Mahindra, Abeam Consulting, Cognizant, Siemens
Financial status	Top Rating: DunBradstreet, KSV (Austria)

### Bill & Charge products

#### Infonova R6

Infonova R6 is a Digital Ecosystem Management Platform with multi-tenant concept-to-cash BSS capabilities at its core. Infonova R6, which is TM Forum Framework conformance certified, supports organisations by providing business solutions needed for the creation, delivery and monetisation of innovative digital services and multi-party ecosystems. This enables the monetisation of end-customer business relationships and caters for sharing revenues and allocation of costs with all service providing partners on the platform.

Offering digital services involves dealing with complex scenarios where multiple partners and suppliers collaborate in bi-directional, multi-level revenue chains in various B2B2x business models. The Infonova R6 product empowers businesses with the ability to manage partners, monetise relationships and offerings, and provides scalability for their services in the digital economy environment.

### Key differentiators

The Infonova R6 product offers a robust platform that enables businesses to operate in a multi-service and multi-tenant architecture. Infonova R6 offers businesses flexibility to orchestrate and monetise both traditional and next generation services and products, reflecting the convergence of industry value chains towards value networks. It connects multiple, independent business partners, enabling service sharing and B2B monetisation between these partners. Conforming to the TM Forum standards, Infonova R6 is designed on the principles of an Open API interconnected platform. The product offers full end-to-end concept to cash functionality, that is available to each business partner on the multi-tenant platform.

### Competitive pressures

Infonova competes with the traditional incumbent vendors who have active working relationship with the CSP, from supporting them in the end-customer-relationship management area. In addition, Infonova also competes with the digital vendors that follow anything-as-a-service business model.

### Company summary

Founded	1993
HQ	Beijing, China
Employees	14,000+
Revenue	\$761m
Customers	AIS Thailand, China Mobile, China Telecom, China Unicom, Nepal Telecom, Telenor Group, UMobile, Zong and others
Partnerships	Amazon Web Services, Cap Gemini, IBM and numerous partners in the Chinese market
Financial status	Privately held

### Bill & Charge products

#### Veris BSS Suite

The Veris BSS suite can be deployed on-premise or delivered over cloud – private as well as public. The core products within the Veris Suite include billing, CRM and real-time big data analytics. Veris Billing is a fully convergent billing, real-time charging and policy management system. The billing system can enable real-time, dynamic subscriber package creation and monetisation. The CRM system enables the service provider to deliver an omni-channel experience to the subscriber, including social media. The real-time analytics capabilities of the suite enable service providers to deliver contextualised interactions and offers.

AsialInfo's Veris BSS suite also includes Veris Open Operational Platform (O2P), which enables a B2B collaboration environment. It allows the service provider to on-board partners, such as OTTs, and offer converged services to the combined subscriber base. Veris O2P also enables service providers to generate additional revenue by offering use of its back-office IT services to its digital partners.

### Key differentiators

AsialInfo offers a complete BSS stack as a fully-convergent, omni-channel solution to its clients, including real-time charging and contextual awareness capabilities at very large scale. Its Veris O2P allows its clients to form partnerships and collaborations, enabling them to participate in the digital ecosystem by bundling new digital services with their traditional offerings. In addition to the traditional deployment model of BSS solutions, the company offers its BSS suite through a software-as-a-service delivery model which offers cost savings for service providers planning IT transformation to digitise their existing operations. It also reduces deployment time and enables early return on investment.

### Competitive pressures

AsialInfo faces competition in breaking into new markets outside its stronghold in Asia from competitors who have long-established relationships with service providers. In addition, network equipment providers (NEP) are able to offer their BSS suites bundled within larger network equipment contracts, which in principle makes it difficult for independent software vendors like AsialInfo to compete.



**REDKNEE**  
Looking Beyond

## Company summary

Founded	2008
HQ	Mountain View, California, USA
Employees	120+
Revenue	Undisclosed
Customer	Swisscom, Teleena, Telstra, PLDT Group, iD Mobile, Vodafone New Zealand
Partnerships	Accenture, Aria, Atos, IBM, Tech Mahindra, Unico, MDS, KPMG
Financial status	Privately held

## Bill & Charge products

### MATRIXX Digital Commerce

MATRIXX Digital Commerce provides a single, online platform for digital service providers (DSPs) to easily create, market, sell and service an array of digital products as well as traditional network-based services. It enables DSPs to develop products and services dynamically that can be priced, packaged and promoted through mobile applications and digital channels. The platform enables a fully real-time, online digital customer lifecycle for creating high value customer relationships. From customer on-boarding and purchasing, through to billing, loyalty and rewards programmes, the platform provides interactive capabilities for customer engagement and gives customers the power to control, self-direct and tailor how they buy, manage, share and pay for digital services. MATRIXX enables telecoms providers to build long-term strategic value through high-touch, digital customer relationships.

## Key differentiators

MATRIXX enables its clients to deliver an always-on, end-to-end customer experience for all customer interactions. It provides precise information to customers, on-demand and for every single interaction. The company offers business agility through a cloud-based, configuration-only solution. MATRIXX offers a patented technology as part of its digital commerce offering. MATRIXX claims the solution to be cost-effective as it requires only a small hardware footprint for managing billions of customer and network interactions a day, in real-time. Having a unified customer database allows for low latency responses across all uses, backed by contractual SLAs. MATRIXX Digital Commerce is purpose-built as a single, configurable product which can be deployed on premise or from the cloud in as little as 90 days.

## Competitive pressures

MATRIXX's software works with service providers who are focused on deploying real-time BSS solutions for digital services. In this context, the company competes primarily with network equipment providers (NEPs) who also offer traditional real-time systems for prepaid subscribers.

## Company summary

Founded	1999
HQ	Headquartered in Canada with 25 offices worldwide
Employees	1,800
Revenue	US\$223 million (FY 2015)
Customer	Over 250 service providers including Vodafone, Ooredoo and Deutsche Telekom
Partnerships	Accenture, Elster, Wipro, IBM, Microsoft
Financial status	Publicly listed company (RKN)

## Bill & Charge products

### Redknee Unified

Redknee Unified helps service providers monetise next generation services in real-time – no matter the type of service, customer or business model. Its modular design and real-time charging, billing, policy and customer care capabilities provides the flexibility and agility to monetise new revenue streams, launch new services faster and deliver an improved customer experience. Redknee Unified utilises an integrated product catalogue and order management to support the monetisation of any service or combination of services, including third-party and partner services. Redknee Unified enables a consistent omni-channel customer experience with real-time account information updates, online self-care applications and a 360 degree view of the customer, allowing service providers to better understand the customer and proactively support them in real-time.

## Key differentiators

Redknee is a leading provider of monetisation solutions, monetising 24 billion real-time transactions a day. Redknee's portfolio of real-time monetisation and subscriber management solutions allow service providers to charge for things in new and innovative ways and can be tailored to the customer's needs and can be delivered on premise, cloud-based, or as Software-as-a-Service. Redknee already supports a number of MVNEs and MVNOs around world from the cloud. With more than 25 offices, Redknee offers worldwide coverage for its services. Its solutions are deployed at over 250 service providers globally, besides servicing clients in other vertical markets, such as BMW and Meralco.

## Competitive pressures

Redknee increasingly competes with the large tier-1 vendors and also some of the smaller vendors in emerging regions. Redknee also competes with network equipment providers (NEP) who offer their BSS suites bundled within larger network equipment contracts. Redknee also had a growing practice focused on other vertical such as automotive and energy.



**REDKNEE**  
Looking Beyond



# Turn Customer Insight into Action with **Redknee Unified**

Redknee Unified boosts marketing agility by empowering marketing and product teams to quickly analyze subscriber trends and create targeted campaigns - campaigns that can be created in a few simple steps and executed in hours, as opposed to weeks or months.

Based on the latest Hadoop database technology, Redknee Unified automatically triggers 'smart' campaigns through real-time analysis of customer behavior, giving operators the ability to be more responsive while providing a more personalized customer experience.

Charging | Policy Management | Billing and Customer Care



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to find out more about our solutions.



# EXPERT OPINION



## Partnerships-based business model enters Phase 3

**The fight for revenue continues in the mobile market – communications service providers (CSPs) are having to fund significant investment in their networks to manage increasing demand for data, while competing for income with the digital service providers (DSPs). On the other side, these DSPs are facing increasing competition for the attention of the end user. This means there's a bigger market seeking the end-user money, and greater audience dilution. It's time for Phase 3 of the business model says Andy Tiller**



The author, **Andy Tiller**, is global vice president of product marketing at AsialInfo

It didn't take long for mobile consumers to fall in love with DSP applications, with their impact spreading throughout the telecoms value chain. CSPs are taking a little longer, but from the early days of the walled gardens – Phase 1, initial suspicion and reluctance to engage, there has been a sea change in the DSPs' approach to partnership. This is largely geared towards creating differentiation – and perhaps some revenue – from a small number of strategic partnerships with powerful DSPs such as Netflix, Spotify and Facebook – Phase 2. These partnerships can be very beneficial for the DSPs. As an example, in 2012 Spotify had five million subscribers – linking up with major CSPs helped the company reach 75 million monthly active users in June 2015, with 30 million now paying for the service.

With DSP players offering services over CSPs' data networks, there is an opportunity for CSPs to form partnerships with these challengers creating new service propositions; shaking free the perception that CSP networks are just a dumb pipe, and crucially, adding value to DSP services and gaining a share of revenues. So the industry is now entering a third phase of the CSP-DSP partnership era, but CSPs are struggling to scale up their DSP partnerships business.

The opportunity for partnerships is vast, and the potential for all parties to achieve their goals is very much there. CSPs however, need to step up their view of this opportunity, and show more seriousness towards wooing the DSP community as well as reaching out to the wider non-digital businesses who need help going digital.

### Playing to CSPs' strengths

CSPs have the back-office technology that most DSPs cannot afford, and CSPs have the direct customer billing relationships and position of trust that it would take DSPs years to build. There is also the largely untapped analogue market – businesses which have yet to make full use of the possibilities of mobile communications as a promotional channel, as well as the largely underserved SME market. The focus on CSP-DSP partnerships has mainly been in the B2C domain rather than B2B.

Google, Facebook and many popular digital players who have advertising-based business models, are not hesitating to reach out to these markets, yet most CSPs are already linked with these businesses, either as mobile or broadband/fixed line providers. CSPs need the tools to exploit this potentially significant market opportunity.

There are countless smaller retailers, consumer brands and SMEs which are still, even today, off-the-grid – they do not connect with their consumers through mobile. These businesses want to compete effectively with their larger, deep-pocketed competitors, but don't have the resources to make hefty investments into new IT systems and workforce, or the time to gain a full understanding of the different operational processes.

Many don't know where to start and this creates a great opportunity for CSPs to build relationships with such businesses, to show them the potential of working together. That potential involves packaging up end-to-end support including initial consulting, technology from the back-end cloud based billing/CRM/analytics to the front- ▶



end web presence and apps, and managed services – just like MVNEs offer fully-packaged services to MVNOs.

### Expanding the market

Bundling DSP services with CSP services can expand the market for both sides, and the DSP can take advantage of CSPs' subscriber segmentation to promote services to highly targeted audiences. Billing can be handled via the CSPs' sophisticated and purpose-built systems, and omni-channel customer service and support delivered to the DSP via the CSPs' capabilities.

Partnering does have its challenges. The success of these partnerships relies on all parties. The CSPs, the DSPs and the businesses need to overcome their incumbent ways of thinking and operating, to embrace newer ways of working together. Issues around contracts, service provisioning and data privacy all need to be addressed to the satisfaction of all involved. However, there are solutions available in the market that can help smooth the transition to a new way of working and deliver significant rewards.

One example is China Telecom, a CSP that has been tapping into the potential of DSP partnerships – and raising some serious incremental revenue from such businesses – through the use of AsialInfo's Veris Open Operational Platform (O2P). This is a collaboration environment that enables CSPs to boost revenues by converging their products with those of the DSPs, and providing DSPs with the benefit of the CSP's advanced back-office IT capabilities.

Such solutions enable an environment for the creation and development of converged or mash-up products, which consist of CSP services and IT capabilities such as mobile data, QoS and billing, combined with DSP services such as music streaming; and an API hub for connecting various CSP/DSP IT systems.

Through this sharing of resources, such platforms bring significant value to CSPs like China Telecom through enabling effective DSP partners. They enable DSPs to increase their subscriber base, monetise their services and enhance the value they deliver to their customers. CSPs can cross-sell DSP services and content to their existing customers and gain a share of that revenue; up-sell communication services; win new customers through innovative products, plans and offers that include DSP services and content, and monetise their IT and network capabilities.

### The China Telecom model

Since launching this new business model, China Telecom has continuously added partners who converge their

digital service products with China Telecom's communications products across their fixed and mobile as well as IPTV lines of businesses. In a single sample month, the incremental value added to China Telecom's business through its Open Operational Platform was US\$172 million.

That's a big number from a large CSP, but the potential is there for all sizes of operations. Research by Northstream estimates that the non-platform approach to DSP partnerships has the potential to generate around €160 million in gross profits from Western European CSPs over the period 2014-2017. However, with a partner collaboration platform in place, these CSPs could generate somewhere in the region of €2.2 billion in gross profits over the same period. That's a sizeable market opportunity ready to be exploited.

The business case for the platform has two sides: reducing the cost of integration through standardised APIs, processes and development environments; and increasing revenue potential through faster time to market with more partners and services, as well as increasing the attractiveness of these services to generate more uptake.

Larger CSPs can use the platform approach to greatly increase the profitability of DSP partnerships, while for smaller players the platform can actually be the difference between making or losing money in DSP partnerships.

Open and flexible collaboration platforms allow CSPs to open up their advanced BSS capabilities to the DSPs, including advanced payment capabilities for consumers, and sophisticated product management to allow CSPs and DSPs to implement innovative use cases and launch attractive B2B2C bundles. Omni-channel customer management technology enables a seamless experience for the end user across CSP and DSP products and services, and real-time analytics is a key enabler for CSPs to add value to third parties.

To succeed in the third phase of the DSP-CSP partnership business CSPs need to pursue the wide variety of new business lines across B2B as well as B2C markets, with a host of tasks that can woo the large DSPs as well as the analogue businesses. Voice and data bundles bring in basic cash flow, but maintaining revenues from these traditional services will only become more of a challenge in the future. If new revenue streams are to be created, CSPs need to work with partners outside the traditional telecoms domain, and add value to those partners' services beyond basic connectivity. Ultimately, finding these new ways to deliver value will be a matter of survival.

**Bundling DSP services with CSP services can expand the market for both sides, and the DSP can take advantage of CSPs' subscriber segmentation to promote services to highly targeted audiences**

[www.asiainfo.com](http://www.asiainfo.com)



## There's no situation that can't be made worse by an old bill

**When communications service providers (CSPs) started to become digital service providers (DSPs), their businesses got fast and furious but sadly billing systems are plodding along in their wake, writes Nick Booth**

**T**here's no satisfying the modern phone user who won't wait patiently for the monthly bill and politely point out any inaccuracies. Today's audience wants instant gratification or they're off. They all seem to know their entitlement and know how to play – or configure – the systems to their own needs.

How did it ever come to this, and what can be done?

The customers have had their expectations driven OTT by the social media crowd, according to Jennifer

Kyriakakis, a founder of charging system maker **MATRIX Software**. The CSPs are following suit.

The CSP's customers want to control their own mobile account, find their own services and apps and only pay for what they use. Even Domino's Pizza customers can sign up with their credit card and pay now via their mobile. In response, CSPs are trying to adapt to emulate the successes of Uber and Amazon. So they want to offer their own real-time interaction and experiences to their customers directly from the device. ▶



**Chris Yeadon:** Billing was seen as a back end support system, now it has to be the business enabler



**Jennifer Kyriakakis:** CSPs could offer a huge choice of content and services based on instant transactions



**Jonah Pransky:** LTE will swell the events and signalling that a charging system that has to rate and charge



**Chris Newton-Smith:** Billing isn't just about paying for what you used, it's about loyalty and reward programmes

The CSPs have no choice but to adapt. According to the GSMA, the next five years will see a 20% rise in global communications revenue, but a 280% surge in money made from content. So if content is where the money is, CSPs need the right billing system to cater for it.

"If they get it right CSPs could offer a huge choice of content and services based on instant transactions in response to payment," says Kyriakakis. The mantra for perfect turbo charging should be: no waiting, no bills, no hassle, just instant gratification.

But it could be a dangerous transformation. The new OTT partnerships will be challenging because it involves working with companies that were – and still are – competitors.

The CSP's best bet is to make customer experience their priority. If they can set things up so subscribers can choose and manage their own services and instantly pay for bite-sized data services, that will tempt customers to spend more in the longer term. New billing systems, which embrace all the underlying elements of a CSP's information infrastructure, will be the key to this.

In addition, CSPs will need to look at the new models for CSPs that are emerging such as customer to customer (C2C), not to mention business to government (B2G) and various other variations on the B2B/B2C theme, says Chris Yeadon, product marketing director for BSS at **Ericsson**. "Billing was seen as a back end support system, now it has to be the business enabler," he says. "Charging and billing should be part of the customer experience. The key to that is to give each system a more healthy diet of data. Ericsson is focusing on a cleaner data model that provides a separation of apps and data."

Cloud-based digital stacks will offer the quickest option for by passing the old prepaid and postpaid billing silos of yesteryear. These will give a faster route-to-revenue than big transformation projects.

"We're talking three months, rather than three years," says Kyriakakis.

It's only going to get more complicated though, says Jonah Pransky, the product marketing manager for revenue and insight at **Amdocs**.

The massive adoption of LTE and the gradual adoption of VoLTE are changing the speeds and volumes of data packages as well as the quality and value of voice communications. The efficiency afforded by LTE networks is even allowing some service providers to go back to unlimited plans as well, where differentiation between plans is possible through the quality of service or speed.

"All that extra data usage incited by LTE will swell the events and signalling that a charging system that has to rate and charge," says Pransky.

New technologies like VoLTE, which is both voice or data, will create more work for the charging systems, which must correlate the session coming from different parts of the network as a single interaction.

The definition of billing has evolved too, says **Redknee's** chief marketing officer Chris Newton-Smith. "It's not just about paying for what you used, it's about loyalty and reward programmes and the ability to instantly make the quality of service supplied meet customer expectations," he says. "At many CSPs loyalty programmes are not integrated into the billing system or are managed separately to the main service offerings."

Billing systems have changed to accommodate the use of different payment methods, including vouchers and loyalty programs. It must be instant, whether it's through an app, an online portal or an SMS. Which means the CRM has to be finely integrated with every aspect of billing, rating and charging and driven by a powerful processing engine.

The CRM, says Newton-Smith, will be the foundation that ties this information together. 

**"If they get it right CSPs could offer a huge choice of content and services based on instant transactions in response to payment"**



# EXPERT OPINION



## Digital ecosystem management – the new way to grow in the digital economy

**The digital economy has introduced complex scenarios where multiple suppliers and partners need to collaborate in bi-directional, multi-level revenue chains in various B2B2x business models in order to capitalise on new growth opportunities**

**T**he evolving customer expectations of living a digital life place pressure on businesses to offer an agile and constantly evolving set of products and bundles of services, composed of both existing connectivity services and emerging digital services, that deliver increased value to customers.

In order to create, deliver and monetise such combined offerings, a broader and more diverse set of business partners must collaborate to satisfy future business and customer requirements over disrupted industry verticals. Successful companies such as Apple, Google, Airbnb and other digital natives all follow the formula of creating digital platforms to make use of diverse ecosystems of consumers, producers and innovators.

Communications service providers (CSPs) have the same challenges and opportunities in common with other businesses in the digital economy, but face the added burden of being the network provider and having to ensure the network can be flexible and cost efficient to meet the customers' digital life expectations. In addition, CSPs are in transition from being providers of a commoditised network-oriented service to becoming providers of a range of higher value digital services as well as a core, yet low profit, network capacity offering. They face a dual challenge of transforming their operations to reduce cost while simultaneously growing revenues and increasing profits from new digital service introduction. In order for CSPs to succeed in this environment, without

straying far from their core competencies, they need to adopt a new strategy for existing connectivity services and emerging digital services.

“Nowadays we see growth potential for CSPs in two directions,” says Andreas Gabriel, the vice president of product management at Infonova. “The first opportunity is to sell their own services combined with third party services to their own customers. The second is to create a multi-partner collaborative ecosystem that enables service sharing between partners on the system and caters for sharing revenues and allocation of costs with all service providing partners on the platform. This Digital Ecosystem Management platform is what we term the new way to grow.”

“Once these two dimensions of potential growth are combined and a platform that allows other parties to contribute their services has been adopted, the digital ecosystem becomes a platform business that allows businesses to collaborate as a digital economy in itself,” he adds. “We see specific opportunities for CSPs – and other organisations – to be this platform provider and Infonova provides the management systems to support this.”

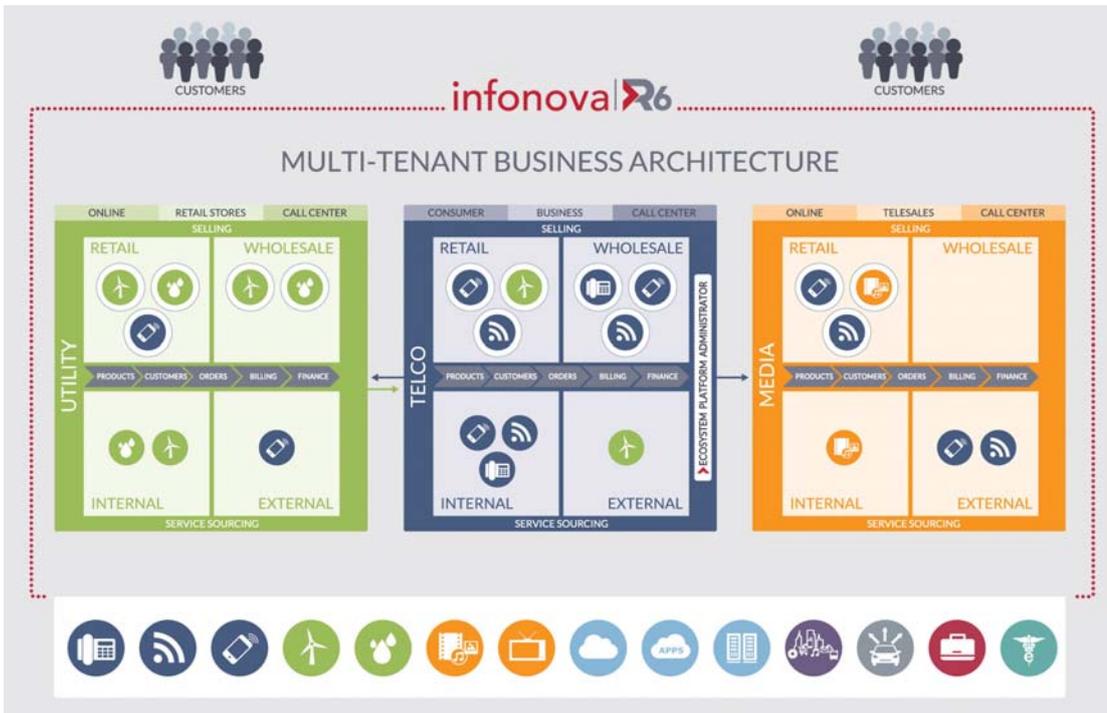
Gabriel points out that Infonova’s R6 Digital Ecosystem Management Platform has been developed specifically to cater for these needs. The Infonova R6 product covers the full end-to-end concept-to-cash process, supporting

Communications service providers (CSPs) have the same challenges and opportunities in common with other businesses in the digital economy

IN ASSOCIATION WITH INFONOVA



## The Infonova R6 Business architecture



multiple tenants on a single platform, with individual access to comprehensive functionality.

“Digital service providers of all types need to deal with any service and partner with third party service providers,” says Gabriel. “A key area of focus for Infonova R6 is to support not only the end customer business but also to provide the revenue allocation capability that fundamentally underpins multi-party business models.”

Gabriel adds that the system enables rapid time-to-market for innovative new services that might bundle a number of different products and services from different providers. Significantly, Infonova R6 enables businesses to monetise industry-specific and cross-industry digital economy business models, dealing not only with the aspects of the end customer’s business that consumes the services but also with the capabilities required for managing suppliers and partners as well as the settlement aspects of these relationships. This empowers Infonova R6 operators with the capability to create a digital ecosystem of partners that collaborate and co-operate by providing their services into the ecosystem and combining them with other services that are available in the ecosystem.

One example of a CSP that is utilising Infonova R6 is BT Global Services, which provides managed network IT services to more than 6,500 large corporate and public sector services across the world. Infonova was selected to enable the service provider to enhance its Global Compute Management System to enable cloud support across multiple countries. The deployment has seen BT Global Services roll-out a centralised platform for managing all cloud services and offer them in multiple languages and currencies.

Benefits have included accelerated time to market for new cloud offerings which are supported by a flexible, multi-tenant product catalogue. This has fostered a collaborative partner ecosystem that has enhanced the service provider’s B2B2x capabilities through the

availability of usage based billing for different cloud services and integration with BT’s strategic systems. Gabriel adds that with this platform, BT now has the opportunity to allow other parties to rent BSS as a service in support of their offerings.

Another business that has selected Infonova R6 is Dimension Data, which provides and manages specialist IT infrastructure solutions and services. The company wanted to achieve consistent delivery of cloud services across its global business and customer base and turned to Infonova to deliver a true multi-country, multi-currency BSS implementation that enables complex partnering relationships between multiple business units and billing entities. Having one, centralised platform to enable cloud services from different regions with reduced time to market is a key deployment goal that has been achieved, along with containing the costs of scaling up the cloud business internationally.

Gabriel sees these examples as indicators that CSPs can play a key role in the digital ecosystem but also as evidence that organisations from other sectors can also handle the complexities. “CSPs have the experience of complex service activation, customer relationship management and dealing with high volumes of transactions,” he says. “On the other hand, they are quite slow moving so the question remains opens as to whether they will jump in the right direction and take this opportunity or whether organisations from different industries will relegate CSPs to network providers.”

Infonova supports both CSPs and service providers from other industries to take a lead in the digital economy – all will need a management platform with the capabilities that R6 offers. “The Infonova R6 product truly reflects the principles of partner, orchestrate, monetise and grow, and empowers businesses to take advantage of the opportunities that the digital economy is providing,” says Gabriel. “We want to ensure that our customers stay ahead of the competition, regardless of from who or where that competition comes.”



**Andreas Gabriel:** Empower businesses to take advantage of the opportunities that the new digital economy provides

[www.infonova.com](http://www.infonova.com)





**Timo Ahomäki:**  
CSPs will move towards tiered data pricing models or towards value bundling



**Jonah Pransky:**  
People don't mind paying for better quality of service



**Bobby Srinivasan:**  
There will be no one-size-fits-all approach



**David Peters:** CSPs will need to use real-time streaming analytics to determine the best micro-data pack



**Carlos Marques:**  
CSPs will charge customers based on their actual usage

marketing manager in **Amdocs'** Revenue & Customer Management unit. "Other interesting roaming offers include app-based roaming, such as WhatsApp ... where use of the popular messaging application is zero rated while roaming."

**Mobileum** chief executive Bobby Srinivasan explains that these new payment models may help CSPs create new revenue streams, though it is important to be pragmatic. "For instance, low consumption services such as email may not be seen as suitable for such a bundle," he said. HD videoconferencing, however, "could definitely be such a service," he added.

Policy management tools enable CSPs to support differentiated services to their consumers. These tools enable robust roaming solutions or new services such as video provision with guaranteed service quality. "With a rich and flexible targeting engine, CSPs can ensure that while the service selection seems pretty much unlimited and unconstrained, certain key dependencies are maintained to ensure margins remain healthy," explains Ahomäki.

Enhanced charging service platforms enable CSPs to create highly detailed, tiered and itemised bills for customers, enabling "CSPs to charge subscribers based on their actual usage of the network, alongside data usage and premium services," explains Carlos Marques, the head of product marketing and alliances at **WeDo Technologies**.

Enabled by strong policy control within 3GPP/4G, **Emagine** chief executive, David Peters is developing a model in which CSPs sell data in small quantities. "This can only be done with real-time streaming analytics, personalisation and provisioning," explains Peters. "Traditional billing systems certainly can't do that... CSPs will need to use real-time streaming analytics on network level data, combined with historical insights, to determine the best micro-data pack for each individual customer." He claims strong – 150%-250% – conversion rates with such offers.

The challenge is that consumers will be unwilling to lose the data access they currently enjoy. It is in that

environment that CSPs are "shifting towards a model where pricing perception is moved away from access towards the actual services used," says Ahomäki. "However, consumers that are not familiar with this type of value bundling may initially shy away from models that seem too experimental."

These emerging business models don't simply need to be personalised for customers, they may also need to be personalised to fit the legal restrictions in place in different territories. "Regulation tends to be very country or region specific – for example, mobile money is freely allowed in some markets, disallowed in some others and highly regulated elsewhere," explains Srinivasan. "CSPs will have to craft strategies taking such regulations into account – there will be no one-size-fits-all approach."

The silver lining is that in some territories this could work to the advantage of CSPs. European regulators seem amenable to reducing the cost of access, even if it means users must navigate broader service bundles, notes Ahomäki. At the same time in Europe, CSPs are inexorably being forced to drop the cost of data roaming.

"People don't mind paying for better quality of service, as long as they don't have to fear the bill shock when they get home and it adds value to their travel experience. Offering them roam-like-home services most certainly does that," notes Pransky.

While the industry will continue in its attempt to develop the offer, the days of all-you-can-eat access are coming to an end – demand is outstripping sustainable supply. The GSMA Mobile Economy report 2015, warns network traffic will increase ten-fold between 2014 and 2019, even while revenues are expected to increase by just 3.1% per annum.

"To solve this dilemma, CSPs will either have to move towards more tiered data pricing models or towards value bundling. The latter, if done carefully and based on real consumer usage patterns, would seem like the better alternative of the two," says Ahomäki. 

These emerging business models don't simply need to be personalised for customers, they may also need to be personalised to fit the legal restrictions in place in different territories



# Huawei aims to accelerate digital transformation to promote IoT and a more connected world

Reporting from Huawei's 13th Global Analyst Summit in Shenzhen, China, VanillaPlus editorial director Jeremy Cowan, found the company reaffirming its commitment to helping communications service providers (CSPs) in their digital transformations

**W**ith the theme of 'Growing Together Through Digitalisation and Building a Better Connected World', the event saw Huawei discuss its strategic thinking, products and market progress in the Internet of Things (IoT), cloud computing, and telecoms operations transformation.

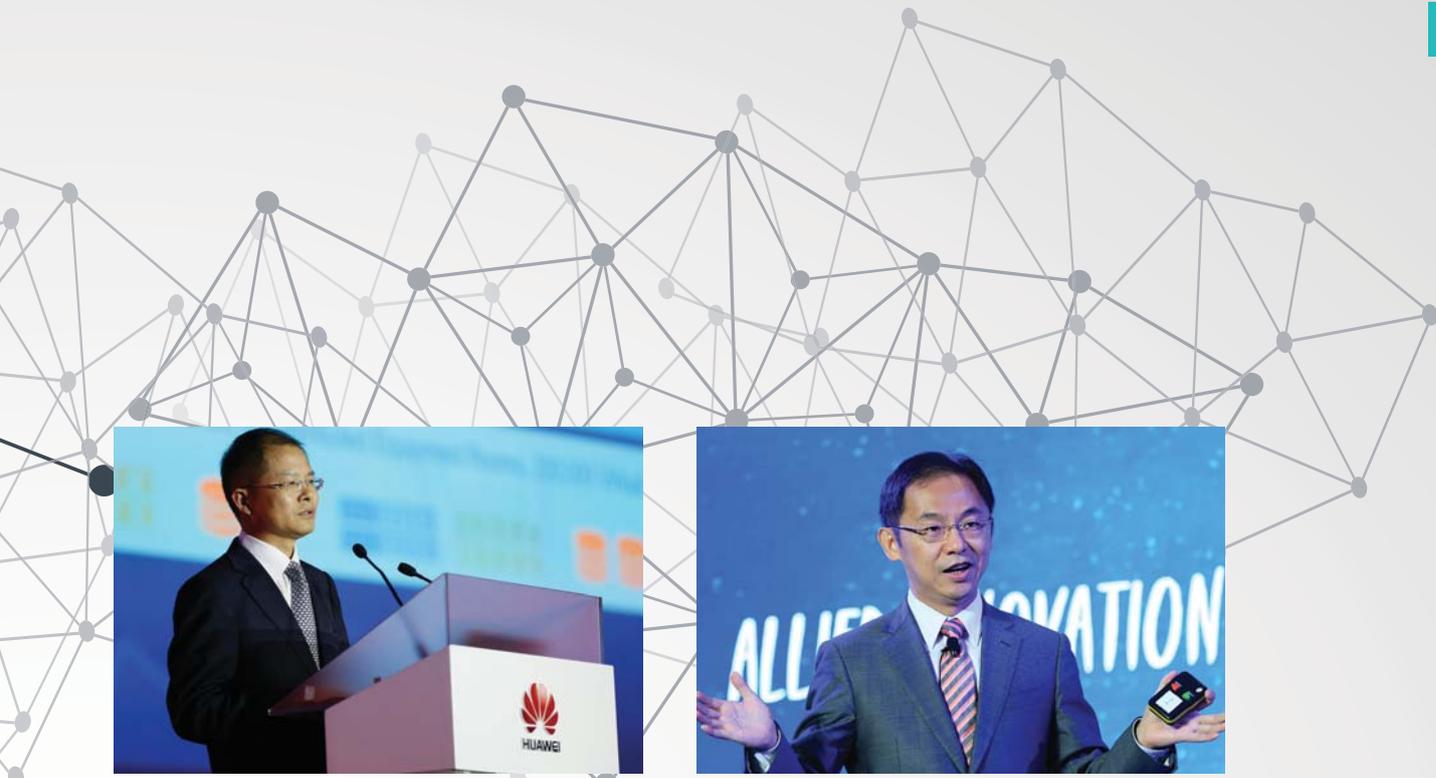
Opening the event, William Xu, Huawei executive director of the Board and chief strategy marketing officer (CSMO) remarked, "Global digitalisation is accelerating, and this is improving efficiency and user experience in many areas, including vertical industries, public services, and every aspect of our lives. Our Global Connectivity Index (GCI) 2016 reveals that global connectivity improved by 5% in 2015. We can work together in the areas of enhancing connectivity, enabling the digital transformation of vertical

industries, improving the connectivity experience and expanding access under all scenarios, and to accelerate global digitalisation."

## Better video experiences

Video has become a basic service of the telecoms industry for consumer and business users and customer experience has become a core competence for operators if they are to attract and retain users. Huawei has unveiled a video experience measurement system, U-vMOS, which reasonably and objectively evaluates video quality, interaction and the visual experience of various services on different networks and screens.

The system is open to the entire video industry, and has 



**Eric Xu:** Huawei is committed to becoming an advocate, promoter and leader of full cloudification



**Ryan Ding:** Connections, bandwidth, latency and data storage must all achieve 100-fold improvements

been recognised by the International Telecommunication Union (ITU).

### Full cloudification

At the summit, Eric Xu, Huawei’s rotating CEO – the post of CEO rotates every six months among three CEOs – explained the company’s full ‘cloudification’ strategy in detail. “At the Huawei Global Analyst Summit 2015, we proposed the real-time, on-demand, all-online, DIY, and social (ROADS) experience model to define the features of a superior user experience,” he said. “This year, we have introduced the full cloudification strategy, which focuses on delivering a ROADS experience.

“At the core of Huawei’s full cloudification strategy is the full reconstruction of ICT infrastructure in four respects – equipment, network, services, and operations,” added Eric Xu. “The strategy aims to create systematic strengths in pooled hardware resources, fully distributed software architecture, and full automation. As a leading global ICT infrastructure provider, Huawei is committed to becoming an advocate, promoter, and leader of full cloudification.”

### Digital transformation for CSPs

Digital transformation presents many opportunities as well as challenges. Huawei stays customer-centric and strives to help customers succeed and achieve shared success. Eric Xu added, “In the carrier business, we aim to deliver a ROADS experience and help operators develop their competitiveness to seize new market opportunities including IoT, video, and cloud services. We will also help migrate networks and operations systems to the cloud and help operators establish advantages in agile operations.”

“In the enterprise business,” he continued, “we will utilise cloud computing, SDN, and big data technologies to facilitate enterprise digitalisation towards agile and smart

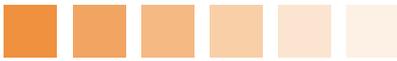
operations. In the consumer business, brand, quality, experience, and ecosystems matter most. Huawei is working hard to develop a high-end brand, deliver premium products, win with quality and services, and establish an ecosystem that focuses on consumer experience.”

### The network challenge

Ryan Ding, Huawei executive director of the Board and president of Huawei’s Products & Solutions, added: “A Better Connected World raises requirements for networks. Connections, bandwidth, latency, and data storage must all achieve 100-fold improvements. More importantly, networks of the future must automatically accommodate diverse use scenarios, including massive numbers of connected things, high-bandwidth services like video and virtual reality, and industrial applications that require a low latency and high reliability. Huawei will focus on ICT infrastructure and smart devices; invest over the long term; fully unleash the potential of connectivity, ultra-broadband, and data; and develop agile architecture and open platforms to accelerate the digital transformation of our customers, including operators.”

Customer needs are diverse, and no company can meet them on their own – collaboration with industry partners is essential. William Xu (who is no relation to Eric Xu) added: “We must join forces with industry partners to build an open ecosystem. We continue to hold fast to our pipe strategy, focusing on ICT infrastructure and smart devices. To meet these needs, we have forged extensive partnerships with consulting firms, application developers, system integrators, and channel partners. Through this commitment to openness, collaboration, and shared success, we will create value for our customers, contribute to a healthy ICT ecosystem, and drive social progress.” 

**“At the core of Huawei’s full cloudification strategy is the full reconstruction of ICT infrastructure in four respects – equipment, network, services, and operations”**



## New VanillaPlus Digital Transformation Hub launches online

The big news this month on vanillaplus.com is the launch of our new Digital Transformation Hub. The Hub, prominently placed on our home page contains news, features, blogs and interviews that explore and demystify the ongoing journey the telecoms industry has embarked upon into the digital world. The aim of the hub is to bring together the disparate thinking surrounding the digital economy, digital service providers, digital experiences and the digital ecosystem.

Whatever you call it, it's clear that digital something is the direction of

travel for the industry formerly known as telecoms. We look forward to bringing you exciting, informative and interesting coverage of all the issues that affect communications service providers (CSPs) as they venture further under the digital umbrella.

To access the VanillaPlus Digital Transformation Hub simply visit **www.vanillaplus.com** and enter the Hub from the home page. The VanillaPlus NFV Hub continues to be live and regularly added to and can be found in Verticals tab of **www.vanillaplus.com**

## Digitalising operations for the DSP Journey will require evolution and revolution in BSS/OSS



Mark Mortensen

There are three journeys that today's CSPs must make to become modern digital service providers (DSPs), writes Mark Mortensen, a practice head at analyst firm **Analysys Mason** in the first of series of blogs addressing CSPs' digital transformation. The three journeys are:

1. **Operations innovation** – digitalising the operations to be more online and automated for consumers

2. **Service innovation** – providing new digital services
3. **Network innovation** – supporting the business with an agile, virtualised next generation network.

The first blog outlines the changes necessary in the current Operations Support Systems/Business Support Systems (BSS/OSS) to support the first of these journeys – the digitalisation of the CSP's operations.

Read Mark's blog at **www.vanillaplus.com**  
(Search: Mortensen)

## Webinar: Digital Ecosystem Management – the winning business model for the 4th Industrial Revolution

With no growth for the foreseeable future, the existing industry business model has reached its end of life and needs re-juvenating was the premise at the heart of the recent VanillaPlus webinar. As the world moves towards the Internet of Everything and the Fourth Industrial Revolution, a new trillion dollar addressable market is opening up for CSPs.

To take advantage of this market CSPs must adapt the successful business model of the internet players by creating, managing and monetising ecosystems of partners via platform-based business models.

This webinar, sponsored by Infonova, will help listeners understand:

- What the Fourth Industrial Revolution is and what types of addressable markets it is creating
- What types of business models are winning in this environment
- How CSPs can fully utilise their assets and capabilities to create a new wave of growth
- How to overcome technical, commercial and organisational barriers to success

The webinar, held on 20 April is available for playback at **www.vanillaplus.com** (Search: Infonova)

## The digital world challenge: Are you ready to step up?



João Resende

We live in times of disruption writes João Resende, the vice president for product development at **WeDo Technologies**. Studies show that by 2020 nearly all the world's adult population will be connected, with dozens of sensors and other connected devices per each human being. Hand-in-hand with this phenomenon, we see the emergence of tools such as big data, cloud computing, virtualisation that not only substantially reduce the cost of data handling and storage, but perhaps more crucially, provide the tools

and the means to extract new value out of data, triggering all types of digital services.

No industry will be left untouched – from the traditionally high tech sectors such as telecoms, finance, retail or healthcare, to other sectors such as transportation, agriculture or mining, to name but a few. This is because we are fast reaching a fully digital world, with increased blurring between the digital and the physical. Similarly, every entity in the physical world will soon be represented in the digital world. The fact that this utopian ideal is being approached tells us how disruptive, transformative and far-reaching the digital world and the digital transformation we are living through is.

Read the rest of João's article at **www.vanillaplus.com**  
(Search: WeDo Technologies)



# Upcoming events

**TMF Live!**  
**9-12 May, 2016**  
 Nice, France  
 Organiser: TM Forum  
[www.tmforumlive.org](http://www.tmforumlive.org)



**Telco Cloud**  
**10-11 May, 2016**  
 London, United Kingdom  
 Organiser: Informa  
[telco.cloudworldseries.com](http://telco.cloudworldseries.com)

**Ovum Industry Congress**  
**11-12 May, 2016**  
 London, United Kingdom  
 Organiser: Informa  
[ovumindustrycongress.com](http://ovumindustrycongress.com)

**IMS World Forum 2016**  
**18-19 May, 2016**  
 Amsterdam, The Netherlands  
 Organiser: Informa  
[worldforum.imsvision.com](http://worldforum.imsvision.com)

**Cloud & DevOps World**  
**21-22 June, 2016**  
 London, United Kingdom  
 Organiser: Informa  
[cloudanddevopsworld.com](http://cloudanddevopsworld.com)



**Insurance Fraud Europe**  
**30 June – 1 July, 2016**  
 London, UK  
 Organiser: FC Business Intelligence  
[www.fc-bi.com/insurancefraudeu](http://www.fc-bi.com/insurancefraudeu)

**CTIA Super Mobility 2016**  
**7-9 September, 2016**  
 Las Vegas, USA  
 Organiser: CTIA  
[www.ctiasupermobility2016.com](http://www.ctiasupermobility2016.com)



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# Could CSPs be charged with having too much information?

**Do businesses sometimes lose the plot over their relationship with their customers? If you agree that they do, asks Nick Booth, how can we make sure this doesn't happen to mobile operators as they make the difficult transition in how they talk to us?**

**T**he consensus among industry experts is that the modern incarnation of the mobile operator, the communications service provider (CSP), should get more recognition from the customer. After all, it's the CSP that does all the hard infrastructure work, but it's the over-the-top (OTT) players that get the content glory. But how do you put yourself at the heart of things without becoming annoying?



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

Banks exemplify the evil of intrusive communication. They've deluded themselves that we love their brand and share their fascination with their business processes. As a result, every month the bank sends every customer three A4 pages of legal mumbo jumbo, which we would only ignore at our peril, under the heading 'Important Changes to Your Account'. This is an enormous pain for any bank account holder. As a customer, you end up having to sacrifice something – your time, money or security – as a consequence of this insane marketing onslaught from the bank.

Small wonder that millions of people are desperate to be liberated from their current banking arrangements by digital currencies, Bitcoins, mobile money – anything but the current lot.

Mobile banking could be one OTT application the CSPs could clean up with. Then again, a simple step is needed on the difficult road to changing their business model. According to the GSMA's projections for the mobile economy, global revenue for CSPs will rise by 20% in the next five years while the revenues on content will surge ahead by 280% in the same time.

So something has to be done and CSPs have three options. Either they create the entertainment, news and educational material themselves – which involves becoming a completely different industry, overnight, with no experience – or they work with their competitors, who have no motivation to help them. The third option is to use charging as a means of changing their relationship with the customers.

But how do you assert yourself on your customers more aggressively, without repeating the sins of the typical CRM users, such as the banks, who often act like they are one restraining order short of a stalker?

A simple rule of thumb to remember would be this: we customers like communications, but not if you're endlessly going to talk about yourselves. Don't be like the banks and endlessly talk about your internal processes. Nobody wants to know all the gory details of how your systems are down or your backbone was put out when you overstretched. And yet, that's exactly what some CSPs and broadband providers do when their coverage is lacking. "We're busy talking to our other customers" indeed! Nobody falls for those euphemisms any more.

The consensus of opinion is that billing has to evolve to be more flexible and faster to adapt. Ericsson's Chris Yeadon will tell you that charging is the key to monetising content. Ericsson is putting its considerable weight behind developing new, more versatile software modules, that can charge around the infrastructure, keeping tabs on everything and orchestrating play from one end of the field to the other.

The data needed for these systems has to be pared down. I never understood why business administrators need so much information on everyone, unless they're compiling a database they can sell to a dodgy list broker. If CSPs simplified the amount of data held on customers their systems might work faster and they'd be more trusted. Maybe CSPs need a new broom to usher in a new way of working.

To this end, a study by Stratecast says that a quarter of all CSPs have hired a chief digital officer to transform not only the IT systems, but the network and the business and cultural ethos. That's a big ask. I'd love to see that job spec. Why don't they just ask them to do some gene splicing at the same time?

I'm worried that CSPs are going to make the same mistake as the banks, and over-complicate things. That would be a real shame. Now, if you'll excuse me, I must rush, I've got a mountain of post from my bank that I have to read. 



A full-page background image of an astronaut in a white spacesuit floating in space. The astronaut is positioned in the center-left, floating towards the right. Below the astronaut, the Earth's surface is visible, covered in a dense layer of white clouds. The sky is a deep blue, transitioning to a lighter blue near the horizon. The background is filled with a vast field of stars, creating a sense of depth and infinity.

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