Connected TV Kills the IPTV star?

The recent International Consumer Electronics Show in Las Vegas saw major CE manufacturers announce a host of Connected TV initiatives. With leading US cable MSOs nailing their colours to the Connected TV mast, can the managed IPTV services of telco players survive in the app-driven, 'TV Everywhere' era? Colin Mann investigates.

If managed IPTV services are under threat from connected and OTT services, are there differentiating factors that they can call on? According to Netgem's CMO, Yann Courqueux, many operators might argue that since they manage the delivery of content and hence ensure the quality of service, this is the main differentiating factor. "We don't think this argument holds, since it's only true in the short term, continuous technology improvements will make OTT QoS as good as that of a managed network and in a sense, OTT will be more effective as it will be more agile and flexible in nature," he argues.

He identifies two key differentiating factors between traditional IPTV and OTT services. "Firstly the customer relationship: The operator has two main assets here, their intimate knowledge of the customer and customer care. The first allows for much better segmentation in terms of a targeted and personalised service, the latter ensures long-term customer satisfaction and loyalty. A retail/OTT player will not be able to compete against either – for instance, who can the user call when a Netflix movie does not play on their Samsung TV purchased in Wal-Mart?" he asks.

"Secondly is the customer experience. The growing proliferation of widgets/apps on the viewer's TV screen will prevent the development of a consistent/comprehensive and immersive entertainment experience," he warns. "Only operators that are able to link in local premium broadcast content with relevant non-linear web-based service can provide the ultimate TV experience. Partitioning web applications and services into a separate portal from broadcast content does not create much value. Entertainment value is created when all the content sources and types are blended seamlessly within a single, simple to use interface that remains uniform across different devices. Consistency of user experience across content sources/applications and across devices are vital differentiators," he advises, adding that a straight OTT play can't achieve this, because OTT services are not designed to talk to each other, if these are not tightly integrated within a customised device. "Consumer products are not currently designed to be customised/localised as their manufacturers are seeking scale."

"Consumers expect their connected devices to simply work together."
PAUL BRISTOW, ADB

VARIETY PACK. According to Andrew Burke, CEO, Amino Communications, the ability to deliver quality HD content is a key differentiator for the IPTV player. "Our view is that IPTV and OTT can be complementary rather than competitive - with quality of service being delivered through IPTV infrastructure and the breadth and variety of content through OTT," he suggests.

Paul Bristow, VP, strategy, middleware and consumer experience at ADB, suggests that IPTV players can differentiate by making convergence a reality. "This means Linear TV - broadcast and IP - plus over-the-top, plus home networking, in one easy package with one remote control and one intuitive user interface. It is about letting your subscribers simply enjoy multimedia entertainment now, rather than wasting time looking for suitable content across multiple platforms and clunky menus."

He recommends two critical areas are addressed in order to deliver superior, converged services. Firstly by building Connected Home services in a way that the consumer always has the entire home network's content transparently accessible on his chosen device. Secondly, by making Connected Home services easy for consumers. "Consumers expect their connected devices (game consoles, smartphones, tablets, TVs, storage devices) to simply work together. This means that the operator must manage the entire home network, activating services on new devices, monitoring the quality of the experience and remotely fixing issues when they arise."

Green Button Media chairman and founder, Barry Rubery, says, "it's not about competing. It's about cooperating and building an enhanced service that offers the customer more." Geeta Chaudhary, VP of Multimedia service, Alcatel-Lucent, sees OTT as a threat, but suggests that IPTV is better placed than cable. "It needs to evolve. Next generation platforms will combine best from both worlds," she says, pointing out that telcos can position their service as a high-end offer, with elements such as HD, 3D and PVRs. She also foresees such platforms incorporating OTT technology. "We'll see them open up a little bit more and negotiate with third parties. There will be active engagement of Tier 1 telcos with connected TV players."

CONTENT DEALS. Per Lindgren, VP, business development at Net Insight, suggests that important factors relate to quality and content availability if the subscriber is paying for extras. "Bundles are attractive, but if the quality's bad, you won't want to watch," he notes. Marty Roberts, VP, sales and marketing, thePlatform, notes that IPTV operators have solid relationships with content producers; they're already paying for content. Simon Woodward, CEO of ANT, suggests that the different players are competing at a service level, not a technology level, and feels that OTT has a hugely important role to play where the consumer sees that he gets a benefit, noting that the HbbTV (Hybrid Broadband Broadcast TV) initiative is designed to standardise OTT into a device.

Boris Felts, VP, marketing, Envivio, is another who notes that some IPTV players are

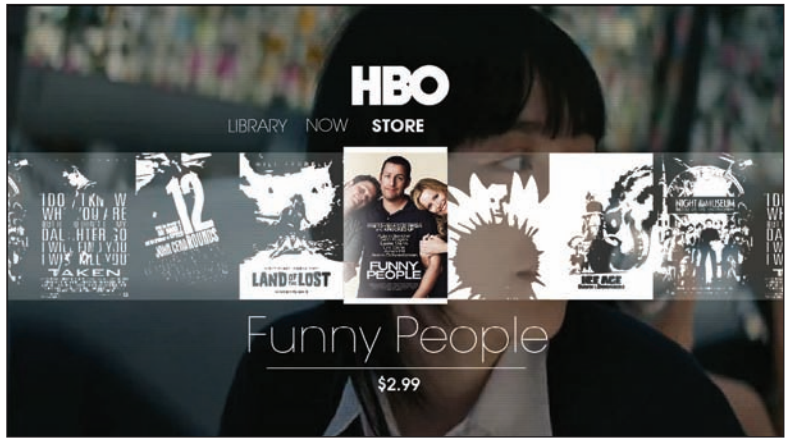
seeing OTT as an opportunity. "We're seeing IPTV players moving into three-screen, i.e. OTT, but on their own networks. They have an advantage, because some OTT players don't have the content library."

Charles Dawes, product management director, service provider solutions, EMEA for Rovi, stresses the importance of QoS. "There's still a place for people who want to pay for a service," he says. "IPTV operators are a service company rather than a content delivery company. It's just that they happen to have chosen IPTV rather than DVB for their delivery protocol. They can also dedicate capacity. Their subscribers have an expectation of quality."

Doug Wills, VP of business development, Minerva Networks, points out that IPTV is a managed television service (similar to Cable TV) delivered over a high-performance managed IP network, whereas OTT TV is a service delivered over an unmanaged, best-effort IP network. "While recent advancements in compression and streaming technology and improvements in the processing power of connected consumer devices have made it possible to offer on-demand services over unmanaged broadband networks, robust live TV services still require access to a managed broadband IP network. OTT TV is therefore more of a complement than a substitute for IPTV services," he says, echoing Amino's Burke's comments.

KEY THREE. Michael Lantz, CEO, Accedo Broadband highlights three areas of differentiation. "Firstly, QoS is very important. In most cases, HD video is still difficult to deliver with high quality to many consumer homes over the Internet. Secondly, it's about customer service. Many consumers want a clear counterpart with full delivery responsibility, which they can call and complain if things don't work as intended. Finally, and increasingly important, it's about delivering an integrated app experience with TV content. Right now, OTT players cannot deliver apps which are seamlessly integrated with the live TV experience on one channel, since they are not in control of the TV channel delivery. This is an opportunity for IPTV players to provide a unique value to the market," he advises.

For Anthony Smith-Chaigneau, SVP, business development, Alticast, it's the whole gamut of Management Services - Content and Client (SMS, CRM, Billing, Data Storage and Management) – that is key. "I have a firm belief that OTT services will fall foul of the lack of Customer management and support. It has started already as the business ramps up. This is a factor that led to the demise of WebTV the first time around. The Internet and complex consumer electronics equipment are notoriously the weak points of a 'home built solution' and if something goes wrong, who do you call?" he ponders.



Bob Hannent, CTO, Humax, suggests that rather than IPTV players competing with Connected and OTT TV services, the focus should be on how they can engage with these markets. "IPTV allows operators to deliver high quality content in a reliable fashion through managed networks, but currently the delivery is restricted to operator-provided devices. The fantastic growth in connected TV products (not just IDTVs, but also recorders, network media players and Blu-ray players) provides a new market opportunity for IPTV to capitalise on because of the quality of service that can be offered," he observes.

DELIVERY FOCUS. Jonathan Beavon, director of segment marketing, NDS, notes that the major pay-tv operators have a focus on delivering content to every device and this means that their services will start to appear on connected consumer electronics devices, including connected TVs and tablets, as well as their set-top boxes.

To differentiate, he suggests that IPTV players must offer a complete and competitive line-up of both linear TV and on-demand programming. "They must then attempt to differentiate from the established pay-tv platforms in service, price, triple-play bundles, features, and potentially by partnering with OTT operators, Connected TV portals, and free-to-air DTT platforms," he advises.

"IPTV and OTT can be complementary rather than competitive."
ANDREW BURKE, AMINO COMMUNICATIONS

Stephen Palm, MoCA, and senior technical director, Broadcom broadband communications group, points out that IPTV players can call on reliability of service, potentially broader content agreements and bundled services. "But the primary reason is that the IPTV provider is also the Internet provider and thus 'controls' the pipe for any and all content," he says.

DEADLY THREAT. Cable industry executives declared at the 2011 Cable Congress that OTT was "an existential threat to cable". Should the IPTV industry see it the same way? "OTT services are indeed a threat to any Pay TV operator, whether cable, satellite or IPTV," says Netgem's Courqueux. "We think these operators have great assets and differentiating factors, but if they do not serve urgently the end-user's simple demands, they will risk high churn. We believe consumers firstly want more content choice and freedom of choice, secondly, device interoperability for content portability, and thirdly, simple user-friendly interfaces to help navigate through all these content sources and all these devices."

ADB's Bristow agrees, but recommends they can address this threat by seamlessly integrating OTT services into their offering, which should be technically easier than for some cable operators. Green Button's Rubery sees OTT less as a threat, more as an opportunity. "Operators of cable or IPTV services should grab the opportunity to add additional services and applications on top of their existing offering. We are already working with some of the more forward thinking operators to help them with this," he points out, suggesting that the company's Smart TV platform, Oggle, is very attractive to all kinds of operators. "Cable, Satellite and Terrestrial operators can use it as it is. IPTV operators can also benefit by using Oggle to bring a web app store and many other applications in

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addition to their IP service," he explains.

Minerva Networks' Wills points out that over 15 million subscribers are already enjoying VOD services powered by Netflix in North America alone, with a recent poll of Netflix subscribers indicating that 34% of them intend to drop Premium Cable, Satellite or IPTV Services, diverting dollars to OTT services. "OTT TV is indeed a threat to all legacy pay-TV services, including IPTV, as it can erode revenue from lucrative premium services," he concludes.

CORD CUTTING. By contrast, Accedo Broadband's Lantz suggests that talk of 'cord cutting' is widely exaggerated. "Cable and IPTV companies need to pick up speed in innovation and embrace aspects from OTT services but, if they do, they will be able to compete well. There is a high likelihood that pay-TV subscription will be under fierce price pressure in a few years, but I think only very few consumers will stop subscribing," he predicts.

Alticast's Smith-Chaigneau suggests that IPTV providers are well placed to access many more homes than some cable operators in certain markets. "How they formulate their business; what they offer and the price they offer it for, will determine what drives the customer to, or away from, their business," he says. He ventures that declarations at a EU level that there should be Pan-European Content Licensing, and the potential ramifications of the legal case involving the use of 'illegal' decoders, could open up a Pandora's Box for the television business. "If this would ever happen, it would make OTT the business to be in and see the telcos move rapidly to become the main OTT providers worldwide. The threat to radical market reorganisation is only a legislative change away," he warns.

Humax's Hannent points out that IPTV over DSL networks is effectively low-capacity cable with a minimum impact legacy, but Fibre to the Home (FTTH) IPTV networks are super capacity cable networks, without a legacy. "But rather than OTT being perceived a threat to cable or managed IPTV services, the question is whether OTT presents an opportunity," he argues. "Embracing the trend towards connected TV products could enable all operators to leverage more eyeballs at more times (effectively on more sets in the home). Increased usage of the services from operators would drive down the risks from OTT and improve their return on investment." NDS's Beavon suggests that OTT is not the same as managed IPTV services. "OTT operators currently focus on rental and catch-up TV, therefore they don't yet threaten cable TV in the core pay-TV business," he contends.

"I've yet to find a TV manufacturer who is providing the viewer the ability to install apps."
SIMON WOODWARD, ANT

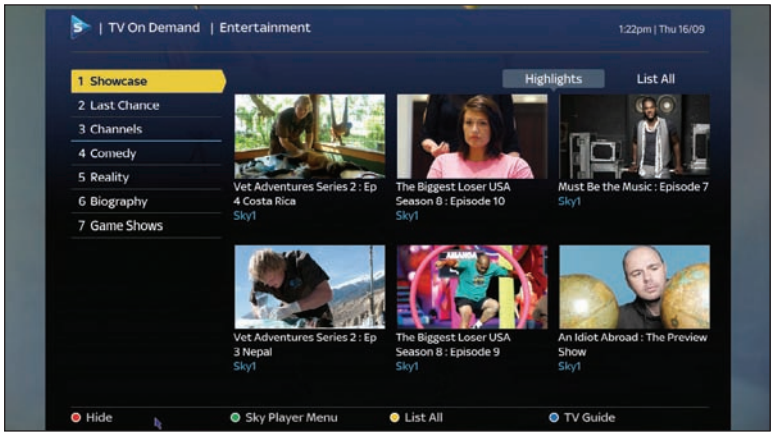
QUALITY STREET. Much importance was placed on Quality of Service and Quality of Experience in the early days of IPTV. Are these factors still relevant, given the growing appetite for consumption of video via non-managed sources? "For HD quality content, QoS and QoE are still essential – and with telcos providing QoE on demand for OTT services, it demonstrates the value of such an experience," says Burke.

According to Courqueux, quality of service is now taken for granted, but is often traded against convenience. "People currently watch poor quality content on their PC because that is the only device they can consume that particular content on," he notes, adding that quality of experience is an important factor now more than ever. "The user has to navigate many potential content sources on a number of devices, so actually a simple and consistent UI would be of enormous value."

Bristow suggests that is important to remember that in digital TV, 100% quality of service is the starting point, which was not the case for Internet in the early days. "Today, the one hundred per cent quality of service is obviously still mandatory, but the battle has moved on to the 'Quality of the consumer experience', such as the speed of the channel changes, the ease of use of the interface, *et cetera*."

ENHANCED EXPERIENCE. Rubery suggests the addition of app store and third party content gives a major chance to increase the Quality of Experience. "Some of these applications won't cost a lot in terms of bandwidth, but they will enhance the viewing experience substantially such as being able to follow and engage with a Twitter feed about a programme while watching it." Hannent argues that increasingly, the only strength that IPTV has in comparison to OTT is quality; in the closed loop, the service offered can be more reliable. "As good broadband infrastructure continues to erode that market, IPTV operators must engage with the opportunity or attack the threat. If they act aggressively, operators risk restricting their market and opening the door to competition from more flexible providers," he warns.

According to Wills, Quality of Service and Quality of Experience have a major impact on consumers' satisfaction, and notes that technologies such as forward error correction and packet retransmission have been used effectively to deliver a more robust video signal over an IP network. "As more and more video streams are delivered over bandwidth-limited networks to a variety of connected



devices, new strategies need to be explored in order to maximise the Quality of Experience," he recommends.

"A closer coupling between the 'application layer' and the 'access layer' might be needed to optimise the allocation of the access network bandwidth. Assume, for example, that a subscriber has multiple playback devices (e.g. STB, PC, tablets) in the home and there is not enough bandwidth to deliver a high-quality signal to all of them. Application driven bandwidth management can result in the highest user satisfaction," he says.

NEXT-GEN. Alcatel-Lucent's Chaudhary contends that QoE and QoS is still as important as it was in the early days of IPTV. "The end-user has become a lot more selective," she says, suggesting that some 20% to 30% of Call Centre contacts are QoS related. "IPTV operators can prioritise for the end customer. If SLAs are offered to online players, then there's the chance to monetise the network. The operator can become a 'next-generation platform'. We'll see more of this sort of monetisation," she predicts.

Net Insight's Lindgren considers QoS still to be key, while recognising that IPTV hasn't solved the issue 100%, "but it still has an advantage over OTT providers, and it's still important to the customer still willing to pay extra for quality." thePlatform's Roberts considers quality aspects "absolutely still relevant" pointing out the importance in the operator-driven, 'TV Everywhere' initiatives of ensuring the best QoE based on the subscriber's viewing device. "It's a challenge targeting PCs, Macs, and tablets. The content must look great for all their devices."

ANT's Woodward notes a raised expectation of quality from OTT services. "The BBC iPlayer quality is hugely good," he declares, suggesting that the consumer makes the choice. "The BBC shows it can be done. You can get close to full linear performance." Envivio's Felts points out that IPTV operators' ability to ensure quality can be limited by DSLAMs, with alternative distribution methods such as satellite being used. "This can be significant in some emerging markets," he says.

KILLER APPS? Will Connected TV buckle under the weight of a multitude of different apps stores or will a common platform emerge? Burke suggests that a key challenge for the industry is the loose definition of an OTT device. "This now ranges from a simple widget on a TV, all the way to a dedicated computer console capable of handling anything the Internet can throw at it. Therefore, for consumers buying OTT today, it's difficult to know what technology or equipment has the longevity to handle the current multitude of different apps and the way the market will develop in the future. We believe a common platform will emerge – but at this stage it's too early to plot the route to that common standard," he admits.

Courqueux suggests that the industry is going through a phase of app store fragmentation whereby every CE vendor will want to develop its own, imitating Apple's model, with the aim of creating a long term relationship with their customers, a strategy adopted by Netgem when it worked with Toshiba around its Toshiba Places concept. "It is likely that a level of standardisation will emerge to limit the number of versions content owners will have to write. However, this standard will be, as usual, driven by the lowest common denominator across product ranges and brands. Standards such as this, with HbbTV being one example, will be less appealing than what innovative companies or operators might be able to provide using best in class technologies and implementations," he predicts.

"We're seeing IPTV players moving into three-screen, but on their own networks."
BORIS FELTS, ENVIVIO

"It looks like it is already buckling under the complexity and speed of change," observes Bristow. "For example, some Connected TV sets that were sold until mid-2010 are already unsupported by the manufacturers and the manufacturers' latest apps platforms won't work on these TV sets."

COMMON PLATFORM. According to Rubery, a common platform is emerging, suggesting that the push towards using open Web standards such as HbbTV and W3C pioneered by Green Button Media will help solve the problem. "For sure every TV brand owner, every Retailer, every Operator, will all want to have control of their own App store. Adopting open web standards for each App store will allow App developers to confidently create Apps in the knowledge they can offer them to all the App store's owners. However for the Application developer, this presents a logistical challenge - getting their apps into each app store."

Wills points out that the OTT TV market is highly fragmented. "While consumers appreciate choice, they crave simplicity. Service providers are uniquely positioned to offer a consistent user experience across multiple devices and content sources, including legacy pay-TV and select OTT TV services," he advises. Equally it is Lantz's firm belief that Connected TV will remain fragmented for the foreseeable future. "The need for differentiation among TV and device manufacturers is huge and they will lose the most important differentiation aspect if all competitors have

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JONATHAN BEAVON, NDS

the same functionality," he warns.

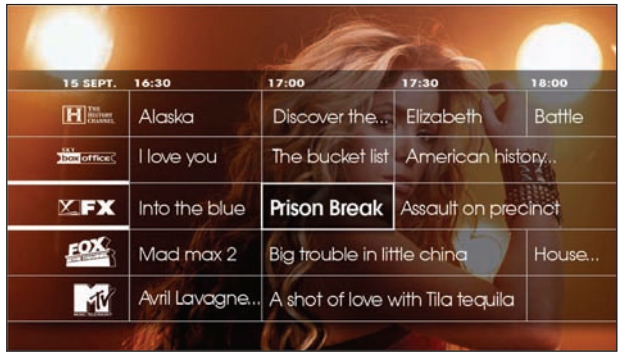
According to Smith-Chaigneau, a multitude of App stores is not such a bad thing "It allows for competition, diversity and potentially a way to catalogue niche apps. These App stores will also have to offer a good Customer Support package that at present is not in place," he advises. "A single provider is a long way off. But look at the Music Industry attempts at multiple on-line distribution until that finally boiled down to a chosen few."

SOFTWARE PLATFORMS. "Looking at most common software platforms, in particular the 'Smartphone' and 'SaaS' markets, there is no single solution that currently dominates the market," says Hannent. "However, these platforms are thriving and there is strong competition, which is driving value for the consumer. But despite the competitive market, companies are converging on common trends as the advantages of such convergence become clear. The newer HTML standards - CE-HTML and HTML5 - are becoming common for content authoring and as they are fairly interchangeable there is little resistance to the variance. In addition, the Hollywood studios are becoming more flexible in their acceptance of different content security standards for premium content," he notes.

Beavon predicts that proprietary app stores for connected TV won't be a big success because apps are much better suited to personal devices such as smartphones and tablets. "I don't think that common app stores will emerge for the connected TV market anytime soon. Content portals for connected TV will be a far more attractive consumer proposition, particularly as a feature at the time of purchase."

MoCA's Palm suggests that the 'app' store is likely to be associated with the hardware provider. "However, there may be many 'content' store Apps. Over time, content stores that offer more content are likely to dominate," he predicts. Roberts reveals that thePlatform is talking to CE manufacturers who are hoping to have their own apps store. "I don't know who'll take pole position in this particular race," he admits, adding that it "won't be an 'Apple' situation. It'll be much more competitive, with no monopoly position."

"Talk of 'cord cutting' is widely exaggerated."
MICHAEL LANTZ, ACCEDO BROADBAND



Woodward points out that for the time being, apps are not client-driven, and admits that he is yet to be convinced that apps have relevance to the TV consumer. "TV is the main app for the TV viewer," he argues. "I've yet to find a TV manufacturer who is providing the viewer the ability to install apps," he says. Dawes is another who sees no early resolution. "It'll take a few years to play out," he predicts, while noting that Yahoo! has managed to get its TV widget onto more than one platform. "The area is ripe for standardisation, but it'll take two to three years." He also points out that people retain their TV sets for six or seven years, so they won't get upgraded.

STANDARD DELIVERY. Although standards exist for managed platform delivery (DVB-C, DVB-S2, DVB-C, etcetera) will standards emerge to optimise networks for connected TV or will delivery become a free-for-all? According to Courqueux, network delivery mechanisms for online video will continue to improve, using intelligent edge-caching to reduce core network costs, improved channel change time and latency. "Given the scale of this traffic, there is a very strong incentive to improve quality, performance, reliability and costs. This will enable CDNs to be better and cheaper than managed networks in the near future," he suggests. Bristow feels that in the IPv4 world, delivery is already a free-for-all, but this may change for IPv6.

Wills considers that the power of OTT TV results to a large extent from its flexibility and evolving video formats and streaming protocols. "Unlike the dedicated, often-underpowered set-top-boxes deployed in legacy pay-TV systems, connected consumer devices are more powerful and flexible and they are capable of accommodating multiple video formats, streaming protocols and conditional access systems. However, flexibility often results in complexity and leads to confusion for the average consumer," he warns. He also identifies positives for service providers, who could offer value to consumers by managing complexity and enabling a seamless and robust experience. "Powerful service management platforms can be used to track the capabilities of the end devices, the available bandwidth and the format and bitrates of the content and match them so that whenever a consumer requests an asset, his/her request is fulfilled reliably and seamlessly."

"QoE and QoS are still as important as they were in the early days of IPTV."
GEETA CHAUDHARY, ALCATEL LUCENT

INDUSTRY EFFORTS. Lantz is more positive about the prospects for standardisation in the area of video distribution. "Likely it will require a content provider industry association to clearly define what they will support before anything will happen," he surmises.

Hannent notes that even if broadband providers are not offering content themselves, they already have to adapt to a world in which a significant portion of their traffic involves video (YouTube, etc). "If a provider does not offer services that the consumer demands, then they are putting their position at risk," he cautions. Beavon points out that techniques such as adaptive streaming and progressive download are being used to help deliver video over open Internet connections with a good quality of service. "Some attempts are being made to standardise in various bodies, but it is far from clear if standards will prevail," he says.

Chaudhary notes the work of the HbbTV initiative, describing it as "promising", and confirming that Alcatel-Lucent is looking closely at developments. Lindgren feels that standards are indeed emerging for delivery but, in the meantime, is happy that Net Insight is well positioned. "Our focus is to optimise delivery across networks," he says, suggesting that in the professional media market, standardisation is already happening, with IPTV standards body the Open IPTV Forum at the forefront.