The Home Network – last line of defence?

In a world of Over The Top content services, is delivering the Home Network vital for service providers who want to maintain customer loyalty and ARPU? How will the Home Network be implemented and what must it achieve? Advanced Television brought together vendors and network operators to address these questions. Nick Snow was in the chair.

"**T**he most important thing about the Home Network," says Christopher Schouten, senior director, solution marketing with Iredeto, "is that it is predicated on what the consumer's needs are. Today that means the flexibility to consume content where and when they want and on any device. Home networks are making good progress in delivering QoS, and without them, you'd need a CTO in every home."

"In the US most homes already have three networks," explains Vince Groff, executive director, corporate development at Cox Communications. "The video network (with two or three STBs), the broadband data network (usually WiFi), and their mobile network. The challenge is in bridging these networks together. We have been slow, but bringing the video and data networks together will allow service to move between the PC and the TV, then, over time, all your services become ubiquitous."

Jeff Walker, VP marketing for Cedar Point Communications, agrees: "Tying your networks together through the home gateway is crucial to providing that convergence."

But it mustn't be – or appear to be – complicated to the consumer, warns Wim Deketelaere, CTO Excentis. "The user only cares about usability, if it is too complex it will not be successful."

Marrying these 'legacy' networks together

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as if they were designed to converge isn't going to be easy, what are the implementation options and who will control the home network?

MANAGED SERVICES. "For unmanaged services, there must be compatibility with the network and devices so the consumer isn't constantly having to reset, beyond that a lot of the delivery issues can be dealt with on the headend or CDN side. For managed services, you have to distribute content through the home from a central point with a much higher level of security in how it's passed from one protection scheme to another," says Schouten.

"We have to find ways to put the consumer in charge of the home network, many services can potentially share, it doesn't have to belong to us. However, we do get a lot of calls about home networks that don't belong to us because the user doesn't know who else to call. We're actually re-launching a business that helps customers repair PCs and networks – if we're going to sort out a lot of modem and Microsoft problems we might as well get paid for it," says Groff.

"At Cedar Point, we recently did some market research," explains Walker, "to get a handle on what kind of services interested people and we found that customers do look to a service provider to manage and bundle even their OTT services."

"Certainly we need to control the gateway to control the QoS of our services," says Groff, "we have no problem with multiple gateways for different providers if that's what the customer wants, but we will deliver our services through our own gateway, we have to manage

that service but if we can't deliver the kind of services people want they have every right to go around us."

How much of the gateway will be 'in the box' and how much in the Cloud?

"I think the service provider always needs visibility into the home network for monitoring and diagnostics, that's not doable from the Cloud," asserts Walker. "I agree," says Deketelaere, "and I think taking all transcoding into the Cloud is unlikely."

"We have to have somewhere to terminate our network so at the very least there will always be a modem," Groff points out. "Then it's about layers of function, the more common the function across the network, the more likely it is to be handled in the Cloud."

"I don't think 'In the Cloud or not' is now such a big issue for security," says Schouten. "We see a trend towards apps, particularly in mobile, which can be delivered with the security embedded in the app itself."

So the provider has a role in managing and maintaining the home network but what are

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the problems they encounter? Number one must be compatibility?

BUILT-IN TENSION. "There's a built-in tension in that CE vendors want to differentiate their products but at the same time we need compatibility. So, you can either try and vertically integrate, like Apple, or you can let the market figure it out. It's like when the USB first came along you had to find the relevant driver on the Internet before you could use it – now they all plug and play, but they're all the same," says Groff.

"It's certainly true there isn't an easy solution everywhere, and I think home networking will remain a pain for some time," agrees Deketelaere, "I don't believe there's a single solution at the network layer that solves all problems – MoCA works for the US but not so much in Europe, WiFi is OK except when you have distance and obstructions, and powerline also has weaknesses, so it's bound to be a mix. The other major problem is the DRM and transferring content across mixed networks to different devices. But the market will figure it out I hope, and certainly the manufacturers need to work towards standards."

"There's a lot of progress being made in terms of standards and innovations with CA/DRM," maintains Schouten. "The key is when you come in to the home network you're usually talking about protected content and you have to be able to transcript it into forms

Vince Groff is a member of the board of MoCA: The Multimedia over Coax Alliance, the universal standard for home entertainment networking. MoCA says it is the only home entertainment networking standard with appeal to all

three pay TV segments: cable, satellite and IPTV. The current MoCA specification can support multiple streams of HD video, deliver up to 175 Mbps net throughputs and offer an unparalleled user experience via parameterised quality of service (PQoS).

MoCA has more than 70 certified products and more than 50 members worldwide representing the home entertainment network value chain including service providers, OEMs, consumer electronics companies and chip vendors.

Cedar Point Communications is a technology innovator that offers a switching platform that enables the scalable, simplified and cost-effective

delivery of VoIP and multimedia services for cable operators, wireline operators and wireless service providers. Its SAFARI C^3 Multimedia Switching System is a carrier-class platform that supports legacy voice services and provides a migration path to IMS and PacketCable 2.0.

Through its diversified, renewable security, and monetisation technologies, the company allows new forms of distribution for broadcast/broadband/

mobile entertainment, and for the world's most popular apps, e-stores and consumer devices.

For more than 40 years Irdeto has been helping to evolve today's connected day – from enabling the world's first digital satellite pay-TV network to the world's first mobile broadcast TV service to nearly every device and medium that a business or consumer engages on a regular basis.

Headquartered in Ghent, Belgium, Excentis is a leading provider of highly specialised testing, consultancy and training services for access network

technologies (cable, xDSL, wireless, etc) and related services (e.g. VoIP and iDTV).

Excentis works closely with operators and service providers worldwide to test their equipment, from individual devices to the most

complex end-to-end systems and services. Excentis is an independent certification testing lab on behalf of European cable operators.

The company also provides consultancy services — technology selection, design and architecture evaluation, security audits, due diligence support, etc. — and offers standard and customised training services and has developed a unique testing product: the ByteBlower® traffic generator/analyser.

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that can be used by devices, and DCPIP as specified within DLNA works well, but the key is make sure the translation point doesn't become another point of attack for piracy of digital content and that's where products like Iredeto's Cloakware and Whitebox solutions come in."

"This is part of our current debate on Home Gateway architecture," confides Groff. "Is it a device where multiple DRMs pass through or are they terminated and transcripted in the gateway? An equal problem is presentation of the content and the subscriber's QoE and we have to figure out how we address that when as the service provider we are not providing all the devices ourselves."

SERVICE COMPROMISE. "Yes, but will CE makers allow you to push your presentation and navigation to their device? And in Europe there's the further question of whether OTT providers will use up all the provider's bandwidth and put up costs for the provider as well as compromise his service," states Deketelaere. "True, and that's when we get into the controversial area of 'bit allowances',

"Providers really need to start innovating."
CHRISTOPHER SCHOUTEN, IRDETO

it's not an unlimited pipe and we can't let one subscriber's consumption be at the expense of another's," says Groff.

"It's fair to charge consumers for use," agrees Schouten, "but the problem for operators is that fast broadband and OTT services might suit the user more, providers really need to start innovating and offering services like Content Everywhere. We already see the potential of services like Maxdome in Germany where CI+ modules – provided to let cable customers watch digital on flat screens – are enabling customers to plug in this OTT service and use the providers' broadcast service while circumventing its premium and VoD packages. It's a classic case of unintended consequences."

"Yes, but the pipe still can't accommodate mass video delivery at an acceptable QoS, so the provider's ability to charge the user or content provider remains very important," warns Walker.

Turning to the subscriber experience, what's the most important thing to deliver when it comes to keeping subscribers 'in service'?

"A common experience across all services is vital," declares Groff, "that's been a large part of Apple's success."

"We have to have an eye to the next-gener-

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ation who have grown up using digital media and devices, they don't want to manage their service, they want to use it," says Deketelaere. **GENERATION GAME.** "We need to determine whether the UI is also going manage the home network and what kind of support the provider will need to deliver for this – it will be at a different level for different kinds, or generations, of users," believes Walker.

"A main purpose of the UI is as a guide and the EPG is now just too linear for the fragmented digital world," contends Schouten, "going forward there will be different levels of 'curation' that are appropriate to different users; some will want a fully lean-back experience and others will want a lean-forward approach maybe with a full search facility and a keyboard."

"Sometimes people say they want the full Google experience on TV but I push back against that. People don't want to find themselves on page four of search results before they find what they might want. And we shouldn't forget about live programmes – the news, weather, sport that people tune into on schedule" Groff concludes.