



Consult • Implement • Secure • Test

Présentation FICAM

La sécurité des contenus à l'heure de l'UHD, de la 5G et de la Fibre

Septembre 2015





Who are we?

Farncombe specializes in digital TV services and offers high-calibre technical, strategy and content security consulting, as well as implementation and testing services. Founded in the early 1990s, the company has a global 100-plus client roster, which includes leading service providers, broadcasters, platform operators, and technology firms. Farncombe's team of multilingual industry experts and associates are based in the UK and France. As of July 2015, we are now part of Cartesian.



ADVISORY
SERVICES



IMPLEMENTATION
SERVICES



CONTENT
SECURITY



TEST
SERVICES





Our clients represent the entire value chain

CONTENT PROVIDERS & BROADCASTERS



OPERATORS & CPE MANUFACTURERS



INVESTORS, REGULATORS & TRADE



TECHNOLOGY & SECURITY VENDORS

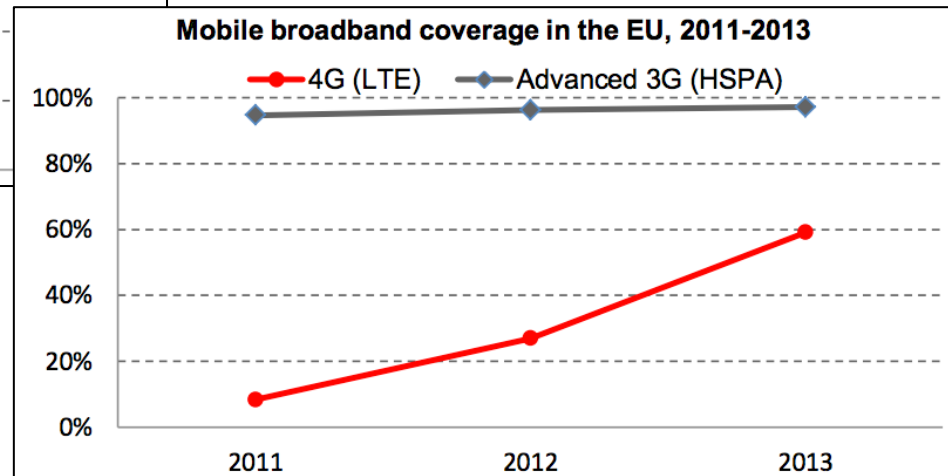
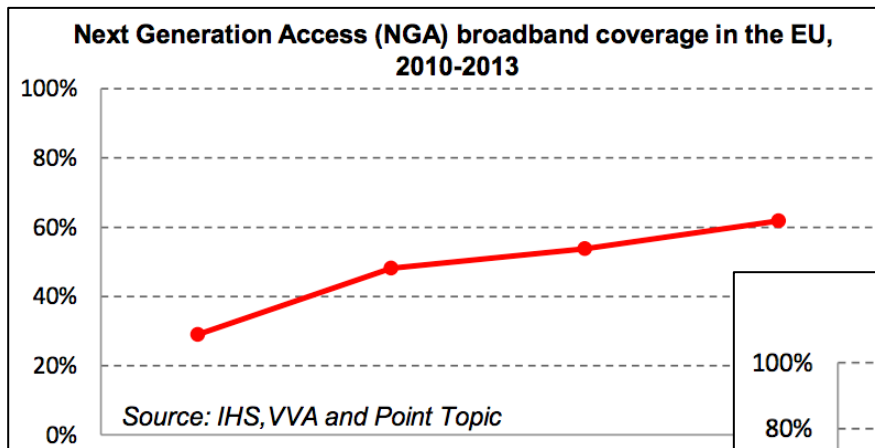




The evolution of piracy

To understand the evolution of piracy, we need to understand the evolution of technology and video services:

- Increase in broadband speed and access mechanisms (4G, 5G, Fibre)



Sources: European Commission

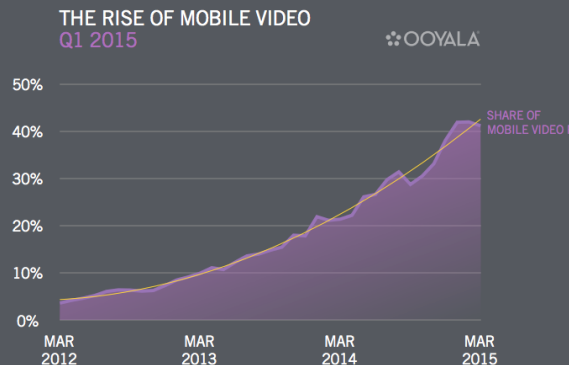


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TABLET AND SMARTPHONE VIDEO TRENDS



Third of TV now watched on-demand

September 3, 2015

Some 35% of all TV and video viewing is now watched on-demand with over half of consumers claiming to watch streamed on-demand content at least once a day, according to new research.

Sources: Digital TV Europe, Ooyala Global Video Index

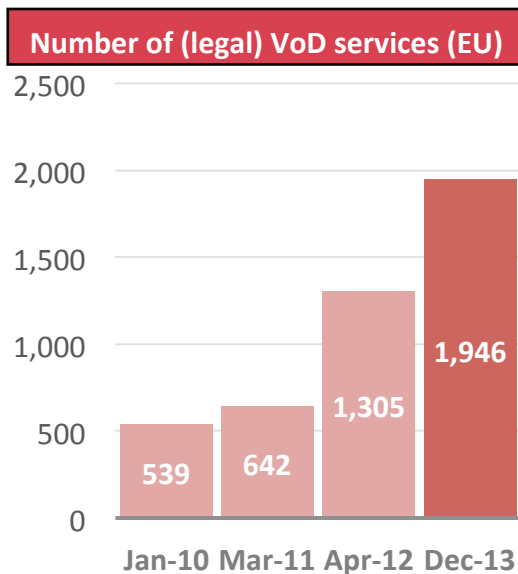




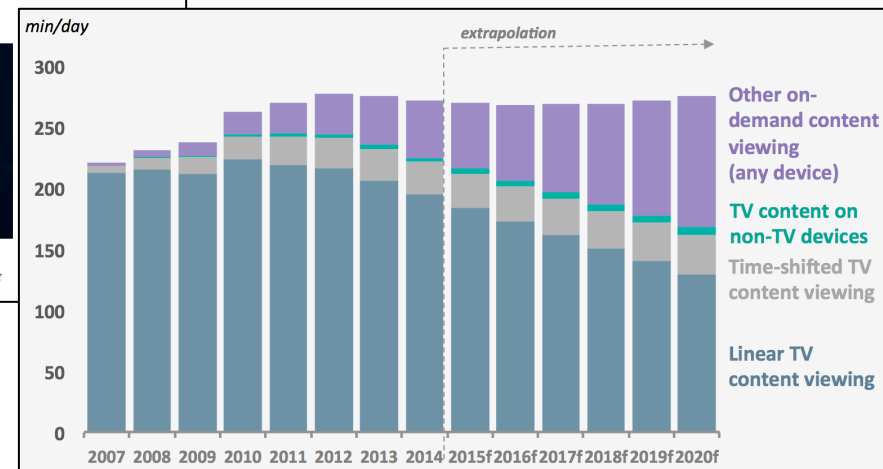
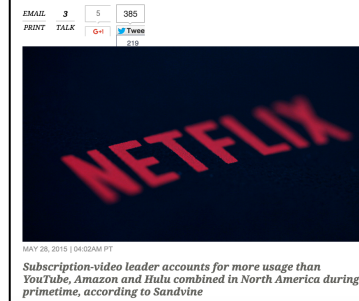
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- Proliferation of VoD services makes online video a mainstream experience



Netflix Bandwidth Usage Climbs to Nearly 37% of Internet Traffic at Peak Hours

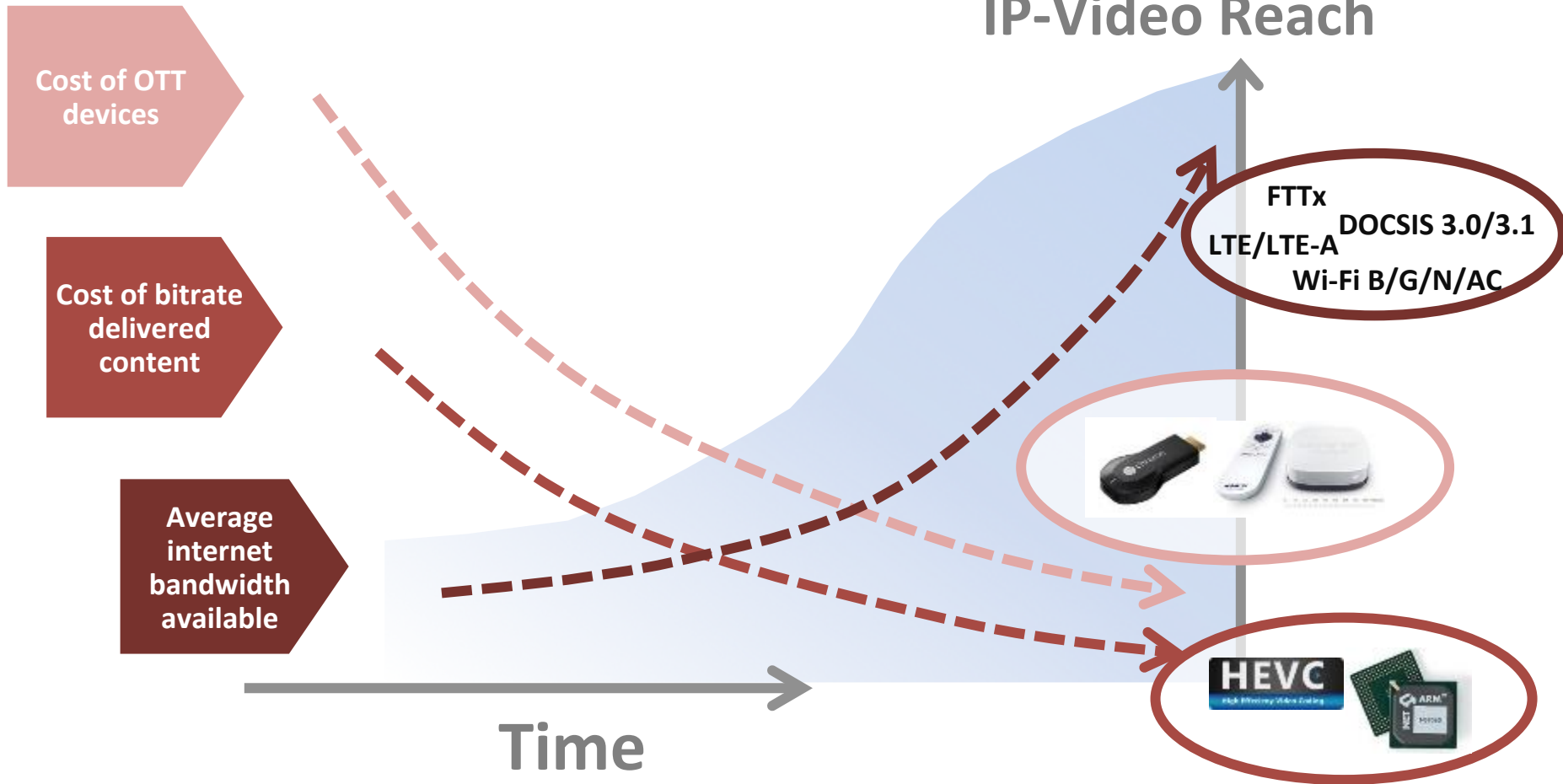


Sources: EAVO, BARB, Farncombe analysis, Variety





A "Perfect Storm" is transforming the market





UHD content is starting to appear



- Trialed a live broadcast of the English Premier League in 2013
- Plans to introduce 4K-compatible STBs ('Project Ethan')
- Assesses IP delivery for 4K content



Deutschland

- Plans to launch 4K service in Germany in 2015 or 2016



- Partnered with Samsung to launch 4k content in 2015



Korea Telecom

- Began offering 4K IPTV services in 2014
- Plan to deliver more than 500 programmes



- Launched first 4K channel in 2014
- Broadcasts 4 hours of 4K content per day and plans to have 2 full 4K channels in 2015



- Carried out 4K trials for sports in 2014
- Partnered with the BBC and Arqiva for the trial of the 2014 World Cup final



- The Ultraflix app is on Sony, Samsung, Vizio, and Hisense TVs with those from Smart TV Alliance (LG, Panasonic, Sharp, and Toshiba) to follow



- Delivered 20 movies via VoD platform in 4K resolution in 2014
- Plans to transmit live 4K programmes in 2015
- Dish to launch soon



- Launched its Freebox Mini 4K STB with HEVC video compression



- Launching a 4k STB in 2016, based on home grown system



- Partnered with Samsung to launch 4k content in 2015



- Launched India's first 4K set-top boxes in 2015



- Launched first 4K channel in 2014
- NexTV via Sky Perfect JSAT broadcasts 6 hours of 4K content per day
- Plans for 4K commercial channel in 2015



- Started 4K IPTV service in 2014



- Launch two 4K (one is Pay and the other Premium/PPV) channels





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...and a number of global services or platforms



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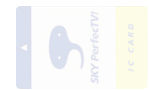
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4K security requirements

MovieLabs Specification for Enhanced Content Protection – Version 1.1

February 2015

Introduction

Digital content distribution technologies are evolving and advancing at a rapid pace. Content creators are using these technologies to produce and distribute increasingly compelling and valuable content for consumers. Unfortunately, digital content distribution also involves substantial risks of unlawful reproduction and redistribution of copyrighted works. Accordingly, MovieLabs believes that increasingly sophisticated content protection is critical to the viability of these technical and creative advances. We also believe the technologies described in this specification should be integrated into products such that they are transparent to the user.

This document describes a set of high-level specifications for improving the security of audiovisual works in this developing environment. These feature specifications are not intended to be static, but rather to evolve as the available technology evolves. Although the applicability of some features may vary by situation, MovieLabs recognizes that most of these features will have broad and strong studio-wide support in most contexts involving enhanced content distribution, including Ultra HD. Each studio will determine individually which practices are prerequisites to the distribution of its content in any particular situation.

Features are divided into three sections: DRM System Specifications, Platform Specifications and End-to-End System Specifications. Providers of hardware and software platforms should pay particular attention to the sections on platform and end-to-end system requirements. DRM providers need to review the sections on DRM and end-to-end system requirements.

Version 1.1 of the document updates the specification, primarily to clarify the intent of the original requirements published in September 2013.

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4K Security Requirements have been specified by MovieLabs, on behalf of the 6 major Hollywood studios

- First published in September 2013
- Guidelines, rather than firm requirements
- Each studio free to choose and define their own approach
- Requirements also apply to other forms of ultra-premium content, e.g. High Dynamic Range (HDR), early release window, etc.
- Publically available at:
[http://www.movie labs.com/ngvideo/MovieLabs %20Specification%20for%20Enhanced%20Content %20Protection%20v1.1.pdf](http://www.movie labs.com/ngvideo/MovieLabs%20Specification%20for%20Enhanced%20Content%20Protection%20v1.1.pdf)





4K security requirements

The MovieLabs specification is divided into three main sections: (a) DRM System Requirements, (b) Platform Requirements, and (c) End to End System Requirements.

DRM System Requirements:

- Cryptographic requirements
- Side Channel Attack (SCA) resistance
- Connectivity (supporting renewal, license delivery)
- Device binding
- Software diversity (e.g. DRM using downloadable components)
- Copy & Title diversity
- Run-time integrity checking
- Revocation and renewal
- Breach monitoring
- Output protection (HDCP2.2, output controls)

Platform Requirements:

- Cryptography and Random Number Generation
- Side Channel Attack (SCA) resistance
- Secure media pipeline
- Secure computation environment (a.k.a. Trusted Execution Environment, or TEE)
- Hardware root of trust (secure boot, device unique keys)
- Output protection (HDCP2.2, output controls)

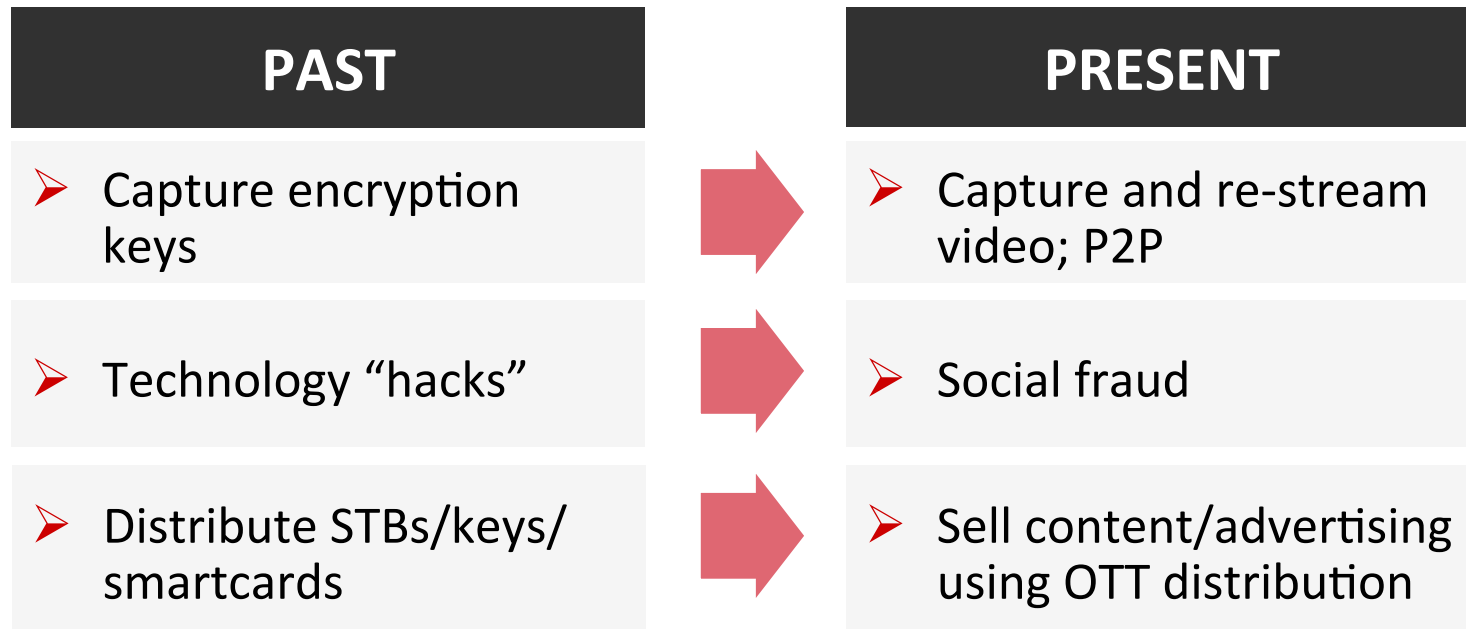
End to End System Requirements:

- Forensic watermarking (server and/or client)
- Cinavia watermarking
- Breach response processes and agreements
- 3rd party certification



But piracy is also evolving

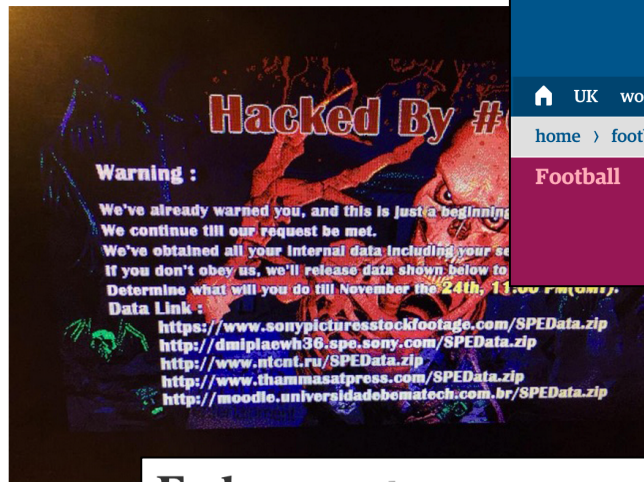
The same factors which are transforming the user experience are also transforming piracy methods and business models





Technology and people are not perfect

SONY GOT HACKED HARD: WHAT WE KNOW AND DON'T KNOW SO FAR



Forbes / Tech

2 FREE Issues of Forbes

AUG 28, 2015 @ 11:36 PM 3,837 VIEWS

Netflix's 4K 'Breaking Bad' Stream Hacked - Now Being Torrented





The fight against piracy needs to evolve

The manner(s) in which we address security must also evolve

What
technology
is
required?

- **Fraud prevention** rather than **piracy** prevention
- Security for **traceability**, rather than only **copy prevention**
- Pirate content **discovery** and **take-down**
- **Monitoring** of systems and data

And more controversially, *“...piracy is a service problem. If media companies start embracing easy to use digital methods of distribution, it’s the best way to combat piracy. You might not be able to ever beat “free,” but you sure as hell can compete with “easy.””* (Forbes)





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