Much importance is given to securing digital content and monetising it across platforms, often as part of a triple or quad-play service. Equally important is ensuring that usage is billed in a timely manner. Colin Mann investigates how specialist solutions providers enable seamless service operation and subsequent monetisation.

Show me the

The majority of the *Euromedia* readership can no doubt remember the time when their phone bill arrived on a quarterly basis, with the only itemisation detailing a quarterly charge and overall usage. This was certainly the case in much of Europe, where legacy PTT operations controlled monopolistic phone networks. While people paid for their 'utility' telephone bills, by and large television viewing

was a payment-free activity, supported by either licence fees or ad-supported public service broadcasters. Cable TV for many was limited to a relay of 'over-the-air' channels,

with users paying for the service provision rather than programme choice.

Telecoms deregulation at a national and pan-European level in the 1980s and 90s led

Mobile edge out in convergence race?

A mobileSQUARED report on behalf of telecom IT solutions specialist Tecnotree suggests that digital media and digital communications have both converged on mobile but, rather than being in the sweet spot, mobile opera-tors find themselves pushed further and further out towards the edge.

According to mobileSQUARED, the paradox

for mobile operators is that as the digital world turned to mobile, so their own tradition-al mobile offerings became more and more anachronistic. "Mobile voice and text may still provide the majority of an operator's overall revenues, but the days are long gone when they were also seen as unique selling points. Mobile operators now face the stark choice of becoming a 'dumb pipe' and charge for data traf-fic carried over their networks, or to become a 'smart pipe' with their own digital content

and other service offerings," says the research firm.

"All content that is freely available on the Internet is now freely available on hand-held devices via WiFi. Over-The-Top (OTT) players such as Skype, iMessage, Google Talk, Facebook Messages, WhatsApp offer free voice and messaging services using Internet Protocol (IP), while Video-On-Demand (VoD), Cable and Internet TV services are widely available on free and pay sites," says mobileSQUARED, suggesting that if content truly is King, then the mobile industry has suddenly been exiled.
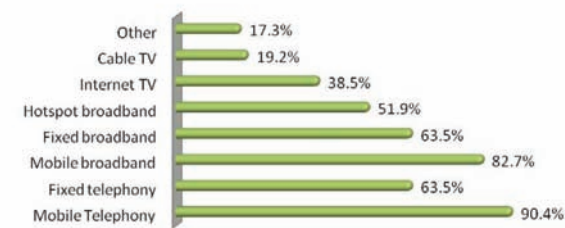
"The convergence of the fixed and mobile industries, and then broadband and TV, has been completely over-shadowed by the Internet world. There is now little dis-tinction, if any, between fixed communications, mobile, TV and the Internet – and it is the

Internet world that has led innovation and changed con-sumers," it says. "It is no longer enough to offer triple-play (fixed, mobile and broad-band) or even quad-play (fixed, mobile, broadband and TV) communications services," it suggests.

During Q4 2011, mobileSQUARED surveyed 52 leading operators regarding their attitude towards bundled content and service packages in order to gauge how the industry can compete in a digital world. According to the operators, mobile payment services, video on demand (VoD) and cloud storage, are the three most valuable content services that they will offer customers in the short- and long-term. To meet these needs, 85% of operators said that a product catalogue is now viewed as a commercial necessity.

"This highlights the fact

Which of these communication services do you currently provide?

Service	%
Other	17.3%
Cable TV	19.2%
Internet TV	38.5%
Hotspot broadband	51.9%
Fixed broadband	63.5%
Mobile broadband	82.7%
Fixed telephony	63.5%
Mobile Telephony	90.4%

Source: mobileSQUARED

money

to increased competition, while advances in technology also led to the creation of mobile networks. At the same time, cable networks and DTH satellite launches were making multi-channel viewing a reality.

Further liberalisation has seen telcos, cablecos and cellcos all in a position to provide a broader service offering – the Holy Grail of the triple or quad-play. While this can add to the stickiness of the service provider's proposition, and gives the subscriber the convenience of 'one-hit' billing, in a competitive marketplace the challenge is still very much a case of 'Keeping the Customer Satisfied'. How can broadcasters, content owners and service providers ensure that their assets and services are being correctly monetised, either as part of a multi-service billing operation, or via micropayments for on-demand content?

ACTIVATION. Brian Cappellani, CTO for Sigma Systems, notes that as operators deploy IP video service activation and provisioning become more complex as it relates to the billing system. "For example, when a customer receives IP video, they must also be provisioned with the appropriate bandwidth to successfully deliver that service. This is in addition to the operator provisioning or turning on the entitlement for the right content to that subscriber, i.e. the channels or package they ordered."

"If an operator does not have a system that can accurately manage this and similar scenarios, the order 'falls out' and is not successfully delivered. However, if the billing system is 'fire-and-forget', and not cross-talking with other systems on the network, a subscriber might be charged for a service that has not been delivered to them."

"This becomes a more likely case as subscribers conduct more and more self-care by ordering new services or programs through a mobile device, like an iPad, or their set-top box. This is a departure from the traditional billing process, which started when a subscriber called the provider directly. As that becomes a rarity, billing and other back office systems must adapt to new use cases while maintaining the level of orchestration and visibility into subscriber entitlements/information needed to provide timely, reliable activation and delivery of services," he advises.

DIFFERENTIATOR. Carl Davies, global

that operators are not only aware of the threat posed by external forces, but how they intend to tackle these challenges head on, fighting digital with digital. And this is where mobile operators have to become smart, because not only must they be experts in the delivery of communication, to meet growing consumer needs, they must embrace elements of the digital world also," says mobileSQUARED.

"Communication service providers need flexibility to serve different customer segments by creating a host of alternative service packages or subscription types, i.e. service bundles. One size definitely does not fit all, nor do three or even five different flavours," says mobileSQUARED.

Out of the 52 leading operators surveyed, over 90% offered mobile services, with almost 83% also offering mobile broadband services. Almost two-thirds said they offered fixed telephony services, with a similar amount also offering fixed broadband services. Just over half of all the CSPs said they offered hotspot broadband services, such as WiFi, with almost 40% offering Internet TV and a further 20% offering cable TV.

The vast majority of CSPs currently offer convergent communication services, with only 17.3% saying they either do not have a converged offering, or still sell services individually.

Almost 31% of all CSPs said that they currently offer quad-play services, while 25% offer triple-play services. A further 21.2% said they package mobile telephony and broadband, while almost 2% bundle fixed and mobile telephony together.

'Content is not King, but providing consumers with access to their content is'. That is the view of the majority of operators surveyed, says mobileSQUARED, highlighting the need to deliver bundled service packages. Although 94% of operators surveyed offer digital content, and therefore signing an exclusive deal with a content provider may appear to be a fantastic marketing opportunity for that operator, it is only a compelling proposition for a handful of operators. That means the role of bundled services will be critical for the majority of operators, with price and consumer benefits among the primary elements upon which operators will compete.

According to mobileSQUARED, the survey results clearly signpost the direction for developing market operators. The discovery of digital content via smartphone will be augmented by other content and service offerings, and CSPs will either become niche or full service providers. Either option, however, will likely involve broadband access and digital content.

"But getting that balance right will be critical for every CSP as they look to develop business models to meet the need of every individual customer. The likelihood is that the CSP will develop a product offering delivering services that envelop content to ensure the customer experience is consistent whether at home, work, or out and about, and whether they are viewing their content on a smartphone, tablet or connected TV. In effect, content will be free, but how they access and store this content will be where CSPs can differentiate and compete on delivering a complete turnkey experience," suggests the research firm.

> "Monetisation of content is no longer the domain of the big platforms – a whole new world of direct to consumer content services are enabled by OTT and IP devices."
> **STEPHEN PETHERAM, PAYWIZARD**

marketing director, Convergys, notes that competitive pressures, new bundles and sophisticated next generation services, are key drivers for differentiation in this market. "Increased customer expectations are driving innovation with real-time capabilities critical to long term revenue growth. Operators recognise that a superior service experience builds strong bonds with the customer. Creating that brand loyalty and driving revenue from personalised services is a vital differentiator," he advises.

"To that end it is critical that service providers adopt a strategy which enables them to model every conceivable network capability into a commercial service offered via a centralised enterprise product catalogue and order management solution, enabling the marketing functions to monetise every infrastructure investment.

A smart BSS/OSS system with real-time convergent charging (RTCC) in this market is key. The high-level benefit of RTCC is the ability to sell any service to any subscriber by any payment method. It is not appropriate here to engage in an in-depth, technical review of the functions that deliver this, save to say that it is enabled by an infrastructure that supports the highly flexible calibration of key variables, such as price, service type and time. And a critical aspect of this infrastructure is, of course, the ability to support real-time transactions."

PORTFOLIO. He recommends that service providers must expand their product portfolio as both a competitive differentiator and as a means of growing revenues. "Whilst the emergence of new technologies enables a provider to develop innovative products, this requires a single product creation environment coupled with fast-time-to-market, while leveraging a flexible data-driven solution such as Real-time Convergent Charging."

He advises that a smart BSS/OSS system with real-time actionable intelligence in this market is key in offering and sets out a number of key criteria:
1. Personalised offers, promotions, and cross product bundling through real-time discounting based on usage across each of the services.
2. Single view of the customer
3. Multi-play bundles of voice, video, data, and content
4. Reduction in churn and an increase in customer loyalty by maximising every customer Real-time mediation and rating functionality, with a future-proofed system that is enhanced and maintained in the product, avoiding custom integration costs.
5. Supporting online charging, allowing convergence into one system, with credit Policy Management at the gateway network to control usage, manage bandwidth, and ensure a superior service experience for customers.
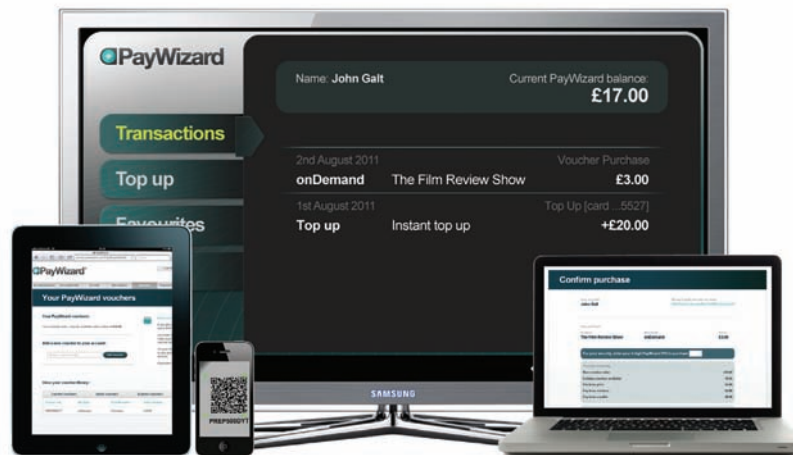
Policy management heads off customer problems by sending limit or upgrade notices.
PARTNER. For Stephen Petheram, marketing director, PayWizard, a crucial factor in ensuring that broadcasters, content owners and service providers ensure that their assets and services are being correctly monetised is choosing a payment partner with a highly flexible and scalable solution across all IP devices. "Standard subscription services to one device are well understood, but cross-device transactional models are being trialled today and may change tomorrow – hence the requirement for flexibility in pricing models. The blend of transactional and subscription revenue models is still being defined – and when advertising is thrown into the mix becomes even more complex," he notes.

According to Guy Hilton, director of product marketing, revenue management division, Amdocs, in today's world of data services and content, a lot of thought is given as to what is the most efficient way to monetise the combination of data services and content. "Today's monetisation schemes are somewhat separate, as all parties are still looking for the right set of business models that will create a win-win partnership. Service providers are looking to maximise the monetisation capabilities of the investments they've made in their networks, while content providers are seeking new routes to gain more customer reach," he says.

Looking at assets that can be leveraged by both parties, he identifies the following examples:

1. Attractive offers enhancing exposure through bundled packages and Zero charge services. Adding content items to data packages would enable a broader market reach for the said content items. This means that content providers will be able to promote and monetise their content through a variety of new channels enabled by the service provider and all parties will share the revenues generated from this combined offer.
2. Another example is leveraging the service providers' ability to offer advanced monetisation schemes such as zero rating for specific items/services. This would mean that for certain services the customer will not be charged and the cost of data for this service will be picked up by the content provider. This is a useful technique for promoting new services or differentiating content providers offering from one another. These types of offers could enhance the customer experience resulting in higher loyalty levels of those customers both to his service provider and to the content owner.
3. Leveraging network resources and insight by offering premium / best fit Quality of Service (QoS). When analysing data content we see that a significant part of it is video-related. This presents new monetisation opportunities as content and service providers alike could offer in innovative real services that switch a customer to an HD quality video based on network availability.

> "One of the big challenges is that rights are distributed across many content providers."
> **GRANT LENAHAN, ERICSSON**

This creates a significant number of up-sell and cross-sell opportunities that can take place in real-time and leverage both service providers and content providers' assets.

4. Leveraging strong customer relationships to improve customer experience. Service providers have an ongoing dialogue with their customers through billing, payments and collection history etcetera. This type of relationship can be leveraged by content providers and be used to enhance customer experience and simplify content purchase as the customer would be able to pay through this monthly bill without the need to insert his credit card or any other payment method. Carrier billing simplifies the process and brings together the strengths of both parties.

"These are just a few examples of how service and content providers can work to better monetise their assets," he suggests.

IP RIGHTS. Tatu Tahkokallio, group marketing director, Tecnotree Corporation, suggests there are a number of ways a content owner can ensure intellectual property rights and the right to make money are protected and ultimately correctly monetised. "These mechanisms can be broadly categorised into two: written agreements and trust," he says. "Striking a win-win contract can sometimes be rather tricky for a smaller player such as a content owner or a service provider, when the other party has more negotiation power due to mere bigger size of business. A local communications service provider, such as a telecom operator with excellent experience and future vision of market needs, can prove to be a trusted partner for such a deal. Getting your content and assets quickly bundled and launched in the operator's network will be the first steps to generate new cash."

Content offerings have to be immediately discoverable and chargeable, with customers expecting to be able to choose what content they want to con-sume, how they want to consume it, when and where? How are such challenges addressed?

Grant Lenahan, executive director and strategist, service delivery, Ericsson, says that as broadband-based content discussion goes mass market, it needs to be as convenient and easy to use as other consumer goods – not designed for and by 'techies'. "CSPs are in a unique position – common across many content sources – to provide aggregation, directories, centralised charging, rights management etc. This can help spur mass adoption and revenue growth for all – if content companies are willing to share in the 'larger pie' potentially available. So far each has shown a go-it alone strategy," he advises.

NEXT-GEN. Sigma Systems' Cappellani notes that as the next-generation video platforms become ubiquitous, subscribers increasingly opt to order new programmes and services on-demand through self-care systems on mobile devices or directly through the set-top box. "The old days of dialling up your operator's call centre will fade as customers prefer an instantaneous delivery of the content they want activated and delivered within seconds. This means that the operator's network must maintain high availability and respond to orders any time, day or night. Operators must now ensure that their activation and provisioning layer is responsive and scalable to keep up with subscriber demand," he says. "Furthermore, operators must establish a common way for many systems within their networks to access and 'turn on' new services to ensure that however a customer orders, be it via tablet or remote, the service is delivered and billed appropriately."

PayWizard's Petheram suggests the scalability aspect is important when it comes to ensuring a quick, seamless and secure payment platform across today's devices – as well as being future-proofed for deployment on devices yet to be launched. "Interestingly monetisation of content is no longer the domain of the big platforms – a whole new world of direct to consumer content services are enabled by OTT and IP devices and the explosion of 'app store' propositions, on any kind of device, will continue to increase. A successful payment platform needs to cater for all of the current, and subsequent, business models associated with this explosion of services," he advises.

For Convergys's Davies, the need to focus on the last leg of the value chain is more critical than ever. "Changing the focus from 'to the home' to 'in the home or anywhere' with a digital home and content anywhere strategy. The millennial generation will drive the connected device video adoption; they've grown up in an Internet and real-time world, and have no loyalty to the video content consumption models of the past. Customers want real-time flexibility in how they access and consume their content," he suggests, adding that personalisation is key to ensuring a seamless TV Everywhere experience. "This consumer-centric future requires a different concept of what constitutes an 'account' and its rights. With the TV Anywhere model and the recent news regarding the connected devices/smart phone and tablet apps, the 1 to 1 relationship starts to change from the MSO and bill payer to the MSO, the bill payer and device user.

Real-time actionable intelligence in this market is key to building customer loyalty. To this end, it's absolutely crucial that the MSOs adopt the customer centric approach to delivering services," he recommends.

CHECKOUT. Tecnotree's Tahkokallio says that in this digital era it is no longer sufficient to think of products and services as merchandise for which the purchase process involves simply browsing followed by the final check-out. "Instead, the process is much more complicated including recommendations from peers, time and location based behaviour, and intelligence derived from predictive usage analytics. Hence an operator eager to pursue the transformation towards a digital marketplace must address all the above-mentioned developments and incorporate concepts such as a unified product offering, policy control and customer lifecycle management into their service strategy. And all this, done in real-time naturally," he states.

Amdocs' Hilton says the company has several solutions that address the challenges and enable the various scenarios. "Whether it's our partner relationship manager that enables the creation of new and innovative business models between service providers and the various partners that are involved in offering content to the end customers, and automates the entire partner lifecycle management while offering analytical insights as to partner performance, margins, *etcetera*, which is also available for partners to view, through QoS based solutions that complement it by enabling QoS based offers to be launched and carrier billing solutions that simplify the purchasing process for the end customer," he explains.

In terms of managing and reporting rights payments for content suppliers, Ericsson's Lenahan suggests that one of the big challenges is that rights are distributed across many content providers – today you need to enter your rights, preferences, charging info etc. in many places. "This is inconsistent and inconvenient.

If you consider the role of parental controls, in fact it's a recipe for failure – teens will simply avoid the sources that are controlled."

FLEXIBLE. Davies notes that Real Time Convergent Charging (RTCC) enables providers to manage and report usage accurately. "Automatically providing analysis and settlement to third-party content owners, which can be configured on a merchant by merchant basis – enabling a very flexible support for many different processes in one system."

Petheram suggests that currently, the monetisation aspect of many interactive experiences is deployed as an afterthought. "This must change," he asserts, "the user experience, the journey, recommendations, search and payment must be considered and developed together in one holistic design process, with the focused aim of encouraging consumers to easily and naturally pay for content – which has to be the ultimate goal of all broadcasters, content owners and service providers."

Tahkokallio notes that as the number of content items and content providers grow in a digital marketplace, typically also the number of delivery channels, price tiers and content bundles increase. "This poses a very practical challenge of data collection for charging and billing purposes. Real-time usage data must be collected from various business lines such as mobile, broadband and IPTV regardless of subscription type (prepaid or post-paid) and processed for payment purposes. Furthermore, as content items get packaged to different service bundles the commercial value and the revenue share of an individual content item may differ from one package to another. Fully-automated revenue share calculations become thus a necessity."

MARKETING. In a competitive market, special marketing offers can play a significant role in retaining customers or increasing a service provider's ARPU by spinning up to additional services. They can also add a significant level of complexity to the ordering, activation, delivery and billing process, says Cappellani. "Often services must be repackaged and/or redefined in the service catalogue with new prices assigned to them within the billing system. Without a back office architecture that

"Content providers will be able to promote and monetise their content through a variety of new channels enabled by the service provider."
GUY HILTON, AMDOCS

allows these changes to be made quickly, marketing may have to wait weeks for the promotional service to be created," he warns. "The OSS layer in particular can provide operators the ability to build multiservice bundles, tie video and access together, and get those out to subscribers to realise a faster time-to-revenue and better positioning against competitive offers."

One example of how complicated marketing offers can get is seen in a joint demonstration between Sigma Systems and NDS of an integrated service management solution to enable IP video services, he advises. "One of the use cases demonstrated involves the authorisation of an iPad to view video content under a subscriber's account. The operator then provides a coupon for a free 24-hour viewing of the movie Avatar that customers must access through a QR (Quick Response) code. The iPad is able to scan the QR code and view the movie, while data is sent to the operator's network that will allow them to follow up with the subscriber to upsell them on new premium video services and other offers," he explains. "This example displays the high level of communication needed between back office systems to process the order, deliver the service and inform billing to ensure that the subscriber's order history can be leveraged for future marketing activity."

"Customers are difficult to acquire and even harder to keep," admits Petheram. "Targeted and relevant marketing incentives are increasingly part of the mix, including discounts and offers, vouchers and 'loyalty points'. This more complex marketing capability must be swift to deploy to take advantage of any current compelling event and needs to be completely integrated with the payment platform to ensure robustness and integrity of data. The data itself is the most important revenue driver. If you know what your customers are doing and on

which device they prefer to do it, then the nirvana of real-time 'actionable' data being deployed offers the maximum chance of ensuring a happy, loyal and active customer base," he advises.

IDENTITY. Lenahan suggests that in the world of content marketing, offers generally are either bundles or temporary promotions, based on your interests. "The problem is when content is distributed it's hard to bundle unless many fierce competitors suddenly co-operate, and how likely is that? This is yet another reason that certain core functions – your e-wallet; your preferences; your interests profile are more powerful when centralised. Some refer to that broad function as 'identity.' I'd note that this approach also enhance privacy and security as well... but that's a topic for an entire column on its' own," he ventures.

According to Hilton, most of the innovative offers are connected to data services and as such, the real-time element becomes a crucial factor in being able to launch them. "The ability to offer upsell/cross sell offers in real time to any customer, be it prepaid or post-paid, adds considerations that were not thought of two or three years ago," he notes.

"The basics of marketing are not changing," suggests Tahkokallio. "This means understanding your customer needs, having proper segmentation in place, and conveying the right messages at the right time to the right audience still matter. What has changed, however, is the speed at which new product and service offerings must be launched and marketed. Furthermore, adding social media in the marketing mix, not only as a broadcast media but also as a tightly integrated two-way communication channel giving insight to customers' digital footprint, means deeper integration between service provider product management, customer care and customer lifecycle management systems."

PERSONAL. Davies has a simple recommendation: "Stay Customer Centric: Use Real Time Analytics to keep it Personal!" He suggests that personalisation is a key strategy right now for cable operators working to keep their subscribers brand-loyal, with many using data analytics and real-time intelligence to market specific services and packages to consumers.

"This means configuring individualised offerings to make them more appealing for each consumer, such as discounted on-demand movies, or other packages based on preferences and usage. Personalisation makes the cable experience more attractive, and consumers are less likely to be lured by competing services that do not offer the same level of customisation," he suggests.