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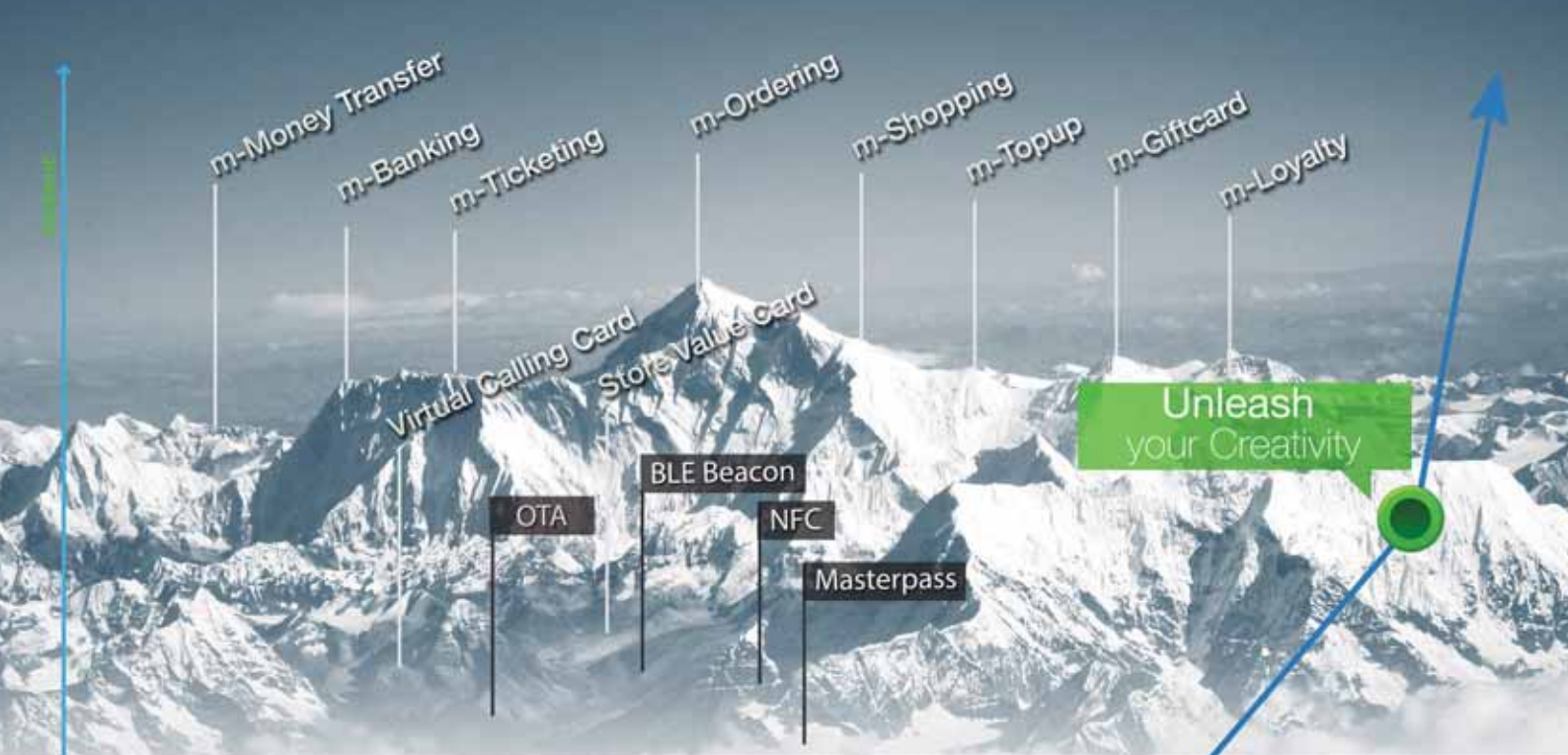
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BEYOND THE SDN/NFV HYPE

Special report on virtualisation, featuring business models, workforce worries and an in-depth reader survey



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Managed services and SDN/NFV take centre stage

This issue is a first for European Communications in that we have two special reports. First, we have our second annual look at the telco managed services space.

That it is a trend increasing in popularity is confirmed in our survey, which finds that over half of operator respondents signed more managed services deals in 2014 compared with last year.

In addition to the survey, we take a look at two key challenges to operators embarking on a managed services project. One regards how to choose the best vendor for your needs. It is an important topic given major players such as Alcatel-Lucent and Nokia have been scaling down their activity, so David Craik assesses at what operators should be looking out for as the pool of providers shrinks.

The other challenge regards how operators can best structure their in-house team to ensure managed services projects are successful. It was cited as a problem by survey respondents last year, so we have spoken to two key figures at Deutsche Telekom and Telekom Austria to draw out best practice in this area.

Second, we take a look at one of the most talked about topics in the industry – virtualisation. It is almost impossible to avoid SDN and NFV in discussions with executives, but we wanted to take a look beyond the hype.

Our survey shows that although operators are convinced of the benefits of SDN/NFV, the majority thinks the skill set of their workforce is not fit for purpose and job losses will ensue.

Eira Hayward delves further into this thorny issue and analyses the other major talking point around SDN/NFV – how are operators going to make money from these new technologies?

Managed services, SDN/NFV seminar day

Both managed services and SDN/NFV will be discussed at our seminar day on 3 December in London. If you have an interest in these two important topics, I urge you come along, listen to thought leaders and network with your peers in an informal setting. You can read more at www.eurocomms.com.

On our site, you will also be able to watch videos of our inaugural CMO of the Year awards evening. As trailed in our last issue, European Communications launched the first ever award for telco Chief Marketing Officers. Telenor Denmark's Lars Thomsen was crowned the winner and you can read an exclusive interview with him in this issue, alongside details of the three other CMOs who were shortlisted.

Finally, you will notice some slight changes to European Communications in print and our website. We have done away with the Back Office, Content & Services and Networks sections of the magazine, while eurocomms.com has been the subject of a not insignificant redesign. We hope you like both – as always any feedback is welcomed.

Enjoy the issue.

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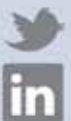
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NETWORK & SUBSCRIBER INTELLIGENCE

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Apple launches “good news” for operators in the short term, say analysts



Operators should look favourably on the latest product launches from Apple, at least in the short-term, industry analysts have said. The US manufacturer unveiled its first smart watch and an m-payments service alongside two new versions of its iPhone in September.

Ovum’s Paul Lambert said the announcements are “great news” for network operators. He explained: “Viewed together, the devices represent a step-change in how mobile consumers will be connected to the internet.

“Apple’s new devices offer operators a great opportunity to increase data usage and data revenues. Each of the new devices will lead to more cellular data use, which is also great news for operators – especially if they can price data services in ways that capture consumers’ imaginations.”

However, he warned that operators will need to continue to invest in their

networks to ensure they offer “robust internet access” that can cope with the increase in mobile data traffic the new devices will bring about.

On the m-payments front, many operators will be wondering if Apple’s entry will sound the death knell for their own offerings. But Analysys Mason’s John Abraham assuages any immediate fears.

He commented: “Apple Pay will not have any direct impact on CSP revenue at present. The greater impact will be the loss of potential customer relationship opportunities by letting Apple become the gatekeeper for all mobile commerce transactions. This will be limited at first as Apple Pay is limited to new iPhones, but the impact will expand in scope and coverage over the next few years.”

CCS Insight’s Geoff Blaber said the launch of Apple Pay using NFC “is of huge significance” but its success will depend on how quickly it can roll out beyond its initial US launch. He added:

“This will be a complex task due to the fragmented nature of markets in regions like Europe and is likely to take some considerable time and investment.”

But Analysys Mason’s Enrique Velasco-Castillo does not expect Apple to fail ultimately. He said: “Apple has an advantage in the race for mobile commerce and payments dominance thanks to a combination of security features in the iPhone 6 and the Apple Watch, detailed customer data, key partnerships with card networks and merchants, and sheer good timing.”

Ovum’s Eden Zoller added: “Apple will prove effective at marketing mobile payments to consumers, not as a technology but as something that will make paying for goods and services with your phone fast, easy and even fun.”

Analysts also expect Apple to lead in the smart watch space. CCS Insight’s Blaber commented: “Apple has succeeded where others have failed in creating a device that stands up to comparison to highly personal pieces of jewellery.

“Apple’s new devices offer operators a great opportunity to increase data usage and data revenues”

“More details are needed to ascertain the degree to which the device will be considered a “must have” when it launches in early 2015, but there can be little doubt Apple will quickly sell millions of devices. For Apple’s competitors this launch will force them to rethink many aspects of their product plans.”

Analysys Mason’s Velasco-Castillo added: “Apple’s new wearable will significantly slow down sales of competing devices in the final quarter of 2014.”

EE says lack of exclusive content “not an issue” as it launches home TV service

EE has claimed a lack of exclusive content will not hinder the TV service it launched in October. EE TV is a set-top box (STB) based service available to the UK operator’s mobile and broadband subscribers.

In contrast to rivals such as BT, which has spent billions on sports rights, EE has not invested in content. The new service features 70 live channels via Freeview and OTT services, including Daily Motion, YouTube, BBC iPlayer, Demand 5 and Wuaki, but lacks the likes of Netflix and 4OD.

EE said further partners are already confirmed to join the service, and will be announced in the coming months.

Pippa Dunn, EE’s Chief Marketing Officer, said: “We strongly believe that the UK has the best [free TV] content proposition in the world...other content is also provided by OTT players. So we don’t really see a role for exclusive content. We think that the customer experience that we are going to give and the functionality that [EE TV] has got is strong enough on its own.”

The functionality that EE has developed is numerous. Customers can view live and recorded content across up to four iOS or Android devices, as well as their home TV.

A replay service allows customers to watch the last 24 hours of TV from up to six channels, while a multirecord feature enables up to four separate programmes to be recorded simultaneously.

The STB, which was developed by Netgem, can store up to 25 days of content on its 1TB hard disk drive.

Meanwhile, an EE TV app enables viewers to use their tablet or mobile as a remote control. Using a “flick” feature, users can transfer content they are watching on their smartphone directly onto their home TV.

The operator also pointed to a “dynamic” programme guide or user interface that had been designed to mimic that of a smartphone. Dunn said digital navigation had been “stuck in the 1990s”.

EE TV is free for new and existing EE

“ We’re announcing the most advanced TV service the UK has ever seen ”

mobile customers who also subscribe to EE Broadband plans of £9.95 a month or above.

Olaf Swantee (pictured), CEO, EE, said: “We’re announcing the most advanced TV service the UK has ever seen. How, where and when people watch TV and movies is changing, and mobile technology is driving that change. We have unrivalled insight into people’s changing viewing habits. It’s helped us create a service that has mobile at its heart, and makes the TV experience more personal than ever before.”

But analysts warned EE needed to do more on the content front. CCS Insight

analyst Paolo Pescatore said: “EE will be the first of the four major mobile network operators to launch a quad-play service and it represents a statement of intent by the company to offer content in order to sell more broadband connections.

“However, given the exclusion of Netflix, EE must strongly consider forging agreements with other key rights owners including BSkyB for Now TV. The company must also strengthen the range of on-demand services as this is becoming increasingly important to consumers as underlined by Netflix’s growth.”

Analysys Mason’s Cesar Bachelet added: “EE TV proposition appears to be relatively weak on premium content. It is not going to cause significant churn from established pay-TV operators. However, this service appears to be designed as a retention strategy for existing fixed broadband customers that watch free-to-air TV, and to encourage EE mobile to consolidate their mobile and fixed services from EE.”



Global telco stocks rise amid M&A chatter, improving financials

Major regions all continue to build on Q2 rebound between July and September

Asia-Pac again outperforms US

The US telecoms sector saw share prices increase by 1.3 percent in Q3, with Sprint and T-Mobile the biggest losers. Sprint's share price dropped by 25.8 percent during the quarter, after the operator finally admitted defeat in its battle with regulators to take over its rival. The news also affected T-Mobile, which saw its share price drop by 14 percent.

Sprint's new CEO Marcelo Clore walked into the job in August, with T-Mobile's outspoken CEO John Legere promising to overtake the company in terms of total customers by the end of this year. Clore hit back, claiming his operator was the true disruptor in the American market.

The American M&A chatter continued with Verizon dismissing suggestions that it would be a bidder in American Movil's sale of assets, while AT&T could be hamstrung by Mexican regulatory rules. Both companies had comparatively tranquil third quarters. Verizon's share price inched up 2.3 percent, while AT&T closed

broadly flat at \$35.24.

Meanwhile, growth in Asian stocks was up over 15 percent in euro terms and over six percent in dollar terms. China Telecom outperformed market leader China Mobile, with the former's share price growing by a quarter.

At China Mobile, net profit fell for the fifth quarter in a row, with the operator dealing with a market slowdown, costs of its LTE rollout and high competition across the country.

In Japan, Softbank Mobile's shares peaked at \$85.15 as it was named as one of the potential suitors for American Movil's assets. However, it was a difficult quarter for the Sprint owner, with its shares down 6.9 percent.

In LTE heartland Korea, operators spent the quarter preparing for new changes to the market. From 1 October, maximum subsidies were capped and operators have to be more candid about pricing decisions.

Belgacom continues to rebuild its reputation

Belgacom was the best-performing stock in the third quarter as its share price rose by an impressive 13.5 percent.

The operator reported falling, though improving, quarterly revenues in August, but said EBITDA rose 14.3 percent and revised up its expectations for the full year.

In addition, Belgacom now has over 1.5 million TV customers and has started to offer Netflix in its home market.

CEO Dominique Leroy, who doesn't mark her first year in charge until January next year, said the operator had managed strong commercial momentum in spite of an intense competitive environment.

In truth, the operator's stock has been on an upward curve since the beginning of the year. So far, it is up 42 percent since January.

It is a remarkable turnaround given this time last year Belgacom was in turmoil. The Belgian government, Belgacom's majority shareholder, sacked CEO Didier Bellens last November after he said the Belgian State was the company's "worst shareholder".

Not content with that broadside, Bellens described the country's Prime Minister as "like a child looking for Father Christmas".

Leroy has attempted to instill a sense of calm. As part of this, a new corporate brand strategy – based around its Proximus mobile business – has been unveiled.

The majority of its services are now presented as Proximus with the reasoning that a single main commercial brand would simplify communication with customers.

Leroy commented: "This change is a fundamental part of our growth strategy in which, more than ever, we are putting our customers at the centre of everything we do."

By way of example, Belgacom said it is launching a new customer service app "My Proximus" as well as new services and products such as the "Same Day Repair" offer for business customers.

Leroy added: "The launch of the new Proximus is not the end point, but rather the beginning of a real transformation. And it is our customers who will reap the fruits of this all along."

▲ 1.3%

The US

The US telecoms sector rose 1.3 percent in Q3 according to data from the Dow Jones US Index

▲ 15.3%

Asia-Pac

The Asia-Pac telecoms sector rose 15.3 percent in Q3 according to data from the FTSE Group Index

EU Telco stocks

July-September 2014



Flat quarter across Europe sees share prices rise at just three operators

European telco stocks just about maintained the momentum built up in the second quarter with a 0.1 percent rise between July and September.

Belgacom was the star performer as its share price rose 13.5 percent during the quarter (see box out). Swisscom (up 2.7 percent) and Vodafone (up 2.9 percent) were the only other operators in our index to register an improved performance.

In July, the Swiss operator became the first in the country to launch a new m-payments service called Tapit, which crucially saw cooperation from financial groups. The same month, it announced that it had connected over one million homes and businesses with fibre.

But what really heartened investors was the August announcement that

revenues and EBITDA were on the increase thanks to a significant increase in TV subscribers.

Vodafone rebounded from a dreadful second quarter with news that it acquired Greek broadband and fixed-line telephony provider Hellas Online.

Amid rumours it could be in with a shout of acquiring Telecom Italia's Brazilian mobile outfit, the UK-based operator announced it had breached the one million subscriber barrier for its new 4G network in its home market.

Its retail portfolio got a shot in the arm in September when it announced it was buying 140 shops and rehiring 900 employees from collapsed UK retail chain Phones 4U.


Elsewhere, however, there were several poor performances from operators

on the stock markets. New entrant Altice was the worst performer as it upped its stake in France-based cableco Numerical. Investors appeared spooked by its investments in France's highly competitive telecoms market.

The company acquired SFR at the end of June as well as the Virgin Mobile brand in France.

Deutsche Telekom and KPN both saw their share prices fall over nine percent during the quarter. DT dismissed Iliad's €11 billion bid for its T-Mobile US subsidiary in August and accused the European Commission of creating a "massive imbalance" in the German market, after competition authorities finally gave Telefónica permission to acquire E-Plus.

KPN, which sold E-Plus to Telefónica, reported more disappointing financial results during the quarter meaning a promise to reinstate a dividend later this year fell on deaf ears.

BT, Orange, Telecom Italia, Telefónica, Telenor and TeliaSonera all saw their share prices fall. 

▲ 0.1%

Europe

The European telecoms sector rose 0.1 percent in Q3 according to data from the FTSE Group*

* Our index is made up of the following EU telcos: Altice, Belgacom, BT Group, Deutsche Telekom, Orange, Swisscom, Tele2, Telecom Italia, Telefonica, Telenor, Teliasonera and Vodafone Group.

Europe still far from agreement on telecoms reform

Over a year after its birth, disagreements over the Connected Continent legislative package are rife, reports Carmen Paun

The 28 European Union (EU) countries are still far from being able to agree on the proposed Connected Continent package of telecoms regulations, with intensive technical talks still taking place in the EU Council of Ministers.

The Council is one of two EU legislators who must approve the reform, first proposed by the European Commission in September 2013, for it to take effect.

The other co-legislator, the European Parliament, has backed the proposal with amendments, but national governments remain bogged down in technical discussions about many of the aspects proposed in these complex reforms, including roaming, net neutrality and spectrum allocation.

The Parliament has voted to end roaming charges by 15 December next year, but national telecoms experts have yet to agree a preferred deadline because of worries amongst some member states about the potential loss of tax revenues and telco profits.

According to a restricted document, discussed during a Council working party on telecommunications in September, and obtained by European Communications, “a significant number of member states indicate their openness, under certain conditions, to the introduction of additional roaming reforms in this legislation, including a ‘roam like at home’ solution at retail level”.

But it added that a “safeguard mechanism” that allowed higher roaming tariffs should be considered allowing “fair use” of such charges to address the worries of some member states. “Such a safeguard

could take form of a glidepath of retail tariffs covered by the standard minimum fair use limits,” it says.

The current Italian presidency of the council is leading the talks and has since proposed that such roaming caps be calculated annually, taking account of daily amounts of voice calls, SMS and data, based on figures collected by the Body of European Regulators of Electronic Communications (BEREC).

A Brussels-based telecoms industry source says these efforts are aimed at soothing the worries of EU southern countries that they could lose significant revenues by removing roaming fees, notably from northern European tourists holidaying in the south. Northern EU member states favour a complete phase-out of roaming charges to benefit their citizens, says the same source.

Moreover, the source added that the calculation method proposed by the Italian presidency has never been mentioned previously but that member state representatives have asked for more time. Another meeting between the council experts took place on 10 October, but documents about the conclusions have not yet emerged.

“Challenger operators support the abolition of excessive roaming charges and the gradual path towards a ‘roam-like-at-

home’ environment in order to create a positive roaming experience for travelling end-users,” says Erzsébet Fitori, Director of the European Competitive Telecommunications Association (ECTA).

“In this context we advocate clarity on the rules both at the retail and wholesale level with a progressive and reasonable timeframe for operators to do the legwork of making ‘roam-like-at-home’ happen.”

Net neutrality

Net neutrality is another sticking point in the discussions. “Most member states support EU rules set at a level of principles, leaving more scope for BEREC guidelines and national enforcement,” says the document obtained by European Communications.

The Italian presidency has proposed that the Council accepts the core definition of net neutrality adopted by the Parliament, which defines it as “the principle according to which all internet traffic is treated equally, without discrimination, restriction or interference, independently of its sender, recipient, type, content, device, service or application”.

However, it has yet to suggest how Council might respond to more detailed additions to this definition proposed by MEPs. These include that ISPs should not manage traffic in a way that would block



or slow down competing services such as OTT voice services or IPTV.

ISPs would still be able to offer specialised services of higher quality, such as video on demand and business-critical data-intensive cloud applications, so long as these services are not supplied to “the detriment of the availability or quality of internet access services” offered to other companies or service suppliers.

Industry representatives feel that this provision is too intrusive. In a statement after the Parliament’s April vote, the chairman of the European Telecommunications Network Operators said that this was introducing “far-reaching restrictions on traffic management, which would make an efficient management of the network almost impossible, resulting in a lower quality internet for all”.

In September talks, the Italian presidency proposed incentivising telecom operators when it comes to specialised services: while they would be required to ensure that the overall quality of the internet quality is not affected by providing specialised services, the more capacity they would make available for the open internet, the more they can use for the provision of this type of services.

“This approach is intended to foster the operators’ incentive to invest in capacity increases for both the open internet and specialised services,” reads the obtained Council document.

However, it is not yet clear what member states will decide, since discussions signal deep divisions. Industry sources following the talks say that the UK would like to see the whole article referring to net neutrality dropped, while the Netherlands is keen on its retention, as there is a Dutch law regulating the issue already in place.

Push back on a single regulatory body, spectrum

There is one area where member states do agree: they do not want single European authorisations for telecoms services and a specific regulatory regime for European operators, as proposed by the Commission.

The Italian presidency suggested that the whole chapter from the EU execu-

tive’s proposal dealing with the issue be deleted. The European Parliament also opposed the Commission’s plan and proposed that a simple form be filled in by operators wanting to receive one authorisation that could work in more EU countries.

Member states are also pushing back against the Commission proposal to include criteria that EU governments should follow when managing spectrum. According to the Council document, the Italian presidency suggested deleting these criteria from the legislation, leaving Brussels with the power simply to issue recommendations on spectrum management.

“While most member states share the objective to reinforce coordination and harmonised use, they also consider that this shall not alter the existing allocation of competences between member states and the Union,” reads the document, highlighting member state unease at the Commission’s attempt to wrest spectrum management powers from them.

EU member states have also rejected the proposal by the Commission to include rules harmonising end-users’ rights across the EU when it comes to telecommunication services.

National governments would rather have a minimum standard for end-users rights that would be included in later amendments to the EU Universal Service Directive, an older separate piece of law (from 2002), and not amended thus far by the package.

This alternative solution would mainly refer to information requirements in contracts, in particular on internet speed and quality parameters, as well as “transparency measures, bill-shock protection, contract duration and termination, and switching provisions, which are fundamental aspects of enhanced end-users’ rights and are also essential to full implementation of the open internet,” the Council document reads.

Junker time

Member state representatives were due to meet again on 30 October as Europe-

an Communications went to press. A new college of 28 commissioners led by new President Jean-Claude Juncker, plans to take what Juncker has called in his political guidelines “ambitious legislative steps towards a connected digital single market”, which includes adding more ambition to the ongoing telecom reform.

It is not clear yet what this ambition would mean for Juncker and his team, since the initial text proposed by the Barroso-led Commission in September 2013 has been significantly altered by the Parliament.

The draft text being discussed in the Council shows that these changes are due to continue. “There is little left from the initial Commission proposal,” an industry source said. Brussels could propose additional amendments after the parliament and council have their say, but there is no guarantee these would be approved.

Günther Oettinger, EU Energy Commissioner between 2009 and 2014, will be in charge of the digital economy and society in the upcoming Commission. In his new position, he will have to “break down national silos in telecoms regulation, in copyright and dataprotection legislation, in the management of radio waves and in the application of competition law,” so Juncker wrote in a ‘mission letter’ to Oettinger setting out his tasks.

The elimination of roaming charges for voice and data services is clearly one of the priorities, according to the letter, which reads: “You should also ensure that users are at the centre of your action. They should be able to use their mobile phones across Europe without having to pay roaming charges. They should be offered access to services, music, movies and sports events on their electronic devices wherever they are in Europe and regardless of borders.”

He will have to work under the supervision of a VP in charge of the Digital Single Market. Former Estonia Prime Minister Andrus Ansip has been assigned to that position. His objective, according to Juncker: to make Europe a world leader in information and communication technology. 

Telenor Banka: A bold step for mobile banking, taken with extreme caution

Telenor's purchase of a bank to launch mobile banking services in Serbia is unique. Do market conditions and new tech developments justify its gamble? Or do T-Mobile and Orange in Poland offer better models for mobile banking? James Blackmen reports



Telenor Banka launched mid-September in Serbia, 10 months after the operator acquired KBC Banka, taking ownership of its banking infrastructure and licence. Under the terms of the agreement, rival bank Soci t  G n rale took KBC's base of 81,000 consumer and business customers.

This three-way arrangement simplified and, to an extent, limited the bank 'clearing' process for Telenor Serbia. Customers were taken off its books, and it was freed to develop its service and front-end interface, integrating this with its core banking system. That process has taken 10 months.

It is offering a multi-currency current account with a contactless debit card to all citizens, whether or not they are

Telenor Serbia customers. Through an agreement with MasterCard, customers can make payments at merchant terminals, and withdraw and deposit cash across Serbia's ATM network, which includes Telenor-branded cashpoints.

But it is its mobile banking application that has drawn most early attention. "There is nothing else like it," suggests Telenor Serbia Chief CEO Ove Fredheim.

Among its distinguishing marks, the app allows users to instigate payments by phone number or email address – users can select a recipient from their address book and the app will issue them with an SMS containing a link to enter their account details and complete the transaction. "People remember phone numbers; they don't remember bank numbers," explains Fredheim. It appears

to be a smart, well-designed tool.

However, the time it took Telenor Serbia to get its new house in order has seen other operators in the region ready similar propositions – comparable services in comparable markets with markedly different business models. They serve to both distinguish the Telenor service and raise questions about its broader strategy.

Most notably, T-Mobile and Orange have launched banking services in Poland in partnership with third-party financial institutions, as opposed to ownership of them. Such a partnership model is more common.

Telenor Serbia's arrangement is, in Europe at least, unique. Telenor suggests the ownership model is cleaner, affording it better control of the customer experience and commercial propositions.

"When you think about it, there are very few arguments against it. The opportunity came up, the investment was attractive, and it means we have complete control of the customer journey and value proposition. The freedom to be agile and active is key – to be able to set the terms and bundle our propositions," says Fredheim.

When you think about it, there are drawbacks too, and plenty of naysayers to articulate them. Ovum analyst Eden Zoller makes clear the trade-off: "It's unusual; Telenor Serbia obviously has the revenue benefits that you have as a bank provider with a licence, but it also carries all of the financial risk and vulnerabilities."

She adds: "For Telenor, it's a very bold step. But I think most operators will be cautious about making that level of investment; I doubt they'll want to take such risk."

Orange, which debuted its Orange Finance service in conjunction with mBank in Poland during October, has taken a different path.

The France-based operator's VP of Mobile Payments and Contactless, Thierry Millet, explains: "mBank provides banking products and know-how in the finance business. Orange brings its expertise in terms of mobile services and sales, alongside our strong brand, customer base and a wide distribution network. This combination builds a competitive advantage for both partners."

Gartner Research Vice President Gyane Dewnarain agrees there is a clear case to be made for the partnership model. She says: "Joint marketing can grow awareness of the service faster and the combined footprint means a broader distribution network. Linking banking with mobile airtime services can also result in more interesting business models."

Different markets, different approaches

Either way, by partnership or acquisition, the logic behind these operators' entry into banking in markets like Poland and Serbia appears clear. Both markets feature cluttered banking sectors, struggling for growth and in need of consolidation.

There are 29 banks in Serbia, serving a population of seven million; there are 69 in Poland, serving 38.5 million. Polish lenders expect net profits to rise just 1.1 per cent this year; the National Bank of Serbia says banking profitability is already declining year-on-year, even before the sector has got properly started.

But the similarities end there. The Polish slow-down reflects its extreme competitiveness; the Serbian reverse speaks more of a lack of ideas and consumer appetite.

Indeed, Poland boasts as many active bank accounts as people. Opening a bank account could hardly be simpler as a result of Poland's so-called 'penny transfer' – a one pence transfer from an existing bank account is enough to identify a customer, and approve them for a new account. Orange Finance even offers the service from a mobile phone.

Poland's technology infrastructure is advanced, also. Smartphone penetration jumped 15 percent in 2013 to 35 percent. Three million Poles have access to mobile banking via a smartphone or tablet.

Says Orange's Millet: "The Polish market is more advanced in terms of contactless payments than any other country in Europe."

The Serbian banking sector is a laggard compared with the Polish set-up. Some 80 percent of transactions are still performed in cash. Just 13.5 percent of its population runs their finances online, according to the National Statistical Office. And yet, technologically, appetite is good. Half of its population uses Facebook, and smartphone penetration is spiraling upwards.

Each operator's go-to-market strategy is dictated by their market conditions. T-Mobile Poland, in alliance with Alior Bank, has hit the ground running since launching in June.

Bayern Munich striker Robert Lewandowski, the poster boy of Polish football, has fronted its above-the-line campaign. Its promotional offers have been strong: cashback on credit card transactions, no charges on overdrafts, no charges on money transfers, no fees for account set-up, bonuses for loan repayments.

It has received over 100,000 applications for current accounts since launch, making it one of the market leaders in terms of current account acquisition. Its success comes down to a well-oiled sales and marketing machine.

Its aggression in the market has been noted. Gartner's Dewnarain observes: "T-Mobile's tactics have been crazily disruptive. It's the correct approach – banking provides low margins so you need scale very quickly. It may have challenges with its margins in the short term, but its strategy is to build scale and it has gone for it."

T-Mobile Poland takes issue with this portrayal of its rampaging tear-up through the Polish banking sector. "We are far from being aggressive or impudent with any aspect of our activity. But banking is about credibility and trust,

The power shift away from operators?

There are big forces at play that could well render all the approaches by operators redundant. The developments in mobile payments hint at a power shift away from operators towards the banking sector.


The rise of host-card emulation (HCE) since the turn of the year has seen the secure element, required to encrypt contactless payments using a mobile phone, transfer from a tamper-resistant chip on a SIM card to an OS-level application in the cloud.

and ATL communications can help. Apart from driving sales, it increases the credibility of a network operator as a financial services provider," says T-Mobile Poland Director of Financial Services Partnerships Jacek Komaracki.

Regardless, it is utilising its considerable marketing muscle and getting noticed. And it's not the only one. The launch of Orange Finance in Poland has been attended by a nationwide advertising campaign, including TV spots and outdoor, internet and social media activity.

In contrast, Telenor Serbia has sought to link its propositions by offering new bank customers five percent annual interest on current accounts, and existing mobile customers 50 percent off their mobile contracts for two months, extending to six if they bank their wages with it.

Gartner's Dewnarain notes that Telenor Serbia is not doing "the crazy [marketing] stuff" that its rivals in Poland are doing. But she warns that it needs to get to the point where it starts gaining customers quickly.

So how does Telenor consider its own approach; is it measured, or conservative? Fredheim says: "There's no reason to do that [disruptive marketing]. The service speaks for itself. We want to show the power of bringing banking services to this new smartphone interface, rather than just relying on aggressive pricing to bring customers in. There is work to educate the market about the benefits of consumer banking. I would suggest our approach is well balanced; we're in it for the long run." 

Astellia showing fresh ingenuity for mobile industry

The cut-throat environment of mobile networks, where operators do battle for subscribers and expectations of service are high, has led to a similarly competitive market to provide the network and subscriber intelligence that operators need to keep their networks working efficiently and their customers loyal.

Leading the network and subscriber intelligence field is French firm Astellia. 2014 has been a year of evolution for the company, a period which has seen it acquire complementary technologies, reinforce its footprint and round out its offering such that it now, according to CEO Christian Queffélec, presents an end to end network and customer experience management solution for both radio and core networks which its competitors struggle to match.

“Our solution and our expertise came out top, especially for its accuracy”

Leveraging Ingenia Telecom's expertise

The acquisition of Spanish firm Ingenia Telecom in February is a large part of the reason why Queffélec is so excited about the future prospects for Astellia. Ingenia, which is already completely integrated into the French company, specialises in network analysis and radio optimisation solutions for mobile operators. Queffélec explains: “Ingenia specialises in call traces: it gathers information from network elements on the different calls or data sessions generated by any subscriber. There's no need to use any monitoring, probe-based solution, so it comes as a complement to our solution. It's a very cost effective way to cover the radio access network.” One of Ingenia's most powerful features is geo-location, he

adds, and its capabilities were recently endorsed by a series of vendor benchmark tests at a Tier One operator - “our solution and our expertise came out top, especially for its accuracy”, Queffélec says.

Radio network optimisation is not a new area for Astellia, Queffélec says, but Ingenia's expertise is such that the company is able not only to analyse radio conditions as close as possible to subscribers but it can also recommend and reconfigure network equipment parameters. The fact we now have Ingenia on board makes our position much stronger – we can cover from radio to core network, which is directly beneficial for our customers.”

Aside from its radio and geo-location pedigree, Ingenia also strengthens Astellia's capabilities through its expertise in Self Organising Networks. This is of course an area which every operator is currently looking at, so Ingenia's vendor independent SON capabilities is a valuable asset for Astellia to be able to offer its customers. The other asset that Ingenia brings to the party is its strong links and relationships with mobile operators in Latin America. It gives Astellia the opportunity not only to reinforce its current footprint, but also opens the door to new markets. Says Queffélec: “Spanish culture is very close to Latin American culture so Ingenia has had great success on the continent, and we're already seeing a lot of interest from Europe, North America and the Middle East.

The acquisition of Ingenia also completes Astellia's Nova solution. Nova is the company's real-time monitoring and troubleshooting solution for multi-technology mobile networks so the integration of Ingenia Telecom's technology enables the company to deliver on its end to end network vision. It can offer customers what Queffélec asserts is “unique expertise in RAN optimisation, the radio network is where 70 to 80% of quality degradation

issues originate and resource is limited: we can cover the whole network with a unified solution, across radio and core”. Customers benefit from Astellia's analysis capability and process both the control plane and the user plane, something which Queffélec says is crucial for an understanding of the subscriber experience, so that the operator can find out what services are being used, and how often. These capabilities have been recognised by the industry and Nova has recently been shortlisted for the LTE North America awards for Best LTE Core Network Product and for the Telecoms awards' best CEM products.

Crunching the customer data

Astellia has developed SatiX, a customer experience index which correlates radio network metrics and end-user perception information. Customer experience metrics such as blocked calls, dropped calls, coverage issues, voice and data quality are correlated with technical radio measurements such as RSCP, Ec/NO, throughput, SQI, BLER. The result is an advanced customer satisfaction index that not only provides objective customer perception indicators but also precise radio parameters to adjust network conditions and enhance customer experience.

Queffélec adds: “Not only are we able to measure customer experience for any subscriber using any mobile from any location, the information also gives us what we need to leverage and optimise the network, so these can be very powerful tools for technical as well as non-technical teams at operators. The information is provided in real time and means that operators have the capability to reconfigure the network and solve problems in record time. Our position of being vendor independent for our monitoring solution is very important for mobile operators. It means that they are not dependent on their network vendors –we give them a



Christian Queffélec, co-founder and CEO, Astellia



fully reliable view of network performance and customer experience. “

Increasing Customer Care and Marketing efficiency

Astellia has helped over 200 mobile network operators since it was formed in 2000, and it has most recently put Nova into service to develop a customer insight lab for Zain Bahrain, part of the leading Middle East telecoms player, Zain Group. In the highly competitive Bahraini market, where mobile penetration is 180%, Nova Care has reduced average handling time (AHT) by 20 to 30% and increased first call resolution (FCR) by 10 to 20% for Zain Bahrain. The company says that agents can now really increase customer satisfaction, reduce churn and turn complaining customers into brand advocates. In addition, escalation of issues to network operations team has, on average, been reduced by 20% since customer care teams now have a better knowledge of network related issues.

This has meant that Zain Bahrain has seen a drop in its customer service operating expenditure. It's also helping the company to address its marketing needs, says Queffélec, as it can get a better understanding of its subscriber usage. “In another initiative with Zain Group we are helping them refine their segmentation based on usage criteria, while respecting subscriber privacy set by data & privacy protection agencies. We're looking at what applications the subscribers are using, when they're using them, how regularly, where they're using them and so on, in order to create customer segments for Zain to adapt and tailor its data plans.”

Nova is helping operators get the most out of their network and customer data, says Queffélec, with Zain's marketing team already using it to gain a deep understanding of customer usage, and launch tailored offers to specific customer segments and detect potential churners.

Monetizing network data

Queffélec points out that operators also have the opportunity to monetise the KPIs that Nova delivers, and Astellia has for example worked with the Orange Business Services on Flux Vision, its big data offer for businesses and public authorities which uses anonymised mobile network data gathered by Astellia's network probes to analyse traffic and population movements by geographical area and which businesses can use to adjust their sales and marketing plans.

It can also be used to measure service levels in the enterprise market, says Queffélec, mobile operators can address those key enterprise customers who demand very reliable connections and assess service levels. “The operator can measure the customer experience, identify usage and share this with the technical teams so that they are able to optimise the network in key areas that are used by corporate customers. It also means the operator can be proactive in its reporting to key customers, sending customer experience reports on a monthly basis that show that the service level thresholds in their agreements have been respected. And the operator can also provide detailed information about usage to enterprise customers so that these customers can better understand their users'

behaviour and needs.”

Queffélec says that Astellia has been working with a Spanish Tier 1 operator to optimise radio conditions alongside high speed train lines. He explains: “Delivering a mobile service to customers on a train is always very challenging – the high speed train obviously travels very fast, and it's very difficult to differentiate between the people on the train and the people around the railway track. We've developed some technology which allows us to identify the subscribers on board the train and so address the problems they might face.”

This underlines the importance to mobile operators of Astellia's ability to generate geo-located KPIs and their impact on the customer experience, says Queffélec. While geo-location is an important tool to help network engineers interpret subscriber data to optimise the network, it can also be used for marketing, delivering vital information on where subscribers are using their mobiles and what they are using them for. Astellia is also using the technology for special occasions like large sporting events which make for challenging radio frequency planning so that operators can be sure that they can cope with the inevitable surges and spikes in network traffic that occur.

“By relying on Astellia's globally proven solution and unparalleled consulting services, mobile operators are capable of turning data into market differentiation, new revenue streams or efficiency gains that impact their revenues positively. There are huge opportunities ahead for us,” says Queffélec.

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Hailing the rise of the operator CMO

Amdocs Chief Marketing Officer Chris Williams discusses why, amid myriad changes in the telecoms industry and beyond, the role of the CMO is one of the most dynamic and important

Select any industry and the trend is the same – Chief Marketing Officers are becoming more important to the businesses they work for and the strategic decisions they take.

So says Chris Williams, himself Global CMO of Amdocs, a man with over 30 years of experience in the marketing world. But nowhere is this transformation more apparent than in network operators.

The principal reason? Customers are changing how they consume and are becoming more demanding about how they want to be served as they turn to more mobile, more social solutions.

Of course, telcos are well aware of this phenomenon given their place in the digital ecosystem. They have seen customers migrate to OTT services delivered on their networks, engage with them via social media and benefit from falling regulatory barriers that enable them to consume more for less on foreign soil.

Explains Williams: “Customers’ buying patterns are changing and they are becoming more empowered. In some cases they are no longer brand loyal. They no longer compare the experience they get from you only with your direct competitors, but with the leading experiences they are used to from companies like Amazon, Apple, Uber etc.”

As operators evolve from engineering powerhouses that were all about laying out networks to become customer-facing organisations, the CMO is front and centre of this transformation.

Says Williams: “CMOs are the people who represent the voice of the customer today.”

Crucially, it’s not just retail customers but their enterprise equivalents as well. According to Williams, the differences between the two are starting to shrink as the consumerisation of enterprise IT and

telecoms services – think BYOD, cloud storage or the growth of enterprise apps – becomes commonplace.

“There remain big differences around requirements, but business people are consumers too,” says Williams.

But whether serving the retail or enterprise customer, to cement their place at the top decision-making table CMOs must upgrade their skillsets.

“CMOs must be cognisant of what’s taking place. To equip yourself for today’s marketplace you have to understand the nature of new buying patterns and, in particular, the millennials,” says Williams.

To do this, CMOs need to be part social anthropologist, part political scientist and part technologist, Williams believes.

“Customers’ buying patterns are changing and they are becoming more empowered”

“There is a huge amount of technology enabling customers, so we owe it to ourselves to understand tools such as data analytics in order to target them better. We must be more timely, more relevant and more digital in nature. CMOs control a bigger portion of IT projects and therefore, are becoming an even more critical influencer in IT decisions.

“It’s all part of rethinking the customer experience. CMOs need to make it more engaging. The more services a consumer buys, the less likely they are to churn. At the end of the day it’s a fight for wallet share.”

At a more mundane level, CMOs also need to take on general management concepts and skills, with a broader view



than just marketing. Williams recommends bringing in people, especially millennials, to provide some reverse mentoring. Close monitoring and analysis of data is also a must.

But it’s not just people that are changing either. The evolving internet of things space means CMOs have to understand trends such as traffic patterns in order to capture and monitor and monetise what Williams calls “the connected intelligence”.

He says: “We have an incredible richness of data at our disposal but remain unsure about how to use it all.”

Time is of the essence, Williams adds: “There is a confluence of things coming together that is putting more pressure on us to deliver. There should be a sense of urgency and as a CMO this is something you need to embrace – it’s not business as usual.”

But he concludes: “This is the most exciting time to be in marketing. The disruption that is happening out there offers a fantastic opportunity for CMOs and the operators they work for.”

MTS, Play, Telenor Denmark and Vodafone M2M make the shortlist

European Communications assembled an independent judging panel to finalise a shortlist and decide on the winner.

Criteria

The judging panel decided on a number of key criteria by which it could benchmark the nominees for the award. More traditional marketing KPIs, such as developing successful, innovative product pipelines, improving brand value and developing creative campaigns, were measured against some more forward-looking metrics.

For example, the candidates were marked against their ability to engage proactively with other departments, particularly sales, as well as their ability to improve customer experience metrics such as NPS. Success in growing market share and ARPU, alongside churn reduction and being a leading voice within the industry were other factors that the judges considered.



Shortlist



Bartosz Dobrzynski
CMO at P4 (Play)

Bartosz has been CMO of Play since 2009. Play claims to be the most successful fourth operator in Europe, reaching close to 20 percent subscriber market share and nearly €1 billion revenues. Bartosz and his team have launched several breakthrough offers, including the first 4G LTE and first shared data family plans in Poland. Despite the lowest budget, Play's awareness is much higher than of its competitors and it has the highest net promoter score of the country's four major mobile operators.



Michelle Hoyle,
Head of Global M2M
Marketing at Vodafone

Michelle has led Vodafone's M2M marketing efforts since 2011 after arriving from CenturyLink. She has helped the UK-based operator to top Machina Research's "World's leading M2M service provider" report in terms of number of SIMs. The research firm said Vodafone was the fastest growing of all the operators in this space. M2M revenues were up 31 percent in Q2 this year, after signing deals with blue-chip companies such as Audi & lift company Kone.

Judging panel

Peter Abraham,
EVP of Econsultancy

Peter has been at Econsultancy, which advises business on digital transformation, online marketing and e-commerce, for over 10 years. He is particularly responsible for Consultancy and Skills.

Sarah Bentley,
Managing Director of Accenture Digital

Formally a VP at BT Global Services, Sarah now heads up Accenture Digital. She says her passion is transforming the way brands interact with people.

Andrew Davidson,
Head of Marketing at Fujitsu

Andrew drives the marketing strategy for Fujitsu's Network Solutions portfolio. He has previously worked for Cisco and NextiraOne.

Marc Smith,
European Communications Editor

Marc has been Editor of European Communications since 2011 and also oversees sister title Mobile Europe.

Caroline Taylor,
VP Marketing and CMO at IBM Europe

Caroline leads the teams responsible for all aspects of marketing, communications and citizenship for IBM throughout Europe. She has been with the IT company since 1997.

Andy Tiller,
VP Corporate Product Marketing at AsialInfo

Andy joined telecoms software and IT vendor AsialInfo in 2012 to create a global Product Marketing function based out of the new European HQ office in Cambridge, UK.



Vasyl Latsanych,
CMO at MTS

Vasyl has been leading Russia-based MTS' marketing efforts since 2011. The country's leading mobile operator is growing customer numbers (up 1.3 percent to 110.1 million in Q2), mobile service revenues (up 6.3 percent to RUB 70.9 billion/ €1.2 billion) and ARPU (up 0.7 percent to RUB 308/€5.34). Vasyl, whose views are a regular feature on MTS financial reports, has introduced innovative plans such as "Modem for 1 ruble" and "Tablet for 5 rubles a day" tariffs and campaigns.



Lars Thomsen,
CMO at Telenor Denmark

Lars has made a big impression since joining Telenor from KMD 18 months ago. Along with his team, he has drastically simplified the operator's product pipeline from 1,200 plans to 500. He has worked with IT and Operations departments to deliver the changes, all while improving customer experience metrics and saving €3.7m savings so far. Telenor is the only Danish operator to launch family plans, and has been very successful at growing the enterprise customer based – net additions have been recorded every month for the past two years.

Marathon man wins CMO of the Year award, urges telcos to focus on digital players not each other

Telenor Denmark CMO Lars Thomsen gave his reaction to winning the award and shared a few of his secrets with Marc Smith

Telenor Denmark's Lars Thomsen has been crowned the inaugural European Communications CMO of the Year. The CMO, who has only been in post for 18 months, was praised by the judges for a number of key successes, such as drastically simplifying his operator's product catalogue and saving the company several million euros in the process.

They also highlighted how Thomsen successfully engaged other departments to enact the simplification plan and became the first operator in Denmark to launch family tariffs, all while defending market share and ARPU.

In short, the judges felt Thomsen, who previously worked for Dell and Fujitsu, embodied the evolving role of a telco CMO in that he brought in ideas from outside the industry and has a laser-like focus on meeting the needs of customers.

The award capped a two-month process that began back in August when readers of European Communications were asked to nominate who they thought deserved the title. An independent judging panel then whittled down the nominees to a four person shortlist, with Thomsen unanimously coming out on top.

So what is the man himself most proud of in the past 12 months? "We rebuilt our SME portfolio and overall digital position in Denmark. We included roaming services and built in non-telco services such as [Microsoft Office] 365," Thomsen replies.

The net result is that he is changing how end users view a traditional network operator. Thomsen says: "Customers look at us and see we are adding more

value. Now, we are competing with IT companies and competitors are coming after us."

Thomsen is keen to highlight the fact that his award is very much the result of a team effort. The Telenor Denmark marketing team is split into three broad

““ We want to be loved by customers, which is a completely different dimension ””

areas: one team focuses on the creative side, while there are separate teams that focus on what consumers in the retail and enterprise markets actually want. An overarching team brings the other two teams together to ensure the final solution works with the overall Telenor brand. In total, Thomsen says his team numbers around 40 people.

One of the main topics of discussion between the judges was the evolving role of the CMO. Thomsen is in full agreement, saying he regards himself as a customer advocate. So what does this mean in practice?

"You could also call it the Chief Customer Ambassador. I need to be able to translate their needs, worries and ambitions, into interesting propositions," Thomsen explains.

"The traditional telco approach seems to be to tweak price plans and then market them aggressively. I don't understand this as it's not really based

on what customers need and it's not aligned with what [Telenor] is trying to be as a company. We want to be loved by customers, which is a completely different dimension."

Crucially, Thomsen says he views everyone the same: "We don't distinguish between new and existing customers. When we launch something it's for both."

When a new industry trend emerges, Thomsen makes it his business to know if it adds value to customers and whether they understand what it does

Watch videos of the award

You can watch a Q&A with Lars Thomsen from the awards dinner at www.youtube.com/eurocomms

There are further interviews with the judges, as well some of the shortlisted CMOs and other guests, about the evolving role of the telco CMO.

- Watch Michelle Hoyle, CMO of Vodafone M2M, discuss how new areas such as M2M are becoming key to telcos and marketing moving forward
- Watch EY Global Telecoms Lead Adrian Baschnonga talk about how customer expectations are changing and what this means for operator CMOs.
- Watch Fujitsu CMO Andrew Davidson outline how marketing is changing the way operators look at their customers
- Watch AsialInfo's Andy Tiller discuss the future possibilities for CMOs of operators

The European Communications CMO of the Year award 2014 was kindly supported by Amdocs and AsialInfo.



Telenor Denmark's Lars Thomsen accepts his award from Amdocs' Chris Williams

for them. He says that new technology “often doesn’t change our customers’ lives dramatically”.

Nevertheless, there is one emerging tech trend that is radically altering how Telenor Denmark goes about its business.

Big data is, Thomsen says, a huge change affecting the telecoms space. He explains: “The data we have about our customers enables us to communicate with them in much more relevant ways.”

He says the relationship is becoming more one-to-one and less about big advertising campaigns. “When customers come to us they are ready to do business. We have to build on that and make dialogue more interesting at an individual level.

“There is a chance to provide an emotional bond with our customers, for example. It’s not as hard as sending man to the moon but it will take time and we still have to win over customers.”

Although far from being the worst brands in the wider business space – indeed, there are four operator brands in the top 20 places of BrandZ’s Most Valuable Global Brands of 2014 – telcos have some way to go to catch up with the best.


Google, Apple, IBM, Microsoft and McDonald’s top the BrandZ index. AT&T is the top telco brand at number eight.

Outside of telecoms, Thomsen admires a number of companies from a marketing perspective. He says: “Some of the luxury brands you look at and say ‘Wow!’ but

then you think about the narrow target and big budgets that they have.

“Some of the retailers are very effective when it comes to communicating with customers. Nike, Audi and Volvo have done some interesting stuff. I admire some NGOs for being to create that emotional bond as well.”

Away from the office, Thomsen is a marathon runner but admits it is tough to combine the two.

His parting message to other CMOs? “Focus on creating value for customers and look broadly at the value chain. Finally, there is fierce competition with digital players and we should, as an industry, be focusing our energies on these guys not each other.” 



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Special report

MANAGED SERVICES



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Survey: Operators looking for value in shrinking pool of managed services providers

Managed services, particularly cloud-related, continue to grow in importance, but can operators find added value as the vendor market contracts?

The industry remains convinced that telco managed services are increasing in importance. In our second annual survey into this space, almost eight in 10 respondents agree with this view.

Over half (53 percent) of operator respondents said they had signed more details in 2014 when compared with 2013. Not one operator said fewer deals had been signed (See Fig. 1).

Said one respondent: "The importance is increasing although I think the service provider customers/enterprise market needs more convincing arguments as to the real impact of managed services on their bottom line rather than whitepapers from the vendor community."

"I have heard some service providers mention it as a panacea to all their woes but I feel it's an excuse for not confronting the reality of providing customers what they really want."

This is reflected by the fact that a majority of operator respondents (51 percent) still view financial reasons, whether its reduced opex/capex or increased margins, as the main benefit that managed services provide (See Fig. 2).

This was closely followed by an increase in operational efficiencies (49 percent) and supplementing in-house knowledge/expertise (40.5 percent). These mirror the findings of 12 months ago, but the gap between financial and other benefits has narrowed significantly.

Less than a third said improving customer experience was the main benefit, while providing adjunct capabilities to stimulate innovation was chosen by just 16 percent.

Said one respondent: "This is the crux

Fig.1 How does the number of managed services deals you have signed in 2014 compare to 2013?

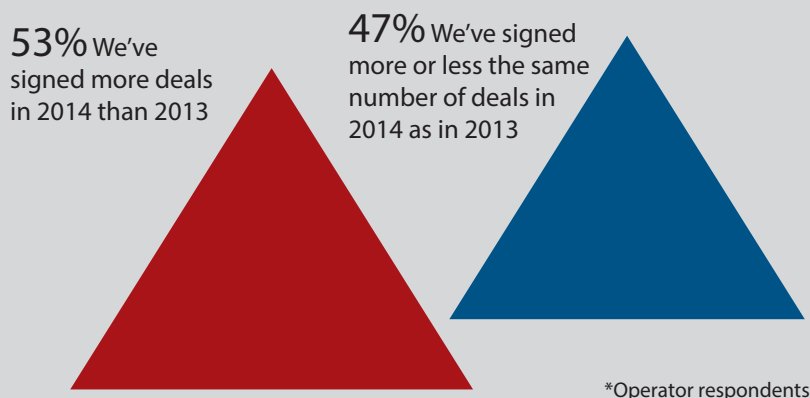


Fig.2 What is the main benefit you see managed services providing today?

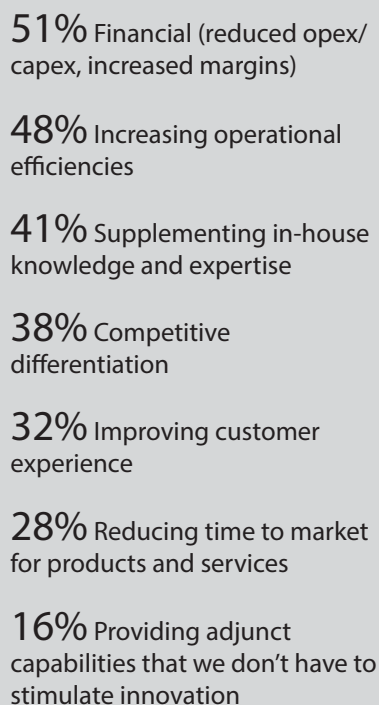
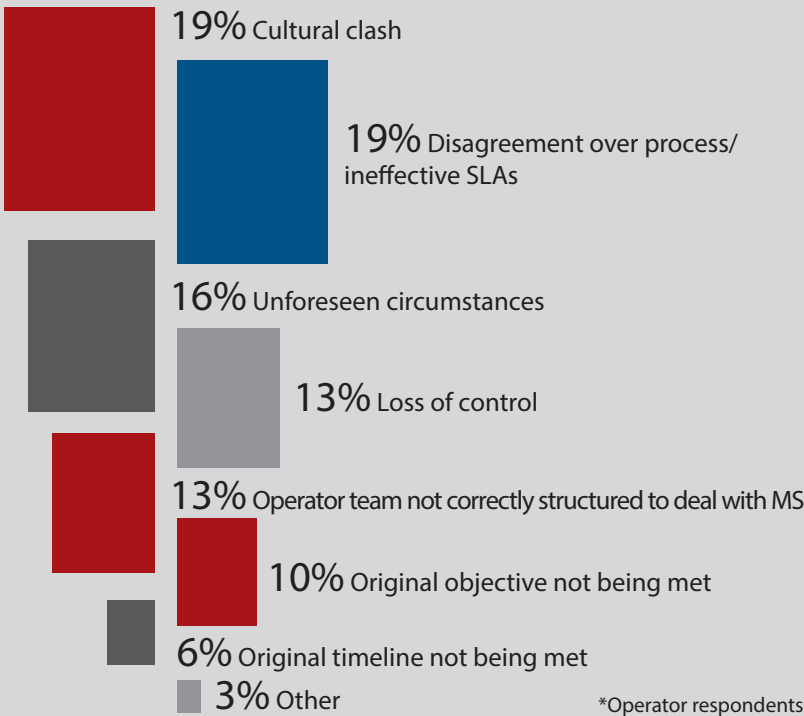


Fig.3 What is the principal challenge that a managed service raises in your organisation?



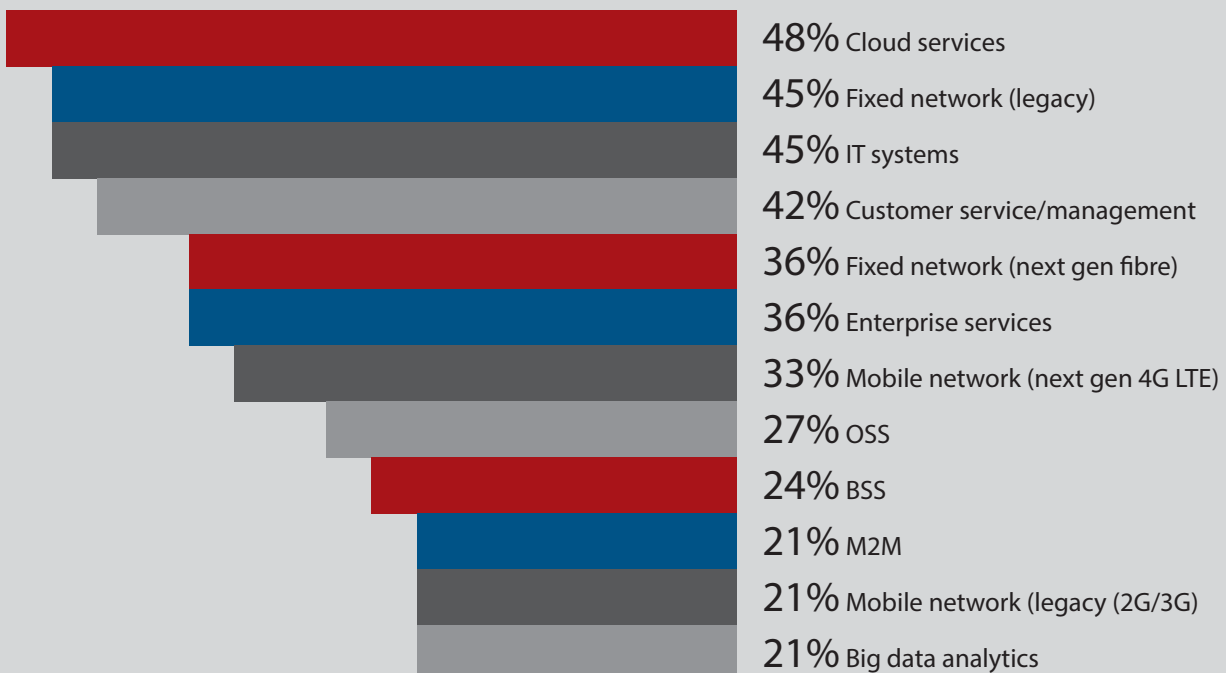
of the issue. I could tick all the boxes here but I am yet to speak to anyone who can provide clear evidence of providing services [outside of the financial] that bring all the other benefits.”

Coleago Consulting Director Chris Buist says: “I was surprised at the 2013 outcome, particularly the low ‘time to market’ benefit. This year is more like I had expected, ie, that financial is, and probably always will be, the primary benefit but that other benefits, such as operational efficiencies and competitive differentiation are recognised as being almost as important. In my view this reflects the general maturation of the operators.”

If the benefits are roughly the same this year, then the challenges are not. In 2013 the majority of operators said the biggest challenge was that their teams were not structured correctly to deal with a managed services project.

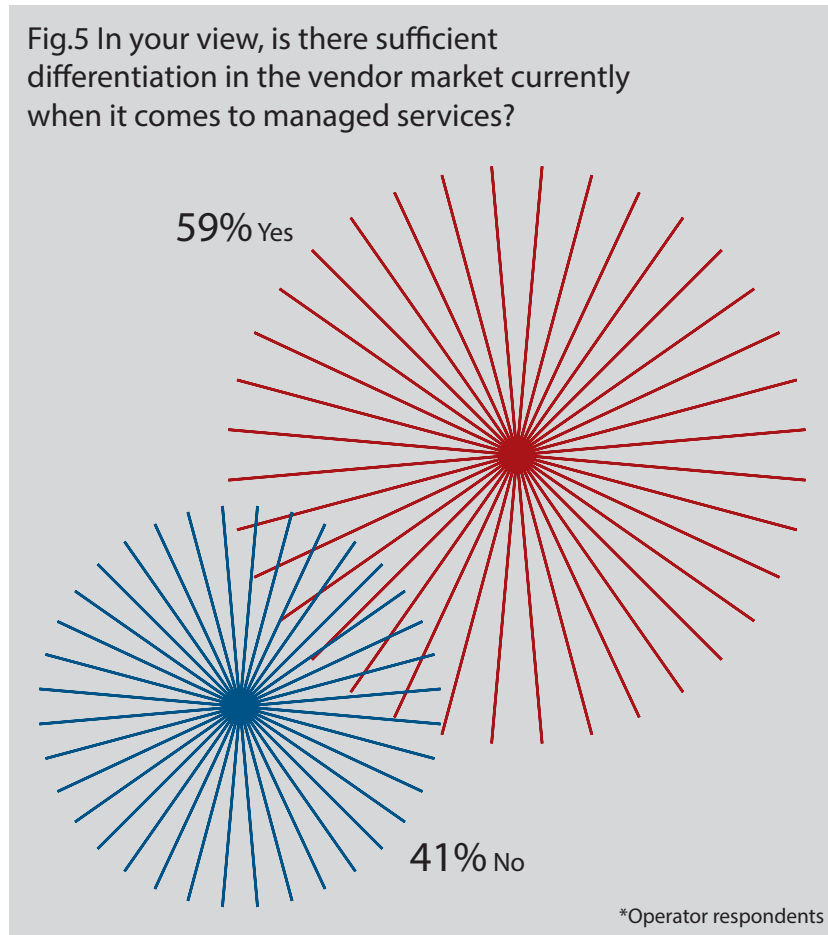
However, this year the joint most cited principal challenges were disagreements over process/ineffective service

Fig.4 Which types of managed services contracts are you currently engaged in?



*Operator respondents

Fig.5 In your view, is there sufficient differentiation in the vendor market currently when it comes to managed services?



differentiation in the vendor market today compared to 12 months ago.

A majority, 59 percent, thinks there is sufficient differentiation but the number of people who think the opposite has increased from 35 percent in 2013 to 41 percent this year (See Fig. 5).

Says Buist: "Clearly, MSPs have to keep working hard to differentiate themselves which is difficult in any service business. Obviously there are differences between MSPs in terms of the domains that they cover but within a domain it is then difficult to compare them because they all claim the same USPs: multi-vendor, customer experience focus and value-adding. It is probably only the last aspect (value-adding) where MSPs can truly differentiate themselves."

With vendors increasingly promising to add value to managed services contracts in the form of data analytics or customer experience tools, we asked operators whether MSPs are delivering such additions to their satisfaction. The answer is split exactly down the middle with (50 percent) saying yes and (50 percent) saying no (See Fig. 6).

level agreements (SLAs) and cultural clashes. Unforeseen circumstances (16 percent) was the next most popular answer (See Fig. 3).

When it comes to the types of managed services deals that operators are engaged in currently, cloud was the number one service, chosen by 48.5 percent of respondents. IT systems and legacy fixed network were the next most popular areas that operators are outsourcing, gaining 45.5 percent of the vote (See Fig. 4).

The changing operator-vendor relationship

There has been much discussion around the changing vendor landscape, with some big players, notably Alcatel-Lucent and Nokia, scaling back or transforming their managed services businesses.

In light of this, it is perhaps unsurprising that operators think there is less

Fig.6 Vendors are increasingly promising to add value (eg, with data analytics, CEM tools) to managed services contracts. Are they delivering to your satisfaction?

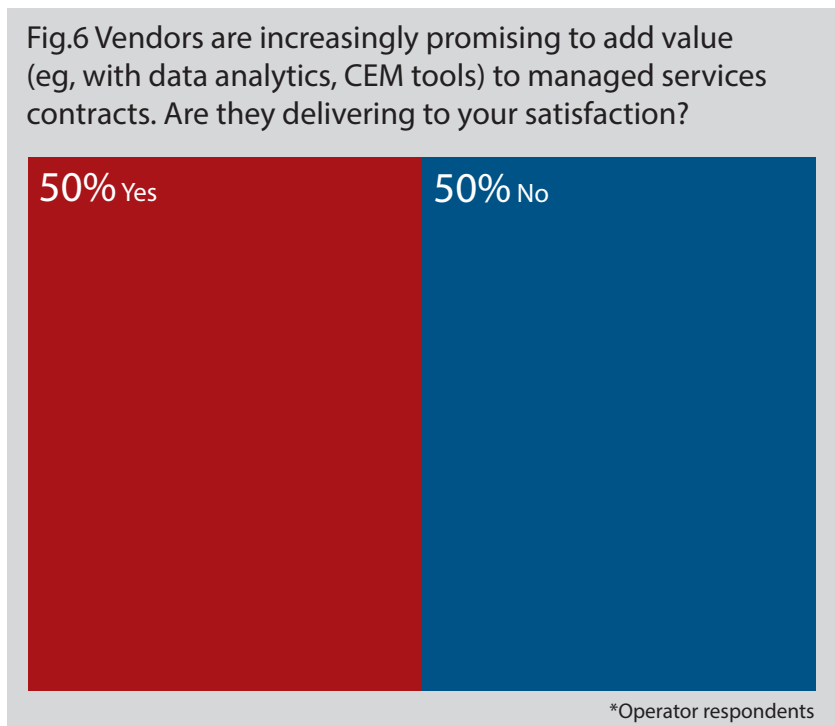
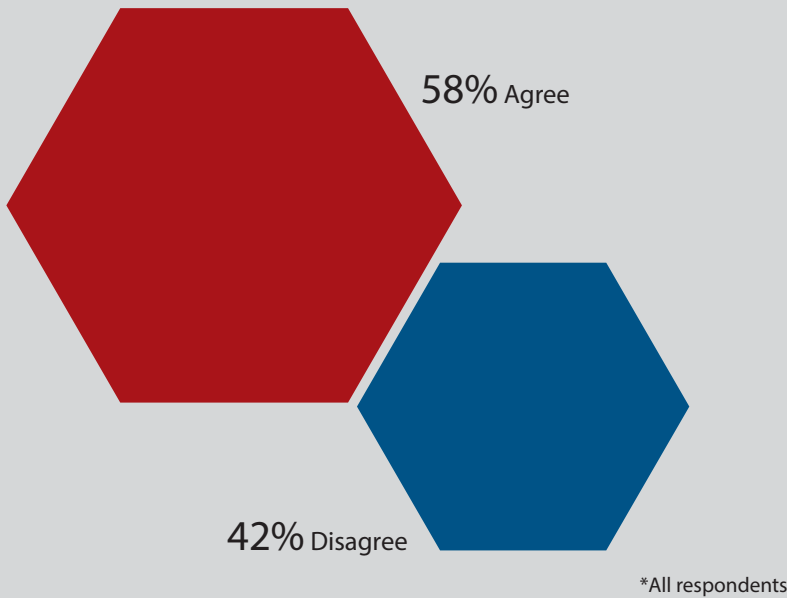


Fig.7 Would you say operators bringing more managed services contracts back in house currently compare to 12 months ago?



respondents (58 percent) said operators are looking at bringing more managed services contracts back in house compared to last year (See Fig. 7).

Said one respondent: "As first generation contracts end, operators are using the opportunity to change their operating model."

The number of contracts that operators are sourcing from a single vendor is being outpaced by those from a multi-vendor source. Seventy percent of all respondents said the number of contracts being signed that were multisource vendor was increasing, compared to 51 percent of respondents who said that was the case with the number of single source vendor contracts (See Fig. 8).

Further, 25 percent of respondents said the number of single source contracts being signed was decreasing, compared to 13 percent who said this was the case with multisource vendor contracts.

Buist comments: "This is not a bad result, but MSPs should score much higher. Both MSPs and operators need to work harder on this: MSPs to deliver but operators need to articulate their expectations better and hold MSPs to account."

But one respondent was much more sceptical: "[MSPs] will provide only those items leading to increased charges for themselves, probably [doing] nothing to serve the operator's business objectives, margin, market share etc."

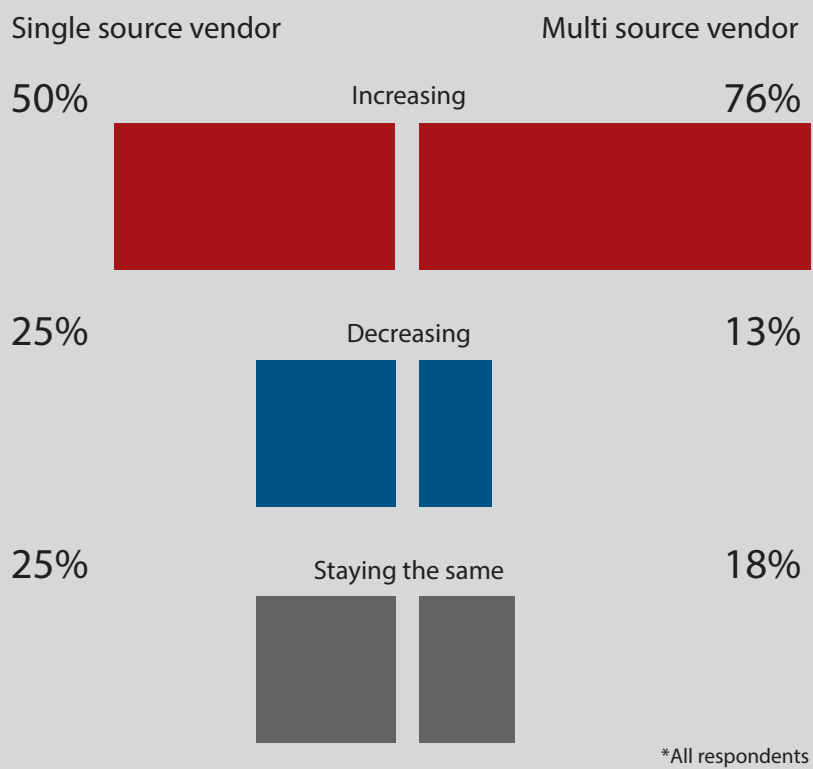
Meanwhile, there was a complete change around when it came to risk. The vast majority of operators (61 percent) said they shared risk with their managed services provider for some, but not all contracts. Last year, exactly half said that they always shared risk with their MSP.

Interestingly, the number of operators who said that their experience with managed services had caused them to change the way they operate other parts of their organisation fell.

While 85 percent said this was the case last year, just 66 percent said so in 2014.

What's more, the majority of all

Fig.8 What are you seeing happen to the number of the following types of managed services contracts in Europe?



Buist comments: “This fits with what has happened to outsourcing in other industries. Managed services maturity gives operators confidence in their ability to manage MSPs so they shift their sourcing strategy from a single-source to “best-of-breed” approach and bring some of the scope back in-house.”

The future looks rosy for MSPs

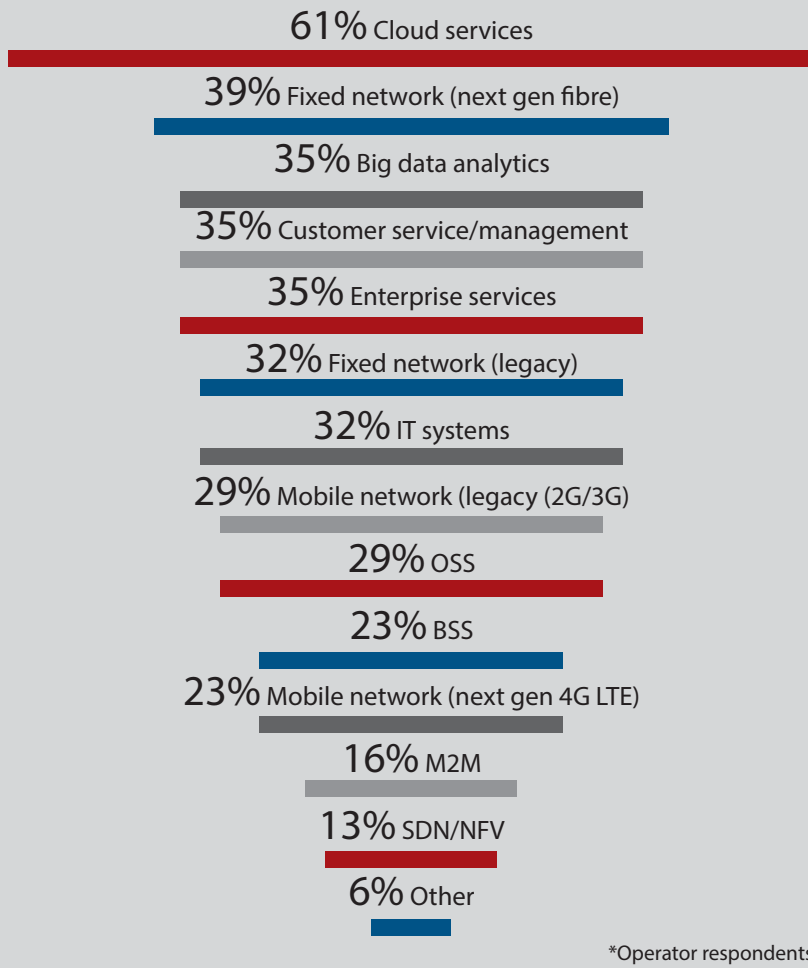
Looking ahead, just 12.5 percent of operators said the amount they spend on managed services will decrease over the next 12 months. The vast majority, 62.5 percent, said they will increase spend (See Fig. 9).

Again, cloud remains the clear favourite, with 61 percent of operators

Fig.9 Looking ahead, what do you anticipate happening over the next 12 months?



Fig.10 Which types of managed services do you anticipate acquiring in the future?



saying they expect to acquire such services. Next-gen fibre (39 percent), big data analytics (35.5 percent), customer experience, and enterprise services (all with 35.5 percent) were the next most popular choices (See Fig. 10).

The big change from 12 months ago was M2M, which scored just 16 percent this year compared to over 42 percent in 2013. There looks to be nascent interest in outsourcing virtualisation technologies, with 13 percent of operators saying they anticipate managed services in this area in the future.

Buist concludes: “Overall, this represents a ringing endorsement of the value and critical need for managed services.”

About the survey

One hundred and three respondents took part in our online survey in October 2014. Exactly half were operators, 36 percent were vendors, with the remaining 14 percent consisting of third parties such as analysts, consultants and regulators.

From a geographical perspective, 73 percent of respondents were based in Europe, with 12 percent coming from the Middle East and Africa. The remainder was evenly split between Asia-Pacific and the Americas.

More managed services, less providers, please

Vodafone Germany's Head of Sourcing Transformation discusses deals, partnerships and why he's optimistic about the future

Saurabh Gupta is a man who looks at the world of telco managed services in a glass half-full, rather than half empty, way.

As the Head of Sourcing Transformation at Vodafone Germany, with a specific focus on BSS/OSS technology, Gupta is all too aware of the changes this part of the telecoms industry is experiencing.

Increasingly dominated by a number of small players as the likes of Alcatel-Lucent and Nokia in particular scale back or refocus their businesses, operators are having to pick and choose more carefully from a smaller pool.

Gupta says: "The landscape is changing but I view it as an opportunity. The managed services providers (MSPs) that are surviving are flexible enough to adapt to changing needs of the industry and understand the needs of operators. In many ways [this shift] aligns with what we're trying to do inhouse."

Vodafone Germany has what Gupta describes as "a handful" of vendors it relies on for the provision of managed services. But he says the operator has a long-term goal to reduce the number of outside companies it works with.

"We want to streamline further and are in a continuous process of evaluating what we need versus what we can buy," Gupta explains. "We are working closely with other Vodafone Group companies [on this] so we don't have to start from scratch."

The exec says a key part of his job is assessing what areas the operator can outsource and what areas it needs to keep in house. In particular, testing and operations for IT processes are two functions Vodafone is looking at keeping inhouse.



Gupta says the operator has upskilled in these areas for the past few years as their importance to Vodafone's strategic business aims grows and it feels it can improve on reliability when compared to an MSP. "By investing [in these areas] we can help the Group as well," Gupta says.

But it's not all bad news for the vendor community. Overall, Gupta says the operator is looking to increase the number of areas it can use MSPs for.

In August 2013, it signed up Amdocs to provide application development for billing and customer care services. As one of the test-beds for the five-year programme, Gupta says the results so far have meant it looking to increase the scope of the arrangement at Group level and move from BSS into OSS.

So what are the main lessons Gupta

has drawn from this and other managed services deals he is involved in? "Spend more time in planning and be realistic with timings," Gutpa advises.

"Also, look carefully at the underlying commercial model – we have found that there is more we could have done to take account of scenarios where there is unexpected demand. We have found some limitations with existing models here and are looking to resolve them."

“ We want success stories but also MSPs who are willing to work as a real partner ”

Gupta also urges fellow operators to look at the areas being targeted for managed services and really drill down on the reasons why it is being outsourced – is it for operational reasons or for cost? "You must be focused," he warns.

When it comes to choosing an MSP, Gupta advises looking for those companies that bring in both the required expertise and experience of doing it with another operator.

He explains: "We want success stories but also MSPs who are willing to work as a real partner. It's not about how they generate revenue or sell us a service. They need to understand our reasoning and help us to achieve our goals. It is partner management not supplier management."

Worryingly, he says the mentality of MSPs selling services still exists although he qualifies that by saying it's definitely not a problem "across the board". The industry can raise a glass to that at least. **es**

How to choose the right MSP

It may be one thing to identify that your business has a need to outsource a part of its business operations but the keys to ensuring the next stage – the selection of a partner and the implementation of that relationship leads to success – is quite another. David Craik reports

Deutsche Telekom, Swisscom and Telekom Austria are all operators with many years of experience in managed services deals. Thomas Nienaber, VP of Value Chain Optimisation at Deutsche Telekom, explains the operator has a two-supplier strategy headed by Ericsson and Huawei but is still open to connecting with challengers and new entrants.

“I have relations up to board levels at all the managed services providers (MSPs),” Nienaber says. “We have regular meetings. We go there and talk to them and get a feel about how they think and know how they react. In short we know what they can and what they can’t do.”

According to Fritz Klinger, Senior Technical Expert at Telekom Austria, a good starting point in finding the best provider is to talk to fellow operators. “We look for operators who have deals with the MSPs we are interested in working with,” he explains.

“A vendor can give you one opinion of how a contract has gone but an operator gives you the other side. We want to get the inside information on how they behaved during the transition process, which is the most critical phase, and for the length of the contract. It’s quite common for operators to talk with each other about these things even though they are our competitors. We are all living with the same vendors.”

Klinger says TA looks initially for vendors with a strong track record, preferably internationally. “We don’t want an MSP doing the job for the first time or [one] has been only working on a local rather than global level,” he says.

“It is also about more than the technology they will provide or their ability to handle big data though both those are



very important. We want to know more about how they handle employees affected by the managed services contract. How do they handle the people integration and contractual relationship? It is about internal communications, getting a clear message over to employees about what will happen and what they can expect.”

Nienaber agrees that an MSP must have a solid track record and a leading position in the market. “We need global players to secure business continuity as the service grows,” he says.

“With small, local providers there is always the potential that something unexpected could happen like bankruptcy. We need a global player who can step into a local situation.”

He adds the personal angle is also vital. “It is all about people. There needs to be a relationship and trust between both companies. If you don’t have trust from the start you have a problem,” he explains.

“We visit with providers. We do workshops together with them and we visit other operators they are working with. Huawei did exactly that and that helped develop our relationship with them.”

All about the cash

Fully understanding the methodology and processes of the MSP is vital, but the next step is all about the cash. “We look at the potential savings from choosing a prospective MSP. Why and how can they deliver better, faster and cheaper than we can do?” Nienaber says.

According to Swisscom Spokesperson Carsten Roetz, the first thing to check is the scope of the managed service being offered, the price model and flexibility in terms of the use of the service in question and the invoicing process.

“Checking costs are vital. That includes the initial costs for the ramp up and step fixed costs,” Roetz says. “The ability of the service to be integrated into the existing portfolio and existing customer environment is also important.”

Other critical areas to consider are the service’s lifecycle and associated costs such as adjustment to the integration interfaces. Klinger urges operators to consider vendors who can prove they can provide good performance over the length of a typical five-year contract.

“It is a partnership which should have the potential to expand beyond the original scope into other technical areas and also into other companies of our group,” he explains.

That means constant communications between the two parties during the course of the contract to “define improvements and ensure the quality of the operation is high and not going down”.

Swisscom’s Roetz adds: “Also look at the solution’s degree of standardisation. Will it be built up from scratch with each customer or do I also benefit from economies of scale and synergies with other customers?”

In terms of starting the process, Swisscom advises fellow operators to carry on

in the same way as they would with any vital procurement. “Define the requirements from a business perspective and select possible providers in a RFI/RFP process. You should include a proof of concept in the selection process and references,” the spokesperson says.

The process can’t be done in a hurry. Nienaber says finding and securing the chosen MSP typically takes 13-15 months. “If you have a framework agreement in place before negotiations begin then issues such as liabilities are easier to do,” he says.

Maintaining the quality of a contract over a period of time requires “very strong governance”. To Nienaber this means training first level managers and operational managers in how to safeguard processes.

He explains: “We need to be sure that the contract is being fulfilled. It is difficult because you can’t document everything down in an agreement. It all comes back to the relationship and trust aspect again and that is why it is better to focus on a few good suppliers rather than too many.”

Warning signs

So what of the warning signs that operators should be on the look out for? “Negative feedback from another operator that the provider could not develop the service efficiently and whose experience is below our own would not fly,” Klinger states. “They have to have a clear concept and methodology meeting our expectations. We want managed services to be their strategic core business so we can go forward with them. They have to have a vision of the future.

“We look at suppliers’ KPIs over time and see if they had proposed solutions with other operators that they did not deliver. You can’t react soon enough if you see them withdrawing from other contracts. There might be a wider problem there.

“Also, we look at what are their delivery processes like and what is the engagement of their suppliers and employees. Are they committed and motivated? We can have exit criteria in the contracts

based on non-performance,” he explains.

To create more understanding between the operator and MSP, Deutsche Telekom has set up a series of workshops to better understand each other’s processes and requirements so companies can anticipate certain behaviours and reactions on both sides.

Swisscom sees the warning signs as being the provider’s size and existing customer base, whether the provider is up to date with technological development, how mature their onboarding process is and whether they have the necessary interfaces for the most important IT processes.

Other red flags could be a lack of clarity on financial viability or where data is physically located and a lack of auditability raising fears about revenue leakages.

Recently, there have been concerns raised over potential shrinkages in the vendor market. Alcatel-Lucent has signalled a restructuring of activities and jobs to cut costs and cope with competition from Ericsson and Huawei in particular. Nokia Networks has also been more “selective” in its managed services contracts in the last two years.

A-L’s Shift Plan was conceived to transform the group into a specialist vendor of IP, cloud and ultra-broadband access technologies. A spokesman says: “Managed services hasn’t been a specific action of The Shift Plan, but it has continued the process began in 2012 to reduce our exposure in this area by renegotiating or exiting profit-diluting contracts. Instead we have concentrated our efforts on agreements that are sustainable and can complement or apply our strengths in IP, and ultra-broadband access.”

Nokia Network’s Head of Professional Services Marketing Carlijn Adema says it has transformed its managed services offering based around areas including automation, cloud-based delivery and end user experience.

“In the past operators thought about cost when it came to managed services but now it is more focused on getting a better customer experience,” Adema states. “As a result vendors have to be smarter and more efficient. So for the last two years we

have been innovating behind the scenes.”

Nokia Networks now has two global delivery hubs in Lisbon and Chennai supported by five regional hubs instead of its previous 49 delivery hub structure.

“It helps with economies of scale and ensures the same high quality level across the globe,” says Adema. “We focus on automation through innovations in iSON and predictive operations. We centralise expertise and follow the exact same processes including training and standardised tools. This is beneficial for operators.”

“ We want managed services to be their strategic core business ”

The Finland-based vendor says it is gunning for more growth in managed services now it has re-organised its structure. “We are a lot more competitive and differentiated from our competitors. We’ve secured 12 new deals this year including new contracts and renewing expiring contracts across the globe,” Adema says.

So what do these vendor structural changes mean for operators choosing providers? Does it make it harder?

One of the smaller vendors, MDS, urges some caution. “An operator’s needs remain the same. Fewer vendors doesn’t change either the end user or the customer’s requirements. Operators should be more demanding in asking MSPs to show their track record of operating a vendor’s software and having a vendor relationship,” says Jennifer Fellows, SVP Product Marketing at MDS. “The less vendors there are the more reasonable it is to expect an MSP to already have worked with them.”

Klinger offers a pragmatic view: “The best vendors will survive. There is competition in Europe and China but vendors have to be clear where they want to be in the future and to make the necessary investment in developing equipment and methodology.” 

How to structure an operator team to succeed in managed services

For operators, the personal counts just as much as the practical when it comes to working with a managed services provider. David Craik reports



Operators admit that one of the biggest challenges that managed services raises in their organisation is creating an in-house team capable of delivering a successful project.

Last year, 32 percent of respondents to the European Communications survey said this was a major hurdle, while in 2014 the amount was 18 percent, although that was still enough to be the joint top challenge.

“This remains one of the biggest issues in managed services because operators don’t devote enough time to redesigning their retained organisation and training people in their new roles,” Coleago Consulting Director Chris Buist says. “They also fail to identify the knowledge and skills that they will need and therefore transition the wrong people to the managed services provider (MSP). Another issue is that they fail to retain the knowledge that they will need to manage the MSP. There is no proactive knowledge management process.”

So what should operators be doing? What is best practice? Buist believes they must do a “high-level design of the to-be”

or, in other words, the future organisation during the strategy phase of a deal.

“You need a high-level communications plan. You have to communicate all the changes staff will see,” he states.

“Operators should also be doing a detailed design of the future organisation during the engagement phase to ensure that all interfaces between the operator and MSP are defined and the retained organisation design is clear.”

At this stage operators have to “balance the needs of the retained organisation with the transferred service delivery team”, according to Buist, and should identify key staff and develop a retention policy.

A well-planned “change project” should also be implemented during the transition phase to ensure that the retained staff understand their new roles and receive the training and development that they will require.

“Training plans must be developed and implemented. Operators should also be prepared to recruit additional people if need be,” Buist says. “They should treat knowledge as an asset and knowledge management as a process that needs to

work across the operator-MSP interface.”

Fritz Klinger, Senior Technical Expert at Telekom Austria, says getting the MS operating team right is a difficult thing for a telecoms group to do. “Some of the organisations will have the expert knowledge needed in the technical area but you have to step up the team in a range of areas including controlling, purchasing, human resources, communications and accounting,” he states.

“From a very early stage we set out who will be doing what both locally and internationally. It is about people management. For the local members of the team it is important to know what their position will be after the contract has been signed.”

Klinger says TA created its own managed services contract template based on the framework and expertise of DLA Piper, a legal consulting company based in the UK and with extensive experience in managed services contracts. “This helped us to ensure that we cover all relevant topics and provided a very professional starting point for the negotiation with our managed services partners,” Klinger explains.

Over at Deutsche Telekom, Thomas Nienaber, the operator's VP of Value Chain Optimisation, says the approach is similar. "We have created a cross-functional team [with] a range of skills such as human resources and finance," he explains.

"It is a team of people specifically trained in managed services. We also ask our suppliers to do workshops with our team. We get to understand much better how they work because we have a chance to dig deeper into the subject and find out what else we need in terms of information."

Nienaber believes that working closely together in this way will shorten the duration of the managed projects by as much as 50 percent, thereby saving money. "That's a win-win solution for both parties. We are able to achieve our savings much earlier," he says. "And at the same time the supplier has earlier revenues and less sales support costs."

Swisscom spokesperson Carsten Roetz provides another perspective: "The creation of a central service integrator role is vital. It can manage the operation of all managed providers, ensure uniform service management and is thus the central interface with end users."

He adds: "This service integrator team combines all the necessary IT process roles in a single team. You can also ensure better management of the managed service provider by means of a standardised set of service level agreements (SLAs)."

Jennifer Fellows of vendor MDS agrees that SLAs are critically important. "They can determine the success or failure of the service and relationship with the MSP," she states.

"You have to agree responsibilities with the MSP as early as possible to understand the requirements on the operator's organisation. The operator team should be structured accordingly, retaining people with key operational and business knowledge as required."

She adds: "Moving to a managed service does not absolve the operator of all responsibility, the much smaller operator team that interfaces to the MSP will

“ A managed services partnership is like a marriage ”

often be on the critical path for making key decisions."

According to Fellows, the operator team also needs to be motivated to work collaboratively with the MSP. "A move from internal IT to an MSP will normally mean downsizing or staff transfers," Fellows explains. "The key team remaining needs to feel secure and not worry that their own jobs could be similarly under threat."

She urges that a close working relationship is fostered between the operator and the MSP: "This is crucial to success and this can be best developed by a period of co-location on a day-to-day basis. This way the MSPs staff gains a better understanding of the operator's business and each side knows quickly who to contact when there is an issue to resolve."

The governance of the partnership throughout the life of a deal is also critical in ensuring that the new operator team succeeds.

Richard Wong, Huawei's Global Managed Services Marketing Director, says nobody from the operator's side should take a back seat. "A lot of operators believe that the moment a managed services team comes together it is a technical project," he says. "But it isn't. It is something that every member of the operator group should be involved in from the CEO to technical, commercial and financial management."

At the heart of it all lies communications, particularly if the transition phase involves a transfer of staff.

"A clear communications channel must be set up," Wong says. "It can be an emotional and stressful time for those who are transferring. We identify the key staff in different areas such as transmission or radio and then get them to buy into the changes. That makes it easier for them to communicate to their own staff. We also have communications workshops to introduce Huawei and our different working culture to

staff. You also have to deliver the right message to the right people at the right time so, in Germany for instance, you make sure you talk to the local union as well."

Like a marriage

Aligning strategy is also key. "A managed services partnership is like a marriage. Over the term of a five year contract you have to constantly align with the operators strategy and make the necessary adjustments," Wong states.

"You have to understand their strategy at the very beginning so you can work out a way to design it into an actual solution and you have to understand the agenda of the chief executive. What do they want? Superior service and quality? Then we work towards that. You have to get more involvement from the C-suite of an operator or a managed service partnership will not be a success."

Coleago's Buist says an executive committee should be formed tasked with reviewing and approving strategic plans, monitoring relationships and resolving major issues. This should meet on a quarterly basis.

A management committee should sit underneath the executive reviewing operating plans, contract changes and meeting monthly.

Operating committees should also be formed tasked with the day-to-day management of operational activities. These committees should meet weekly or bi-weekly.

Of course these deals are all about people, some perhaps switching over from one business to another. This can create uncertainty and that can put pressure on staff well-being, motivation and commitment.

Having a raft of communications channels and a sound communications plan for staff and indeed all stakeholders is crucial. Buist suggests that on top of traditional methods of internal and external communications such as meetings, press releases and newsletters other tools such as collaboration labs' should also be created to encourage team members to get a better understanding of each others needs both work and personal. ■



Creating network harmony with project orchestration

Networks today are growing faster than ever before; driven by the unprecedented demand for more capacity, better coverage and faster speeds. For the last 10 years, service providers have been using more or less the same types of planning and deployment tools and practices for rolling out new networks or upgrading existing ones, but the days of making do with spreadsheets and emails are over. Service providers can no longer plan for the massive growth in networks and new technologies with their existing tools and limited human resources.

New planning tools and improved methodologies promise to overcome many of the project challenges brought about by poor communications and lack of coordination and connected processes. Service providers need to become much more efficient at network design, build and upgrade.

Current tools just don't scale

If we take a look at the public access Wi-Fi market for example, according to the Wireless Broadband Alliance (WBA) and analysts Maravedis Rethink, the predicted growth in carrier grade Wi-Fi is around

13 percent CAGR (2012 to 2018). This growth rate equates to the deployment of approximately 10.5 million carrier grade hotspots globally by 2018. This means service providers will need to deploy tens of thousands of new carrier grade access points every year.

Existing project management tools were designed in the days when service providers only needed to deploy a few hundred network elements per month. But today, project managers are faced with planning, deploying or upgrading thousands of network elements using tools which need to scale across multiple systems and hundreds or even thousands of people and projects.

Even Business Process Management (BPM) systems are not enough on their own, they tend to be inflexible, lack agility and take a lot of effort to adapt, upgrade and maintain. Often it is only the IT department who have the required skills to make the relevant changes necessary to keep the systems updated. And with thousands of projects which need to be kept on track and quickly adapted to meet requirement changes, this becomes a daunting task.

Project orchestration, not frustration

As with orchestral arrangements such as Mozart's beautiful *Eine Kleine Nachtmusik*, each player is given a part to play, which has been meticulously planned by the composer to synchronise with the rest of the orchestra in order to produce the required melody and harmony. Large orchestras benefit from a central leader, the conductor, who instructs and guides the musicians through the musical work to ensure they remain in close accord, taking their cues on when to play their individual parts. The result is pure magic.

Likewise in project management what is needed is end-to-end project orchestration across a wide-range of organizational groups, from project management, sites and estates to 3rd party management, finance, planning, engineering and network deployment teams. Project orchestration is much more than just workflow management.

Orchestration ensures that all the systems, people and processes work in harmony, leveraging a common platform to deliver a common process with centralized information, which is shared across all organizational groups and users. By positioning an orchestration platform on top of existing systems such as demand planning, BPM (which handles workflow), network planning, inventory and workforce management systems, service providers can leverage the value of each through the end-to-end coordination of processes, tasks and specific technical functions as though it were one single system.

Let's network!

One of the biggest challenges in the past has been the lack of efficient communication between these organisational teams. Individuals have often worked in silos, using their own preferred planning tools and spreadsheets, and only communicated via email as and when it was felt necessary. But this practice has to stop and make way for a more connected approach where everyone networks through a common infrastructure, sharing common information, workflows and planning tools. It is the linking together of these disparate teams under a common process orchestration tool that makes the whole ensemble work as one 'orchestra'.

Becoming more dynamic

Key to agile project management is to have a tool that can dynamically adjust to in-flight changes to the project requirements as they happen. For example, the plan for an outdoor Wi-Fi installation may be to install an access point at a bus stop. When the installer visits the site they find that the main power supply is unavailable. The original plan needs to quickly change to accommodate a low voltage solar panel and battery at the site.

These types of changes can involve many alternative tasks and steps which have to be introduced into the plan as efficiently as possible, while having the lowest impact on the rest of the project. Even

post installation maintenance schedules may be affected, such as routine battery maintenance. Dynamic plan management allows for this to happen without radically reworking the plan. The plan is simply updated in real time by the project manager as the workaround is introduced.

A fresh approach to process management

Amdocs Network Rollout solution provides a complete end-to-end project orchestration system for planning, design, build and modernizing of mobile and fixed networks. It automates the planning and project management process by uniquely combining automated technical design with dynamic project plan generation, using reusable building blocks. Amdocs Network Rollout solution leverages the factory production line approach, using multiple reusable components to roll out networks in the most efficient and streamlined manner. It reduces network deployment cost by up to 25 percent and network design time by more than 35 percent by automating the planning and project management process.

Amdocs Network Rollout solution is more than just a workflow tool. It provides a smart end-to-end orchestration layer, which leverages your existing BPM to manage workflow across a wide-range of systems, people and processes. By abstracting the orchestration layer above the underlying system functions and incorporating dynamic plan management, the entire system becomes more agile and flexible, compared to traditional approaches based on generic BPM only.

Making common resources visible – improves efficiency

Imagine a large orchestra without a conductor, or worse, musicians with different musical scores. The result would be pretty chaotic, with musicians trying to guess what the other performers are playing. And yes, some rock bands have suffered from being out of sync!

If people working together on the same project can't view or share the same information easily, the results can be disas-

trous. People working on complex projects need transparency of information, and being able to share the same data from a common source helps to avoid mistakes, misunderstandings and general miscommunication. Ultimately this approach leads to long lead times, project delays and increased operational costs.

A common information base for projects, network resources and site inventory can significantly improve project efficiency and ultimately service quality. Centralizing the network inventory system and integrating it with the planning and project management system, ensures everyone is working with the same common information to get the job done efficiently.

Empowering the field force

Last but certainly not least, the all-important field force who deploy the network equipment or make changes to it during network upgrades need to have all of the information they need at their fingertips. By using portable devices such as smartphones and tablets, the field force can use dedicated apps to download their guided user tasks for the day, along with detailed pictures, diagrams and interactive maps to help them locate the equipment, drive to the site, install and test the equipment and finally leave it in an operational state knowing that all the necessary steps have been taken to ensure the network is up and running after [ideally] a one trip site visit.

Finding the keys to success

Networks are increasingly becoming more complex and challenging to deploy. Service providers need to move faster and become more agile in order to meet the demand of rolling out large scale fixed and mobile networks. Current tools and processes are inadequate to meet today's needs and the key to success is in end-to-end project orchestration and dynamic plan management with a centralized inventory. Contact Amdocs today to learn more about Amdocs Network Rollout solution and how it can bring harmony to your projects.

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Special report

SDN/NFV



38 Survey: Workforce worries to the fore as operators prepare for virtualised future

46 SDN/NFV: Show me the money Beyond the theoretical benefits that SDN/NFV provide, what are the business models that operators can look to?

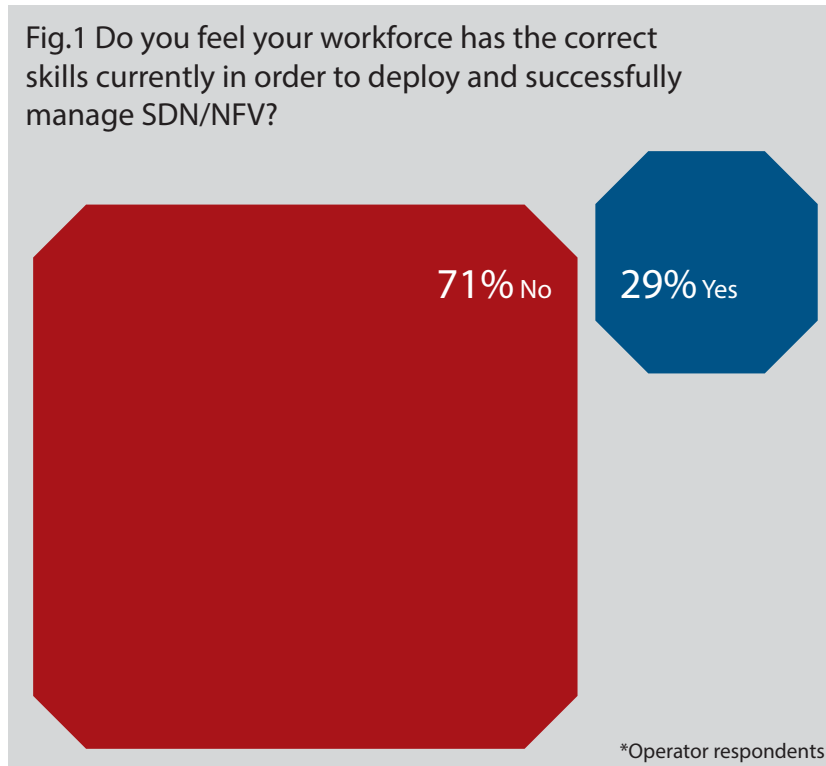
50 Job losses: The elephant in the room that SDN/NFV lets in Telcos have a shortening timeframe to train their staff for a virtualised world, but even so it is likely that many will not survive the transition



Survey: Workforce worries to the fore as operators prepare for virtualised future

Majority of operators says skill set of workforce not fit for purpose, but remain convinced of the benefits of SDN/NFV

Fig.1 Do you feel your workforce has the correct skills currently in order to deploy and successfully manage SDN/NFV?



Operators are very concerned that the move to software-defined networks and network functions virtualisation will cause significant upheaval to their workforce, European Communications' first quarterly survey into the two technologies has confirmed.

More than seven in 10 operator respondents said that their workforce does not have the correct skills currently in order to deploy and successfully manage SDN/NFV. Said one respondent: "We need more skilled developers." (See Fig.1).

Despite the lack of skills less than half said they expect to hire new staff to solve this problem, suggesting the majority of staff will be getting a lot of new training. Said one respondent: "The intent appears

to be to retool existing teams and depend on the vendor teams initially." (See Fig. 2).

However, more than half of operator respondents expect job losses to result at their organisations following the introduction of SDN/NFV, although the majority

thinks the cuts will be minor as opposed to significant (See Fig. 3).

But one vendor said: "Anyone who thinks that in the short term these initiatives will allow for broad based staff reductions will be disappointed. There will be a large learning curve and even 'post [going] live' the systems will need significant amounts of care and feeding. It will over time probably allow for staff reduction or better staff redeployment."

Caroline Gabriel, Director at research house Maravedis Rethink, adds: "I suspect the answers have an element of denial in them! If SDN is done 'properly' it will either be outsourced or it will represent a huge change inhouse, with inevitable job losses."

One person who will not be losing their job is the Chief Technology Officer. Over half of respondents said their CTO is in charge of their SDN/NFV strategy, although another 28 percent said it is still to be confirmed who is in charge (See Fig. 4).

Gabriel comments: "One of the biggest issues we see within operators is the restructuring of IT and telecoms operations and the question of who takes ultimate responsibility. The uncertainty and political sensitivity around the issue is highlighted by the level of 'to be confirmed' answers."

Fig.2 Do you expect to have to hire new staff in order to deploy and successfully manage SDN/NFV?

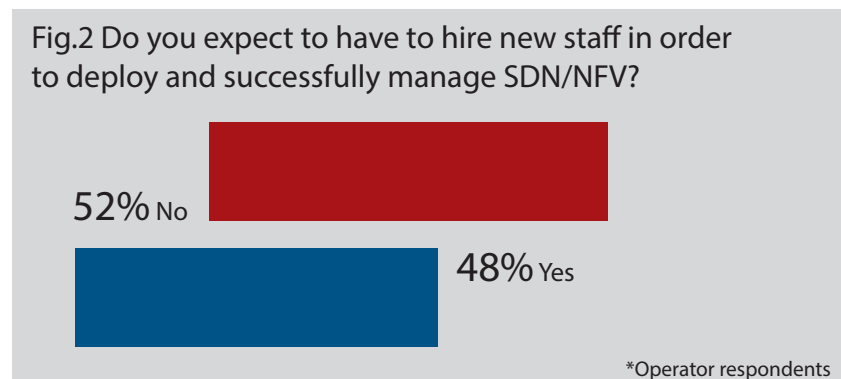


Fig.3 Do you expect the introduction of SDN/NFV to lead to job losses from your existing workforce?

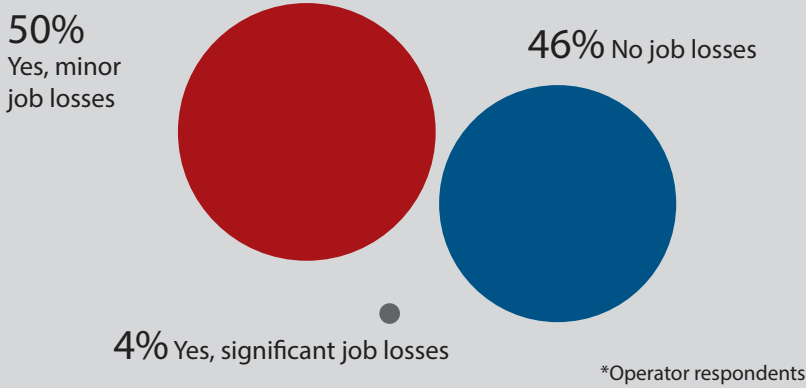
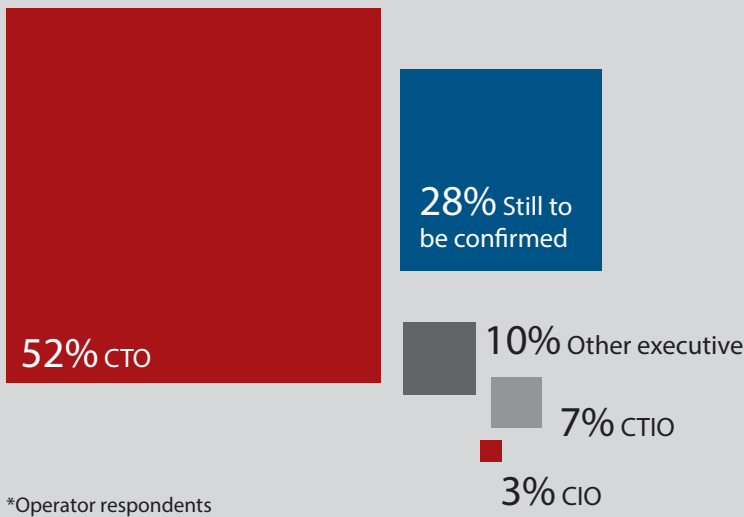


Fig.4 Who is in charge of the SDN/NFV strategy in your organisation?



Although, integrating SDN/NFV with existing/legacy infrastructure/tech is the biggest implementation challenge that operators are experiencing, a lack of skills was chosen by 46 percent of operator respondents (See Fig. 5).

Gabriel says: "Cultural and skills change is often as important as technical change, driving many operators to outsource either their SDN deployments or their legacy systems to ease the pain."

Nascent implementations

So where are we with regards to the implementation of these nascent technologies? Roughly a quarter of operators have commercially deployed SDN and NFV

technology as part of their infrastructure today, the survey found (See Fig. 6).

Said one respondent: "We have a geographically limited vEPC deployment. Larger deployment will follow."

Such a view was confirmed by the fact that the majority of those who have yet to do implement the two technologies expect deployments to go live after 2016 (See Fig. 7).

Gabriel comments: "It's natural that there will be a big uptake of NFV from 2H15 as standards become more stabilised and, importantly, the NFV SIG adds its second wave of specs including interoperability, which will support wider scale deployments with less risk of lock-in.

Fig.5 What would you say are the biggest challenges to implementing SDN/NFV currently?

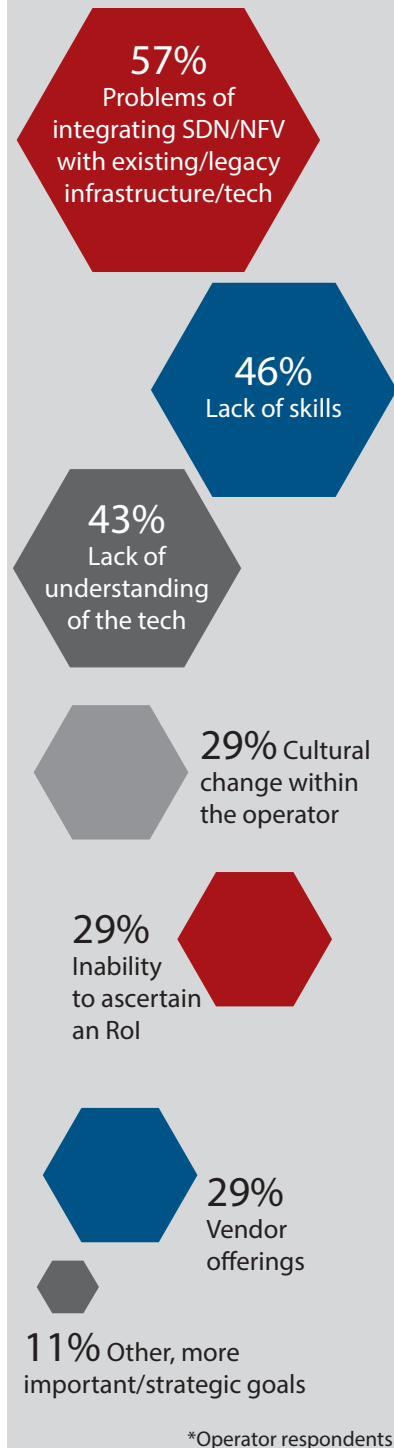
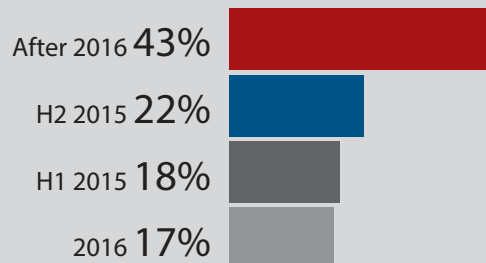


Fig.6 Have you commercially deployed SDN as part of your infrastructure?



If no, when do you expect the first commercial deployment of SDN to go live?

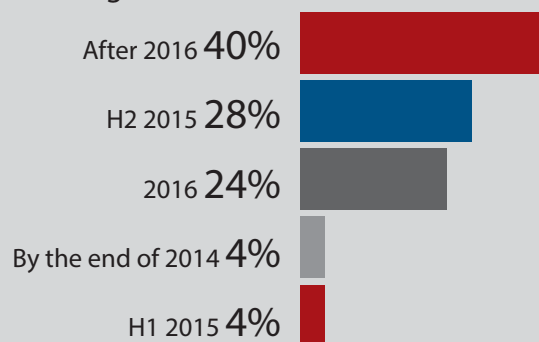


*Operator respondents

Fig.7 Have you commercially deployed NFV as part of your infrastructure?

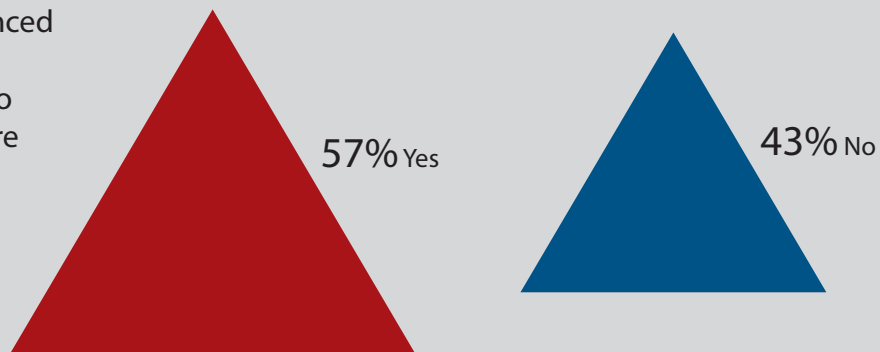


If no, when do you expect the first commercial deployment of NFV to go live?



*Operator respondents

Fig.8 Are you convinced that implementing SDN/NFV will lead to a fall in infrastructure opex/capex?



*Operator respondents

"I wonder how many of those planning to deploy SDN by 2016 have concrete roadmaps as opposed to 'wishful thinking'. The risk is that early enthusiasm will lead to poor executed or non-standard roll-outs, with problems stored up for later."

While we have to wait and see whether deployments succeed, it is clear that operators have bought into the theory behind SDN/NFV.

The majority remains convinced that the technologies will lead to a fall in infrastructure opex/capex, but in the long- rather than short- or medium-term (See Fig. 8).

But one respondent said: "Money just moves to a different node in the network. If truly implemented as touted, it's going to be more expensive, not less."

Meanwhile, more than half thinks that SDN/NFV will enable them to a more flexible/efficient network and get new services to market more quickly (See Fig. 9).

Gabriel says: "It is very interesting that the belief/interest in a flexible network is so high and encouraging that this seems to be a bigger factor than pure cost, though of course it should result in overall lower TCO."

"It seems that carriers are most interested in flexibility, customer experience, service delivery etc, which is encouraging for their future survival, although I'm sure the responses depend on the job role of the respondent."

"Our studies reflect the same emphases though, that carriers belatedly see customer experience as their main way to survive, which means a flexible network, whether they are targeting consumers, wholesale partners or M2M."

Fig.9 Are you convinced that implementing SDN/NFV will lead to a more flexible and efficient network (eg, dynamically adapting capacity to network needs)?



Are you convinced that implementing SDN/NFV will enable you to get new services to market more quickly?



*Operator respondents

Enterprise-focused new services

Again, the majority is convinced that the technologies will lead to new revenue streams, with most expecting them to come from their enterprise-focused business units (See Fig. 10).

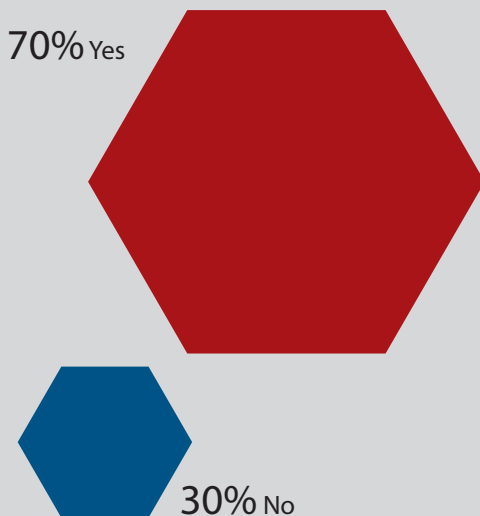
Said one respondent: “The creation of new services will require leadership and an ‘ecosystem’ that can see a mutual benefit working together in collaboration.”

When it comes to who will be responsible for creating new, virtualised services, more than seven in 10 think it will be a mixture of operators themselves and third parties (See Fig. 11).

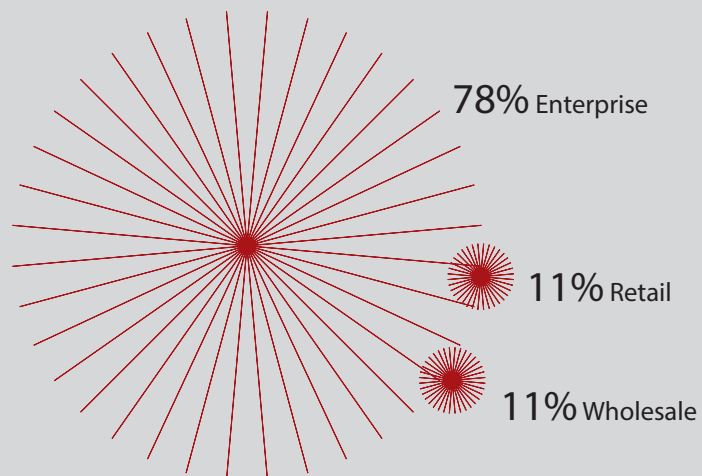
Said one respondent: “While in theory an operator could try and control all the services there is far more benefit to allowing 3rd parties deal with niche services and niche populations where the scale would pose a challenge to an operator’s business model.”

So which type of services do operators hope to offer as a result of implementing SDN/NFV? Security services were the most popular choice, with two-thirds

Fig.10 Are you convinced that implementing SDN/NFV will lead to new revenue streams?



From which areas of your business do you see new revenues streams coming from initially as a result of SDN/NFV implementation?



*Operator respondents

Fig.11 Do you expect to be creating new services yourself or leaving them up to third parties?

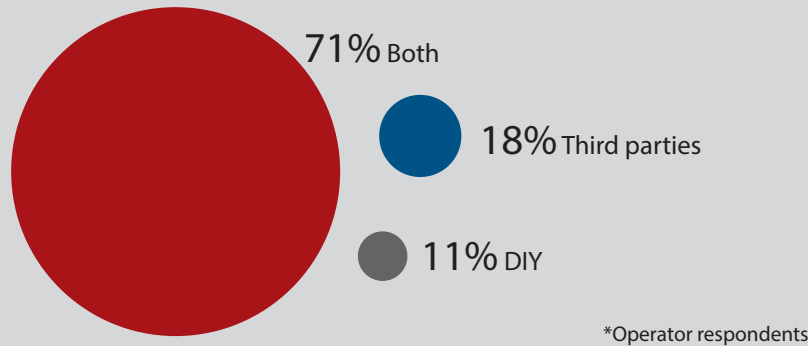


Fig.12 Which type of new services do you hope to offer as a result of implementing SDN/NFV?

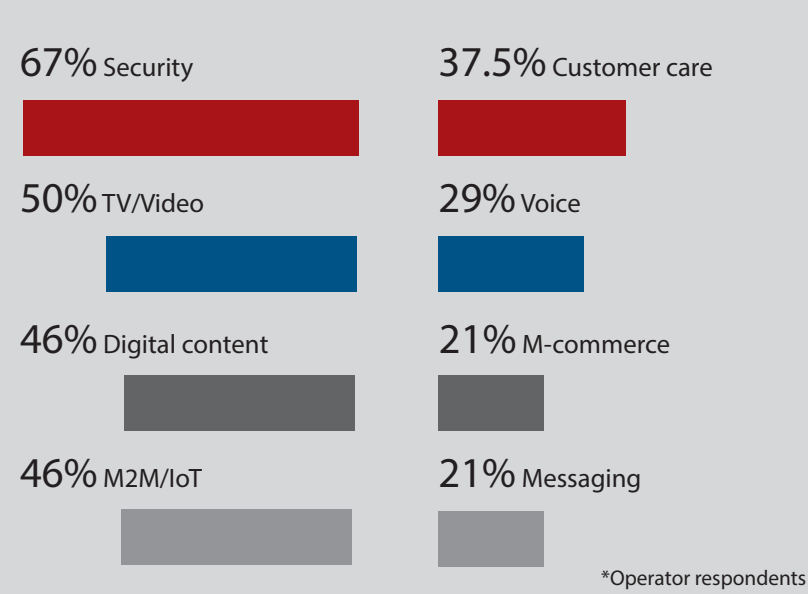
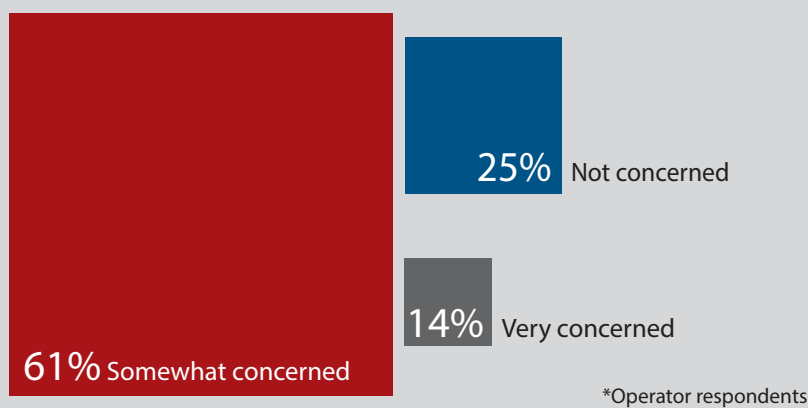


Fig.13 How concerned are you that introducing SDN/NFV will hinder the performance that you offer end users?



selecting this ahead of TV/Video, other digital content and M2M/IoT services (See Fig. 12).

But one operator said: “There is no way of foreseeing this. A flexible platform, approachable through APIs, will inspire the minds of the developer communities in ways that we operators do not understand NOW. We therefore cannot say what services we hope to offer as a result of implementing NFV/SDN.”

Ovum analyst Dimitris Mavrakis adds: “New services are becoming more important with SDN/NFV but there are no examples of new successful business models driven by the new technologies. Cost savings and operational flexibility will remain the biggest drivers for the new technologies, meaning that they may only be deployed to replace equipment that reaches end of life, rather than disrupt network operations.”

There are other concerns. Three quarters of operators said they are concerned that introducing SDN/NFV will hinder the performance that they offer end users (See Fig. 13).

Says Mavrakis: “Although there is considerable hype about SDN and NFV in the market, the two concepts are relatively new and not yet deployed. This means that current market perception may be driven by willingness to deploy or knowledge shared by vendors. The results of this survey illustrate that there is considerable ground to cover before SDN/NFV create a market impact.”

About the survey

One hundred respondents took part in our online survey in October and November 2014. Forty percent were operators, 34 percent were vendors with the remainder consisting of third parties such as analysts, consultants and regulators.

From a geographical perspective, 63 percent came from Europe and 16 percent from North America. Eleven percent came from Asia-Pacific, with the remainder coming from the Middle East, Africa and South America.

Juniper Networks:

Virtualisation of networks offers great benefits but a holistic approach to transformation is required

Disruptive technologies engender organisational change by definition. But the wholesale virtualisation of telco networks and services involved with network functions virtualisation (NFV) and software-defined networking (SDN) is likely to bring profound transformation. With major top and bottom line benefits available to telcos that help them grow and compete more effectively against new competitors, it would be foolish for operators not to embrace the potential of NFV and SDN.

That's the view of Jack Barrett, senior director for Strategic Marketing at Juniper Networks, a company that helps telcos lay the foundation of systems able to incorporate these ground-breaking technologies. Barrett leads a team responsible for executive level engagement and thought leadership programs for strategic accounts in Juniper's customer base globally.

He wants to ensure that telcos think about how they implement NFV and SDN, so that they maximise their returns on investment in the short and long term, and protect themselves against risk. This is not just rolling out a new network remember; these technologies enable telcos to do a lot more with less, and potentially make a lot more money.

The change the technologies entail can be so profound that the whole character of a telco can shift – moving from transport and communications to the interactive and integrated revenue generating cloud-based services epitomised by companies such as Google.

This means that a holistic, strategic vision needs to be developed, while ensuring safeguards, so security is protected and liability is secured, even while new re-

lationships are developed with suppliers.

Juniper's network solutions need to be aligned with these considerations in mind to optimise impact, said Barrett: "We're trying to ensure an understanding of the business challenges and risks as we engage with our customers."

This is undertaken through co-creation. Juniper looks to create a shared vision for change and transformation, and allows customers to define value in their terms. And then it works with its customers to implement the network to achieve this.

Together with its clients, Juniper Networks tries to encourage telcos to assess the potential success of virtualization holistically. Barrett likes companies to keep four perspectives in mind (as defined by Norton and Kaplan's Balanced Scorecard): the financial perspective – lower costs, better margins and boosted revenues; the customer perspective – how a company wants to be perceived by its customers; measures include market share and customer satisfaction for instance; the internal perspective – related to the impact on, and development of, new business and internal processes, and the skill sets - what learning and new skills will be required.

Keep a handle on these issues and measure progress against them, then a telco can handle the transition to virtualization effectively and efficiently and so reap the business rewards.

Aim big, start small

But where to begin? Barrett suggests starting small, trialing a section of operations that seem ripe for virtualisation. But while this is done, keep an eye on the big picture across the four strategic perspectives. Assess what success in one section of a business

might mean if the majority of operations are moved to virtual networks, then what does success look like in security, culture, finances, services, goals, personnel, etc.

"Start small, but be ready to move fast," explained Barrett. Such testing and associated assessments gives the client and Juniper Networks valuable information about how a company wants to develop virtualisation and how it might respond in practice: "We want to understand the challenges that our customers face."





Juniper wants telcos to be motivated by how useful NFV and SDN is in protecting their business against competition from new web-based services.

“The biggest vulnerability, in my view, is being marginalized on services for customers,” warned Barrett. With virtual cloud-based networks available, competitors can start to move onto prime telco territories – voice services, virtualised application services, firewalls, bandwidth and access to data centres.

The good news for established operators is that with NFV and SDN they too can extend telco cloud-based services to customers – and they can do it better, with their established client bases, brands and scaled-up operations. The primary competitive benefits are the ability to be fast and agile, and much more responsive

to customer demands.

Furthermore, by using virtual networks and server-based systems, telcos can not only build up or license a service quickly, they can rip it down if it does not pay.

“Fast fail is a success,” declared Barrett. “You can turn it up on an X86 server and virtual device and turn it down – on licence...” No stranded capital assets that are of little use beyond the original trial and little time is wasted, and the company will have learned something about customer preferences.

Of course, if the initiative is a success then even better. In this case the opposite holds. With these technologies, if a service does take off, the telco can quickly scale to meet demand.

This is called optionality and when ex-

ecuted correctly it maximizes the returns on investments.

Juniper Networks is keen for telcos to start with the virtualisation of established services – something they already make money on and so can increase margins by reducing costs.

“You start with a good defense; get a solid infrastructure, a platform,” explained Barrett. “Virtual networks enable telcos to offer existing layer 4 through 7 networking services such, as firewalls, load balancing, caching, etc., and applications such video conferencing and more – all existing services with established business models, but which could now be supplied at lower cost than in the past. This opens up markets like the SMB market.”

An area for additional telco service is machine-to-machine services, offering

asset tracking, fleet car tracking and navigation, and other functions, run from a cloud-based M2M platform. The network programmability aspect of SDN and the ability to scale the packet core through virtualization of packet core functions will improve the ability to delivery these services as well.

Then there is brokerage, the ability to sell third party firewalls, services and other applications, and take a cut of the fee. These services are driving partnerships between telcos and cloud providers that leverage the ability of the telco to extend VPN services, and ensure secure routing of the traffic to cloud based services.

“These application areas are proven business models that telcos can now take advantage of more efficiently,” noted Barrett.

With this, and the proper infrastructure, there is of course potential to offer more ambitious services driven by big data analytics, and the provision of such services to marketers.

Customer insight is a key use case here, across all industries. Data collected within the network, can be extended to create context around customer behaviors and preferences, as well as around other concerns such as operations, security, fraud, and areas that improve customer responsiveness and help control costs.

Additionally, Barrett advises telcos to exploit the operational savings offered by virtual networks, such as elastic bandwidth and scaling, optimization of traffic flows, and improved productivity offered through simplification and automation of operational processes.

C-suite buy-in

So the benefits are there. What are the challenges? Clearly, with the use of virtual networks, which could deliver services licensed from other companies, strategic concerns such as service fulfillment, service assurance and reliability, billing, supplier management and security can become more complex.

Additionally, Barrett advises that as telcos move to new systems they begin

by carefully planning and considering safeguards, protecting against exposure to hacking, malware and more.

Moreover, telcos’ CFOs and CEOs need to declare that they are aware of how their company’s assets and revenues are handled and managed under the U.S.’ Sarbanes Oxley Act and similar European Union (EU) legislation grounded in the EU eighth company law directive.

“Juniper Networks is keen for telcos to start with the virtualisation of established services”

The CIO, said Barrett, likely has more experience in these areas, and can help design the virtualisation systems so that there are no blind-spots that can get a company into trouble during compliance audits. “It all has to be managed and compliant,” he said. In short: “Someone needs to set up internal controls and ensure they are extended to cloud services”. Business concerns like internal controls, and rolling out services using software based agile methodologies, are areas that the CIO is likely is to be more familiar with.

The CTO is given a more attacking role in exploring the potential benefits of the new technologies, asking “how can I continue to leverage the technology from a competitive and strategic advantage perspective.” In this area, the CTO has more experience assessing operational aspects of services to customers, and related network impacts.

The key point here is the identification of the responsibilities and ensuring proper accountability in a way that breaks down traditional organizational silos to ensure that compliance, customer and operational impacts are fully addressed.

With that said, security is a key part of this and needs to be carefully considered every step of the way towards virtualisation, stressed Barrett. Everything from policies around who is allowed what ac-

cess to what, who can pass what firewall, and contingency plans.

“It’s got to be documented for the end user, from the policy level all the way to the infrastructure level,” Barrett said. “If I’m going to sign off on something, I have to make sure I’m not vulnerable, and that it aligns to operational policies and directives. You have to protect against all of that.”

In all this however, the foundational component to transformation is people. To achieve this, telcos will need to develop and draw in talent, and to attract gifted millennials. Telcos need to augment existing skills with new skills related to software development process, DevOps, SDN and NFV.

He has recently written a white paper that elaborates and illustrates the issues involved: ‘SDN and NFV: transforming the service provider organization’. Its premise is instructive and encapsulates Juniper’s point of view on the organization implications, when faced with a comprehensive and complex challenge such as virtualization.

“Providers that embrace a holistic approach to their business transformation will be best positioned to capture future value for their shareholders,” Barrett explained. “This can only be achieved through fruitful and close collaboration with partners.” he insisted.

“We want to help build this network. It’s a process of engagement. This is how we want to help to create value for our customers,” Barrett said.

Indeed, co-creation is about the creation of joint value and a shared vision. A holistic and balanced approach related to transformation is the best approach to enable the shift from a traditional communications approach to a more entrepreneurial vision better equipped to compete in the rapidly evolving cloud networking space.

However, by taking this approach to transformation, you can start small with a specific use case, but be ready to move fast. If it works, it can spread to the rest of the organisation.”

www.juniper.net

SDN/NFV: Show me the money

Beyond the theoretical benefits that SDN/NFV provide, what are the business models that operators can look to? Eira Hayward reports



The theory behind software-defined networking (SDN) and network functions virtualisation (NFV), two separate but related developments which promise to revolutionise the way that operators provision their networks and provide services, is easy to get excited about.

The transition from hardware-defined to software-defined virtualised networks will use commodity hardware and open standards, simplify network process management, and make the running and maintenance of networks much more cost effective for service providers.

No more need for silos, no more need for the current forests of proprietary hardware all over the network that make the introduction of new services such a challenge. It will mean more flexibility and agility, with operators able to make changes to their networks and launch new services in minutes,

seconds even, rather than the weeks or months that it takes them at the moment. In short, a standardised way of networking that brings IT cloud and telecoms together in a converged infrastructure.

Timo Jokiahho, EMEA Senior Technologist, Telecom and NFV, at open source software company Red Hat, says SDN/NFV is analogous to impact that Apple had in creating the App Store model for smartphones, placing innovation in the hands of third parties and letting market forces and competition create an ecosystem of new hitherto unimagined services.

But cast aside the hype for a moment; what's happening in practice and what are the business models that operators are basing their roadmaps around?

Cisco's SVP of Service Provider Business in EMEA, Edwin Paalvast, says the company currently has over 70 SDN customer engagements in Europe and that

a number of key use cases are beginning to emerge:

- Mobility virtualisation, as virtualisation of the packet core is key for operators who want their networks to flex with traffic demands;
- Virtual CPE and service chaining as operators look for opex savings through delivering CPE services from the cloud;
- NFV and service orchestration, so that orchestration can bring together physical and virtual functions for maximum benefit;
- WAN optimisation, leading to better traffic engineering and costs savings;
- Policy driven application provisioning and delivery, as automation of application provisioning can lead to cost savings and better security, compliance and customer experience.

No trivial undertaking

Deutsche Telekom and Telekom Austria are chief among the European operators leading the way. DT was one of the driving forces behind the formation of the ETSI Industry Specification Group for NFV, whose remit is to develop requirements and architecture for network functions in software that run on industry standard server hardware, able to be moved around the network without the need to install new equipment.

DT has virtualised a couple of simple network functions in order to gain experience. In the summer, is also demonstrated automated on-boarding of a virtual IMS and its integration into the company's infrastructure cloud.

But the operator's VP of Aggregation, Transport IP and Fixed Access, Axel Clauberg, says it will be 2016 before any virtualised functions are inserted into the DT network. "It's not trivial to virtualise and cloudify complex network functions, and virtualised chaos is still chaos. You have to simplify before you can bring

network functions into a cloud environment,” he says.

Ultimately, DT sees SDN and NFV being able to give it the ability to deliver more converged telecoms and IT services from the cloud. At the moment there are cloud services for IT but only a very limited amount of real telecoms services delivered in a cloud fashion.

For example, wide area networking, video conferencing and network access have not typically been delivered in a cloud fashion. And if they are, they’ve not been linked to the IT services side of the house.

At Telekom Austria, its Serbian subsidiary Vip mobile has successfully demonstrated NFV on Metaswitch’s open source IMS, Clear Water. This follows on from Telekom Austria’s virtualisation trials earlier this year when its Bulgarian subsidiary Mobitel streamed content through a virtualised packet core over LTE and Croatian subsidiary Vipnet also demonstrated HD video streaming by using NFV.

CTO Gunther Ottendorfer says: “With Vip mobile’s trial we are also starting to understand what advantages open source projects will bring to the Group.”

Ottendorfer sees TA’s future business models coming from putting what he calls the “IT and connect departments” together through a virtualised infrastructure. He says that NFV will also provide open and easy access for third party developers of telecoms services.

“We’ve already achieved a lot and we’re going to spend the next year looking at how we can better automate and put in better processes,” he explains. “Of course there will be the opportunity for us to deliver new services, bandwidth on demand, additional back-up or computing power on demand for example. We’ll no longer have to build for peak loads, and collaborative services like video conferencing with customers being able to self-serve and self-administrate become a possibility.”

Cloud-based business models

So aside from the potential immediately to cut costs, the key appeal of SDN and

NFV is that services can be delivered purely in software and fully decoupled from the hardware lifecycle.

In Asia some of this is happening already. Hong Kong-based Pacnet has been using SDN to offer bandwidth on demand services for about a year and the company reports significant demand for this “network as-a-service” offer, driven by the general move to the cloud.

Heavy Reading Analyst Caroline Chappell says a function like CPE is also an obvious early candidate for virtualisation because of the cost savings it can deliver. But she says: “I’m finding a lot of operators are being very cagey about which functions and services they are virtualising.

“At the moment there are only a very limited amount of real telecoms services delivered in a cloud fashion”

“But most people are telling me that their expectations have been exceeded. The great thing about virtualisation for operators is that they don’t need an access tail – it gets people onto their cloud.”

In broad terms, functions like firewalls and gateways have been the first to be virtualised, while functions like routers and controllers or the packet core are now either beginning to be virtualised or on operator roadmaps.

Even though it’s still early in the life cycle for SDN and NFV there are a number of examples that point to the vast opportunities ahead. For example, NFV would enable Amazon Cloud to offer spot prices for cloud services for a limited time frame because cloud operators would know what capacity was available and would want to sell this.

Red Hat’s Jokiaho adds: “Web services firms and OTT players are generating revenue riding on basic IP channels of-

fered by telcos and the telcos are seeing nothing in return. If those IP channels can be combined with voice telephony, location, subscriber analytics and delivered using cloud architectures controlled by the service providers it opens up potentially huge market opportunities for the carriers.”

David Noguera Bau, Head of Service Provider Marketing at Juniper Networks, adds that NFV will allow service providers to expand their managed services offerings, and of course accelerate their deployment times.

He explains: “With SDN it can be fully automated and in many cases offered through a customer portal. It brings service providers bigger differentiation and they can become more relevant to their customers with specific offers to their needs. As the upfront costs are marginal, SPs can consider different go-to-market strategies, including try-and-buy, for services that in the past had a prohibitive price and limited deployment due to complexity.”

He says another big opportunity is cloud brokerage. “SPs are now able to re-sell third party cloud services as part of their cloud offering. It could even be extended to an end-to-end SLA model where the network can dynamically adapt its QoS according to the applications.”

But Chappell warns that it won’t be plain sailing to realise the opportunities ahead. She cautions: “There’s a whole set of workflows and orchestration that needs to be different. Not all virtualised network functions are the same, and there are some complex issues around mobile networks so it may all take much longer than people have thought.”

Mark Burton, VP of Network Management at software vendor Ipanema Technologies, neatly sums up the current situation: “We all know the money is in there somewhere, but we are still trying to identify it specifically. It will come from automation, simplification and maximising use of resources. Being more flexible in the way that you bill customers, as well as charging more if you need to, is also important.”

Mavenir offers mobile telcos ability to take on OTT players with virtualization



The virtualisation of telecommunications networks offered by the technology suppliers, will help the established large mobile operators to become truly global service providers, giving them a chance to break into the biggest telecom markets.

That's the prediction of Ian Maclean (pictured), VP for Strategy and Marketing, at Mavenir Systems, a Texas-based software technology company that is busy rolling out Network Functions Virtualisation (NFV) and Software-Defined Networking (SDN) systems to forward-looking mobile service providers.

Consumers like to use the systems they know and if, by routing systems through the public Internet, telcos can offer global voice, video, messaging, image transfer and voice/video mail services, just like Skype and Facebook, why wouldn't subscribers use the mobile handset and the mobile operator they use at home when abroad?

"Consumers are not dumb," declares Maclean, "If I want to travel to China and

call my wife and kids back home, and if I can use my existing handset and dialer, I'll use that. That's preferred."

At a stroke, the concerns nagging operators during the past few years - they might lose valuable revenue to OTT services providing such services and maybe premium content too - might crumble away. With all IP networks, the big carriers can leverage their current consumer base and move overseas with greater ease.

"Consumers have been seeking out alternative service providers," says Maclean. "Operators can now step into this void and be relevant again. They can continue to add more services."

NFV and SDN help telcos provide these services and will help them satisfy a projected increase in demand for mobile services that industry surveys suggest could grow 11 times between 2014 and 2018.

Meeting that kind of explosion in demand by expanding existing hardware based services is going to be hugely expensive, not to mention time consuming: "It's a phenomenal amount of equipment, transport and power," says Maclean.

Using NFV and SDN will help mobile operators build a smarter network that is far more scalable than the hardware systems of yore. Both SDN and NFV require a change in the network operations; one could argue that NFV requires higher level of changes than SDN. At present, NFV is making the headway in sales, because its set-up mirrors, to some extent, how hardware-based systems already operate, and can be introduced piece by piece.

On the other hand, SDN, can really deliver the ability to handle vastly increased data volumes. This, Maclean explained, is because SDN offers telcos the chance to install a virtual intelligence or management function that does not require data packets to be routed constantly

from the serving gateways at the edge of a network, to the centralised packet gateway, where key decisions on routing and billing are made, and packets being sent back out again.

Rather, SDN allows the telco to make decisions at once in many different places, with rules, decisions and action being applied to packets at the serving gateways. This makes a huge difference to scalability - because while serving gateways together must handle all the traffic that comes their way - they can split up that workload.

Under the old system, the packet

Award-winning solutions

Mavenir's ability to deliver solutions is being recognized globally. In September, it won the NFV award for its 'Virtualized RCS based on NFV' live solution at the LTE Asia conference, in Singapore. This Rich Communication Services (RCS-e) service, launched last August (2013), facilitates capex reductions for IMS-based RCS deployments when utilising multi-tenancy on a centrally deployed common platform.

Meanwhile, another important recent Mavenir launch involved the release this June of its Evolved Packet Data Gateway (ePDG). This enables Wi-Fi using subscribers to connect securely to the EPC network and enables seamless mobility between LTE and Wi-Fi. It allows subscribers to maintain constant access to high-speed data and voice services whether they are in LTE coverage areas or using Wi-Fi hotspots.

In July, Mavenir commercially launched a next generation IMS core network and Telephony Application Server (TAS), noting it was carrying live VoLTE traffic. With VoLTE, mobile subscribers can make crystal clear voice calls with faster call setup times while being able to simultaneously enjoy lightning fast 4G LTE data speeds, the vendor says.

gateway hub has to be large enough to handle the combined capacity of all the serving gateways – and that might be immense going forward. Removing the need for this central hub, allowing decisions to be made at the network edge makes this problem go away, boosting flexibility and efficiency, while reducing cost.

“I route it, keep it local and distribute edge to edge. I can reduce the need for a large centralized server and have multiple, smaller servers matching the throughput capacity at the edges, to build the network,” explains Maclean.

Despite this clear advantage, especially in the medium term, NFV, is an easier sell currently. “NFV is taking the existing network typology,” says Maclean. “It has the same logical interfaces.”

It just does it more efficiently – getting data packets to a data center and out again quicker than before. The movements might be virtual, but the same organisational elements are talking together as they have with hardware networks.

Moreover, Maclean says: “You don’t have to change your entire network to go down the NFV path.” Indeed, telcos can wait before they install a powerful NFV orchestrator able to control and harmonise overall operations.

That said, Maclean does not recommend that a telco be cautious about grabbing NFV, and just try it out in a small section of their business – rather they go for something big – like VoLTE (Voice over LTE).

“That’s the heavy lifting part of the network. Why not start there? You are going to go there anyway. Everything is going to be NFV.”

Mavenir’s systems have proof of reliability. “We have 100 percent confidence in our software-based portfolio,” Maclean declares. “There’s no reason why you can’t start with the heart of the network.”

Indeed, service level agreements set the highest bars imaginable – for mobile operators that is 99.999 percent service coverage – equating to being five minutes downtime in one year. “It can scale seamlessly and is reliable,” claims Maclean.



Introduce new products more easily

Mavenir has a wide range of products that can help: an end-to-end portfolio of voice/video, messaging and mobile core products that include IMS, EPC and SBC. Its solutions, based on the award-winning mOne® software platform, leverage NFV and SDN technologies for deployments on cloud-based infrastructure.

Costs are not excessively high, especially compared with the capex costs incurred in rolling out the equivalent amount of hardware required to achieve the same scalability. “We don’t have the overheads of traditional vendors such as Ericsson and Cisco,” explains Maclean. “Ours is not a capital intensive business.”

Indeed, newer, software-based companies such as Mavenir are just as well placed, if not better placed to deliver this new technology. For the hardware giants to move to software, whole hardware divisions would be threatened and this would entail significant organisational change. Mavenir had already committed to the virtualisation business and is rolling it out now.

Once installed, these new virtual networks will enable telcos to innovate and introduce new services far more easily than before. In short, says Maclean: “They can start doing some innovative things, quickly and easily.”

There’s money in this. Look at Apple.

Consumers have proved they are prepared to pay a premium for Apple’s innovative services, such as FaceTime, and its multiplicity of apps. Virtualisation enables telcos to “take the wrappers off” as Maclean puts it.

A good example is telemedicine, as offered by some larger mobile carriers with telepresence options. Telcos can emulate this by providing services that indicate to users where a doctor is, what communication devices are available to them, say what services they need, all integrated into voice, video and voicemail packages.

“You are converting a service to something that is visual and contextual,” says Maclean. This functionality is important for mobile operators who charge by usage. “I don’t think consumers are willing to pay for service utilization. But they will pay for convenience; access to content; freedom to choose between different content and services; and they will pay for the delivery of services across a multiple device ecosystem,” Maclean adds.

With mobile operators being given the ability to deliver different types of content seamlessly across different devices, (just like Apple), there’s opportunity for topline growth. What’s more, telcos have access direct to consumers’ homes – the ‘last mile’ of connectivity. They are ideally placed to deliver the services that virtualisation enables them to offer.

Job losses: The elephant in the room that SDN/NFV lets in

Telcos have a shortening timeframe to train their staff for a virtualised world, but even so it is likely that many will not survive the transition. Eira Hayward reports

If, as the shift to virtualisation promises, networks will no longer be full of proprietary hardware appliances that require separate and specialist teams of experts and field staff to manage them, it's reasonable to forecast that operators will require fewer staff overall.

It's a taboo topic to some extent, but an important one for an industry still battling to return to growth. Chris Morrison, Technical Director EMEA, at network automation specialist Infoblox, pulls no punches: "SDN network administrators will, in effect, be programmers who create logical connections between endpoints rather than certified experts on single-function devices such as routers and switches.

"There will be fewer people required to manage networks when the SDN transition is complete, and not all of today's network administrators will be in a position to acquire the new skills required in the SDN environment. That may sound harsh, but it's not beneficial for anyone – CIOs, networking practitioners or vendors – to pretend the advent of SDN will be completely painless."

Len Padilla, VP of product strategy for NTT Europe is more optimistic. The operator has recently completed proof of concept trials with Huawei on the vendor's NFV solution for the evolved packet core. Padilla says: "While SDN and NFV are bringing increasing levels of automation to network management, we don't think they will have a huge negative impact on the industry in terms of skills, for two reasons.

"First, in cloud and service providers the engineering workforce tends to be broadly T-shaped: that is, engineers tend to have in-depth capability in one or two

areas but generally possess a broad range of capabilities. So there's a lot of versatility here.

"Second, if we look at incumbent telcom companies, their network refresh programmes run on a 10-15 year basis, so we are at least five years away from SDN and NFV having a major impact on their engineering staff. By the time these technologies are a feature of their networks, their engineering staff is likely to have had the time to develop any additional skills they may require."

Certainly, the transition to a virtualised and software defined network won't happen overnight. In Europe we're just at the start of the shift, with operators for the most part still examining possible use cases or conducting initial trials - at best they are virtualising the simplest functions.

A recent study among mobile operators from market researcher Infonetics found, for example, that only 29 percent of operators are either deploying or plan to deploy SDN at some point in their backhaul network, and 63 percent are still evaluating as a possibility with no set timeframe.

It's not a trivial undertaking as Bengt Nordstom, CEO of consultancy Northstream, explains: "As with other once-new technologies like 3G and HSPA, virtualisation will pose significant technical migration questions for operators."

Other more wide-ranging skills will be needed for operators to successfully derive the huge efficiency benefits promised by SDN and NFV, according to Nordstom. But he warns: "The changes to hardware and software required by SDN and NFV will by themselves only deliver a small cost saving. Operators can probably save more money on opex than capex if, along

with migrating to SDN and NFV, they also review the legacy systems and staff that they have in place for their key business processes, everything from point of sales and customer activation through to their billing platform and customer care.

"When considering SDN and NFV, operators must ask themselves the question, 'What business processes can I change with this new network architecture?' To properly fulfil the commercial potential of SDN and NFV, operators should combine their adoption of each technology with a comprehensive review and transformation of their business."

Michael Shevenell, Software Architect at CA Technologies, says that physical devices in a network are not going to disappear overnight. "The challenge is that operators will require skills to manage both traditional as well as SDN/NFV entities, co-existing for a very long period of time. Consequently, the great need from a skills perspective is the ability to fully utilise and manage both of the technologies side by side," he says.

"In addition, there is a very strong open source movement in these new areas. This new development model greatly enhances the number of types of APIs and programming approaches needed. As such, there is a great need for these blended skills, as well as tools, which understand both environments well and are able to seamlessly manage their co-existence and transition over the entire operational lifecycle."

Worldwide skills shortage

At this point, it is important to take into account the worldwide shortage of relevant skills. The lack of IT talent is a global issue, exercising businesses, academia and governments all around the world. When



recruiter Hays Group recently compiled a list of the top 10 skills that are lacking, it pinpointed IT as one of the main hard skills in demand around the world.

In Europe, research from the Computer Technology Industry Association (CompTIA) in 2012 found big concerns among businesses that they were lacking core IT skills and that this lack of skills was having an impact on their profitability, productivity and innovation. Chief among the skills they lacked were networking/infrastructure, servers/data centre management, storage/back-up, cybersecurity, database/information management, help desk/IT support and telecom/unified communications.

All of which feature heavily among the diverse skills sets needed that operators are looking for as they implement SDN and virtualise network functions. Add to this the image of telecoms businesses – why would bright young 20 something software specialists choose to work for a telco when their skills are in high demand and they can choose to go and work for an internet company, or take a risk, work for themselves and develop something that might mean they can retire in 15 years?

Timo Jokiahho, EMEA Senior Technologist, Telecom and NFV, for Red Hat, points out that while there are bound to be skill and experience gaps that network operators will need to fill when they roll out SDN/NFV, much of the new learning will be carried out by network equipment providers rather than network operators.

These vendors will lose their hardware business on mobile core and mobile packet core and some other places, he says, and gain on software business. He thinks traditional network vendors will

also see a lot more competition as newcomers enter the network applications development space – indeed we've already seen some NFV first movers like Telekom Austria turn to start-up equipment vendors as they go through proof of concept and field trials.

“Hardware development needs will be reduced dramatically and modern software development skills are needed – virtualisation, cloud and dev ops,” Joki-aho says. “Network equipment providers are looking at a future of diminishing returns on hardware, hence they're looking to drive SDN/NFV rather than fight it.

“We're seeing that all the traditional vendors, Alcatel-Lucent, Nokia Networks, Huawei have OpenStack propositions. So we'll see innovation coming on how network services are delivered by equipment providers. In addition to innovation from traditional equipment providers, we'll also see system integrators like Accenture and Tech Mahindra move in and compete for service provider business.”

He adds that it is likely that people with a background in traditional enterprise IT will move into telecoms. But he has a final, encouraging message to operators. “Service providers rely heavily on a skilled workforce of telecoms network engineers, and that is not about to change as a result of the arrival of SDN and NFV. Continuous training is a key part of any successful IT workforce.”

Axel Clauberg, who is heading up NFV at Deutsche Telekom and is a member of

“ It's not beneficial for anyone to pretend the advent of SDN will be completely painless ”

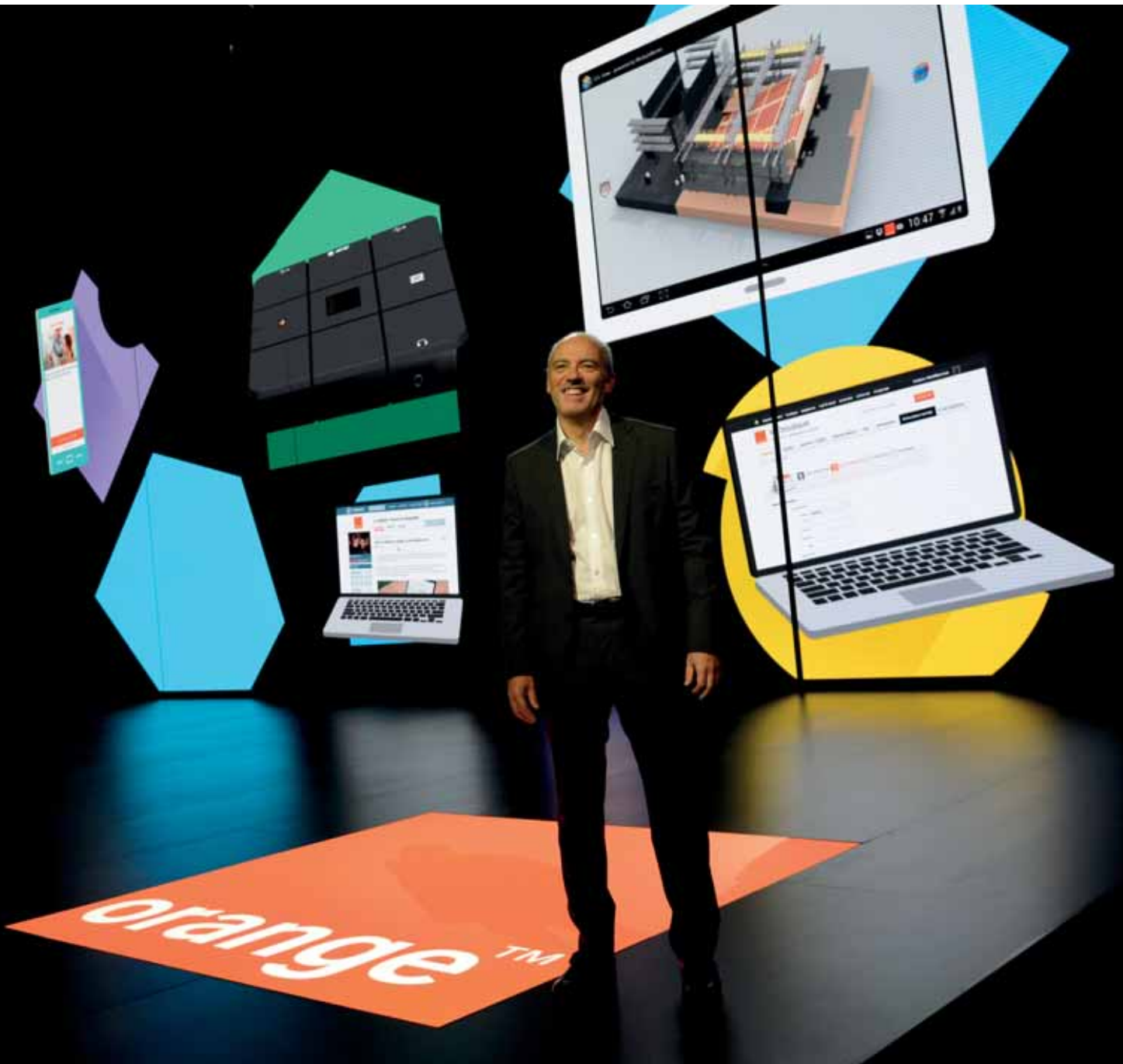
the ETSI specification group for NFV, says that DT regularly schedules special SDN days to keep everyone in the business involved and informed of progress.

He admits it's something of a challenge to keep everyone realistic about what can be achieved because technical staff can easily over-interpret what can be done and also underestimate the work needed. This means they can get disillusioned when a project takes longer and is tougher than they expect it to be.

He says: “We need to move fast and when you move fast you have to make compromises. The art of execute and deliver is key. Internet companies like to operate on a principle of failing fast, restart and execute again. That's harder for a telco with a significant business behind it, and we can't afford to fail on a production service, but we need to adopt this way of working.”

Hello, I'm here to sell you a connected future

Orange CEO Stephane Richard unveiled a dizzying array of new products and services at the company's annual hello show in October. The 20-plus launches included a mobile banking service for Poland, a connected home app and a big data platform for businesses.



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