

# Transporting - and protecting - the jewels

**When it comes to multi-device services, particularly the sharing of payTV content, operators are forced to choose between a confusing list of options, none of which are completely straightforward to implement, says David Adams**

The trouble with the pay TV industry is that none of the interested parties - content owners, operators, equipment and software providers, or consumers - ever really like considering any of the other parties' points of view. The swift advance of technology has raised consumer expectations of flexible content delivery, and all industry players are naturally keen to try and make some money out of consumers' desire to consume content on multiple devices.

Unfortunately, they are all approaching the problem, which is already surrounded by technical and legal obstacles, with quite different agendas. Content owners remain concerned above all with licensing rights and avoiding piracy. Operators need to be able to retain some degree of control over content delivery and movement. CE manufacturers just want content to be as portable as possible. And so do consumers, but they don't care about any of the technical and legal issues. Furthermore, an increasing number of them are familiarising themselves with the various online mechanisms that enable them to circumvent all such barriers.

So it's clearly in the interests of all industry players to solve these problems. Unfortunately, and despite the fact that technology companies have developed solutions for most of the technical problems, progress appears to be slow, piecemeal and somewhat chaotic.

"I think that it's interesting to see that there's not a lot tangible happening in the pay TV space to enable this," says Christopher Schouten, director of global product marketing at Irdeto. "You see a lot of broadcasters and pay TV operators having made the step towards providing content in parallel to normal

distribution, via the internet and streaming, but the second you talk about transferring the family jewels to somebody else's safe, that's where the trouble begins."

CE manufacturers and online content providers are already stealing a march on pay TV providers to some extent, certainly when it comes to attracting the groups of consumers most likely to be demanding multi-device services. "If these people are technically inclined to begin with, and I think they are, then there are plenty of opportunities for them to use portable video, legally or illegally," Schouten points out. "So can we impose any restricted model that would satisfy these

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people? The CE industry has got ahead of us in meeting consumer demand."

Brian Baker, CEO at Widevine, also believes this is the key factor that will help bring multi-device services into being. "In our dealings with the largest operators around the world, and the major MSOs, what's driving our business opportunity with them is not just about the set-top box but the consumer devices markets," he asserts. "We're finding that this is the single largest driver of a purchase decision. That's true of operators of all kinds."

## **Towards a workable model**

What both operators and CE manufacturers are groping towards is a home network

business model, within which content can be transferred seamlessly between different devices without the consumer being handicapped by the demands of conditional access (CA) or DRM systems. But security, licensing and rights issues are also bound up with the other technical obstacles that will create difficulties for any proposition of this kind.

"If content is to be transferred between devices in the home there are DRM issues, network issues and video encoding issues," says Jonathan Beavon, director of segment marketing at NDS. "There are transcoding issues from one format to another, there's a

transfer issue - how quickly can you get all the content from one device to another? Is it practical in terms of speed to use a Wi-Fi network? And then there's the transfer of rights from one device to another."

Operators will have to choose between a confusing list of options, none of which will be completely straightforward to implement. "You could either say: 'I'm a vertically integrated operator and I'm going to specify all the usage rights' and you could use NDS VideoGuard or something like that for that purpose," says Beavon. "Or you can use what exists, like OMA in mobile phones, or Microsoft DRM in other devices." NDS has developed technology to protect rights in the latter scenario, moving content into, for

example, any phone that has OMA DRM.

And there are plenty of other initiatives (it may not be helpful to refer to them as competing initiatives, because they may well have to be used in combination) designed to enable interoperability. NDS favours the use of straightforward UPnP (Universal Plug and Play), but recognises the strengths of other initiatives such as DLNA (the Digital Living Network Alliance), with some reservations. "DLNA is trying to solve some of the other problems, but they're coming at it, in my opinion, from too computer-centric an angle," says Beavon.

Other technology companies are tackling the same issue in different ways. For example, Motorola has made the IPRM DRM system available on a royalty-free basis, in order "to make things easier for operators and for content owners", according to Petr Peterka, a member of the advanced technology group in the CTO's office at the company. Motorola is also working with OMA to define the mechanisms for import and export of content between different DRM systems. "That way the industry doesn't have to settle on one single DRM system, which probably won't happen," says Peterka.

Paul Entwistle, chief technologist at Pace, believes the DLNA has made some important progress in enabling home networking-type services. "Within the home the technology has moved on quite a long way, so I can now make devices that will interoperate with each other, and DLNA has gone a long way to say these are the options and protocols you should use - and that also includes content protection technology," he says. He also believes that interoperability initiatives like the SVP Alliance, the Coral Consortium and Marlin are useful.

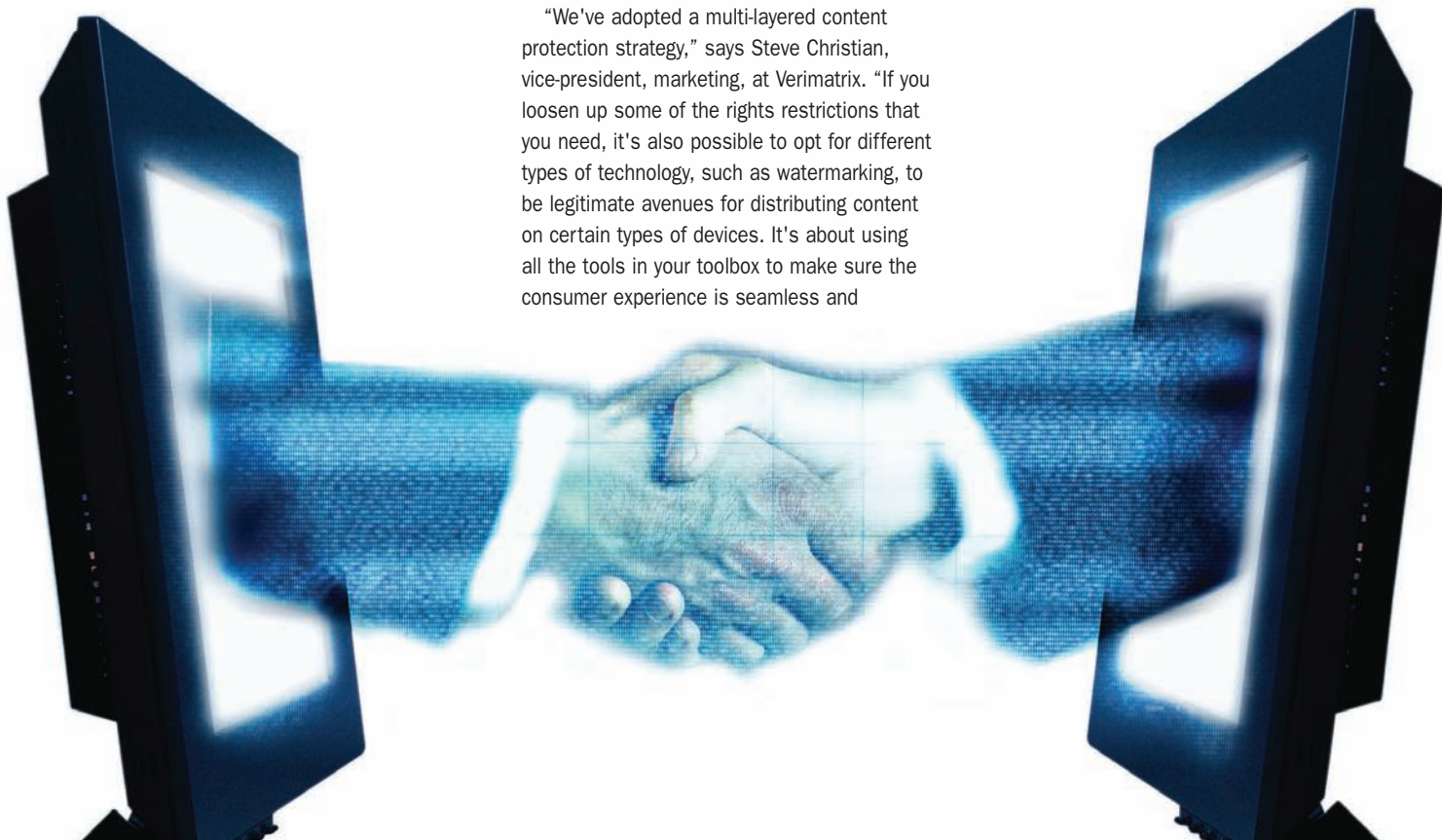
A host of potentially useful solutions have also been developed by technology providers. Verimatrix has taken two main approaches: its unified headend approach, based on its VCAS (Video Content Authority System) solution, which enables the delivery of Verimatrix-encrypted content to STBs, mobiles, web tablets, games consoles and other devices; and its MultiRights software component for mobile TV, which incorporates support for devices that come with off-the-shelf content protection devices, like OMA and Windows DRM, enabling content to be played on by them and by VCAS-protected devices simultaneously.

"We've adopted a multi-layered content protection strategy," says Steve Christian, vice-president, marketing, at Verimatrix. "If you loosen up some of the rights restrictions that you need, it's also possible to opt for different types of technology, such as watermarking, to be legitimate avenues for distributing content on certain types of devices. It's about using all the tools in your toolbox to make sure the consumer experience is seamless and

legitimate, while still not losing control of the content that you're distributing."

Nagravision is taking a slightly different approach. "I'd say the key word is pragmatism," says Ivan Verbesselt, senior vice-president of marketing at Nagravision. His company has developed the concept of Persistent Rights Management (PRM), a system describing the business management rules of how content can be protected on mobile devices in the home. But the company has also demonstrated its ability to move the whole rights management system from one device to another, say from a PC to an STB, or vice versa.

Or, Verbesselt suggests, you could consider physical storage options, like the use of a MicroSD card to move content between a PC and a mobile phone. "If you had asked me 18 months ago if that made sense I would have dismissed it, but with the storage you can get on those cards, it makes sense," says Verbesselt. "It all comes down to pragmatism, because the real challenge is to create a commercial bundle that satisfies the needs of the players. There's no perfect solution which is still usable for the end user, generates





revenue for the operator and is holier than holy when it comes to protecting the rights of the rights owner.”

And then there are the problems directly connected to the attitudes of the content owners. Their over-riding preoccupation at present appears to be the need to protect HD content at all costs. The danger for the content owners is that they end up in a similar position that the music industry has found itself in recent years. “When we think about this, we often think about the way that the music industry got into its crisis mode, which was about trying to extract too much money,” says Verimatrix’s Christian. “We think it’s important that the TV industry doesn’t paint itself into a corner where the consumer doesn’t end up going to the illegitimate content on the internet.”

But there is evidence that content owners are loosening up a little, says Pace’s Entwistle. “If you look at Sky today, I can get it through my STB, PVR, PC, Vodafone mobile, so I think content deals are changing over time, so that licensing allows those

things to happen,” he says. “That is quite a big change.”

**Flexibility for multiple content types**

So where do we go from here? Entwistle believes as content owners’ attitudes continue to change, and further moves towards interoperability gain ground, the goal of flexible content consumption will gradually move closer. “I would imagine that as the content licences are renegotiated, and the value to the end user of these services is more tangible - then you’ll see the technologies that are largely available today being used,” he says. “Things like DLNA will become more prevalent for moving content about the home in a secure way.” He believes the appearance of DLNA 2.0 next year will be a useful step forward.

Widevine’s Baker believes that the CE device market will continue to play a key role. “I think that the proliferation of online services and internet-connected devices is going to continue to accelerate this,” he says. “When the first internet-connected TV comes to the market, or the first Blu-ray player which is connected like that, it’s going to open the eyes of a lot of

service providers.” He predicts this will happen within the next 12 months, with the North American markets likely to lead the way.

“I think it’s pretty easy to make the case that the competitive differentiator for the payTV operators will not be its ability to deliver HBO to the living room, but its ability to support linear and recorded content delivery

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on multiple devices around the home,” says Christian. “It’s absolutely key that the industry get their act together, because they’re competing with ‘free’ here. Free may not always be convenient, or it might not be exactly the content that people want, but it’s an option that savvy consumers are looking at if they don’t have legitimate options. So solving these problems is really a competitive imperative.” **CSI**

