



Tackling piracy

with Viaccess-Orca

By Melissa Cogavin, Managing Editor, SCTE

Piracy is the scourge of content creators, costing industries millions each year. Fortunately there are initiatives in place to combat it at source.

“The public feels that if it’s on the Internet and you can access it, you deserve it. You haven’t committed any kind of crime. We may even have to rename piracy. But in any case, we have to confront it.”

Morgan Freeman

If there is something worth stealing, you will find piracy. Wherever content is produced, in whatever form, you will find evidence of theft. Exhaustive, international efforts are being made worldwide to combat it, but it is the scourge of the creative industries that sees little sign of abating. Initiatives are in place, legislation being passed, antipiracy technology is evolving all the time, industry bodies abound, consequences are considerable but the reality is, pirates make piracy a full-time job, whereas content producers are producing content as a full-time job. That gap is where opportunity lies. There aren’t as many full-time anti-piracy warriors out there as there are pirates. The sheer number of man hours invested in overcoming firewalls, hacking servers and breaking passwords at scale will continue to impact on content producers’ ability to avoid their work being pirated.

Pirated content is even more appealing when it’s live, and there are resourceful geeks all over the world happy to bring this into your living room via illegal means. It is a constant and moveable feast, requiring imagination, agility and investment on the part of French market leaders like Viaccess-Orca,

whose efforts in this area shed light on the ongoing battle and answer questions about where we are headed. Viaccess-Orca is a global solutions provider of OTT and TV platforms, content protection, and advanced data solutions. Established for over 20 years with a presence in over 35 countries, the company’s expertise in security also helping the digital manufacturing industry protect their assets.

Pierre-Alexandre Bidard, EVP Products and Services educated Broadband Journal on the landscape. “As long as there is an interest and there is cheap internet, cheap cloud technology and the means to access content, pirates will always exist and always find ways around whatever barriers we put in place. So it’s a constant war; I don’t think it will stop.”

Mathieu Harel, Product Director at Viaccess-Orca expanded on this. “We as a technology provider are creating the technology, but let’s say you have a team of 10 people, you are facing maybe a 100 people really motivated to at least circumvent your technology. I mean, we are talking about money and really high stakes. These hackers are generating millions in piracy, whether in illegal IPTV services, or let me give you a really simple example. We have identified a service, a really stupid and simple service that is helping people to access illegal IPTV services on smart TV, and this service is generating at least 2 million euros per year. As long as there’s money involved, we will face really motivated people.”

In other words, it is like comparing yourself enviously with your lithe and toned personal trainer as you sweat buckets in the gym. They look like they do because they put in 40 hours a week as a full time job, whereas most mere mortals, might clock up 4 in a good week. It's a numbers game. Bidard explained that technology has both advanced piracy and prevented it at the same time. He feels that sport is a particular target for hackers, and the challenge is to stream it securely in real time to consumers before it gets intercepted by hackers. "Premiership football is probably the biggest problem as it has the highest profile and is very lucrative all round, so we are ploughing a lot of our resources into combating live sport piracy."

The piracy network is fluid, international, sophisticated and difficult to track, Bidard elaborated. "The infrastructure is worldwide. Piracy services for France might be hosted in the Netherlands, the Caribbean, the Middle East. It is not confined to any one place. It's everywhere, and it's paid for using crypto currency, which is also very difficult to track."

Watermarking

One of the more successful weapons in the anti-piracy arsenal is watermarking, however. Bidard recognises the substantial challenges involved. "Watermarking is critical, because this is the technology aiming at identifying the source, not just the fact it's been pirated. There are people in the value chain whose role is purely to retrieve the signal and it's extremely well-organised. They don't bill the service, they don't resell the service. These are consumers who just set up a subscription, they retrieve the signal, this content is available and others will buy then this URL for the access to this signal. Such technology is freely available on apps, which are so sophisticated it would not be immediately obvious you are even pirating material."

Just as pirates excel in being agile and adapting to change, Viaccess-Orca has a strategy of Assess - Monitor - Remediate, in order to mitigate piracy for their clients. Bidard said, "Watermarking is one technology that we employ across multiple products and services. The goal is to catch these guys after all. Watermarking was developed out of a realisation that hackers are smart, they always find a way. We have different technologies to address piracy across all kinds of devices. We know that pirates

will get there but if you are able to dynamically change your solution, then it can be more complicated for the hackers."

With live sports content, where there is a premium placed on access through channels like Sky Sports or ESPN, for example, speed is of the essence. Application of the unique watermark on pirated content and identification of the IP address where the content has been hacked fast is difference between the technology being a success or a failure. "You have different time parameters with watermarking depending on the nature of the event. Do it too slowly and you will notify the hackers. This is vital for live content". Pierre-Alexandre Bidard added, "If it's cricket, you have a bit of time, but if it's football, you need to identify the stream very fast. And so this is why we are now able to detect the mark in just three seconds."

Bidard explained the process. "You record, so you have to pull the web, identify the website, get the content, record it and then you process it. So the goal is that at the end you are able to identify the source and give this information to the client. After that, the decision about what to do next lies with them. Our work is done."

Presumably if the mitigation is that fast, the tools applied by the hackers are equally aggressive, and the landscape is becoming more competitive all the time? Bidard agreed. "I would say piracy is growing; it's not a complicated process anymore. There are plenty of tools non-technical people to aggregate an illegal service". If ordinary consumers don't even recognise piracy as a crime, then of course it will be a growing problem.

Vincent Hamon is head of Piracy and Security Assessment at Viaccess-Orca and produced a case study on Mobdro, at the time the world's largest private streaming app, since shut down, but there are countless others springing up all the

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One law at a time

Harel summed it up well. "The situation is pretty bad at the moment, because we are living in a world where bandwidth is cheap, CDN (content delivery networks) facilities are cheap and [the apps] make it so easy to get hold of the content." However, he thinks things will improve. "Some countries already have the legal tools to block streams in their territory. In the Asia-Pacific region, Europe, US and Latin America, we will have the legal tools to block pirates in a few years' time." A few years sounds encouraging but over time that is still an awful lot of lost revenue.

Bidard accepts the acceleration and application of technology, however advanced, is only part of the solution. "New technology is available which is good for both the legal and illegal world, but there will be much more regulation. Work on regulation is improving, we are making progress." As we have covered in other articles in Broadband Journal however, the process passing of legislation can be glacial compared to the technology it is there to support. It is an ongoing and frustrating process.

Piracy exists because there is a demand for content, and the supply is plentiful. Morgan Freeman's assertion that the internet is perceived to be free doesn't help. Intellectual

property costs money to make and it is reasonable to expect to make money from it being enjoyed by others. I wondered what the future holds, especially in a global cost of living crisis. Harel explained that demand is going up for pirated content as people's budgets are squeezed, and rather than hand over money to legitimate streaming services it is tempting to illegally download content using an app, a cheap or free subscription and a VPN to disguise your IP address.

"If consumers have the technical know-how, they can do it, it's just a matter of time. So our goal is to ensure that the experience is poor for the majority of users. We need to make it difficult to find the content on Google or YouTube, on Facebook or Twitter. They should not be able to download the content in cyber lockers. When you go to these IPTV services, the experience needs to be poor. So it's really a matter of being sure that the experience offered by the operator is far better than the one you will get from an illegal service."

In other words, as American musician Jonathan Coulton said, "Make good stuff, then make it easy for people to buy it. There's your anti-piracy plan." Following the logic that prevention is better than a cure this is a nice idea, but in the meantime watermarking and identifying piracy taking place in real time is a workable solution. Over time the hope is that powerful legislation and aggressive technology will combat this scourge completely.



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