

## Part v of vii

## by Gabriel Dusil

# 5. How is digital video affecting global communications?

In today's digital video landscape there is a battle between the entertainment, computing and communications industries. The entertainment industry includes content owners and those that license content for distribution. In computing we find companies that provide hosting, storage, and application-based services. Within the communications sphere are telcos, network service providers (NSPs), and Internet service providers (ISPs) that distribute data around the world. P2P networking is a good communications example of a transport protocol riding on top of the Internet.



### Figure i – Industry Wars between Entertainment, Communications & Computing

For several years, ISP's have observed an increase in bandwidth of a magnitude higher than they were

accustomed to before video streaming became popular. It may be argued that the turning point was around 2005 with the introduction of high definition video at a time when Internet bandwidth was fast enough to stream good quality video. The popularity of Apple's iPhone, together with the launch of YouTube, accelerated the use of video to the mass market.

This has forced ISPs to upgrade their back-end and last-mile infrastructures in order to meet these higher bandwidth demands and maintain quality of service (QoS). The issue is when we look at service usage in OTT providers like Netflix, Hulu, YouTube and others. With Netflix subscribers exceeding 40 million and Hulu now over 5 million, typical bandwidth usage for these subscribers far exceeds that of a typical user. The average Netflix user watches five TV shows and three movies per week<sup>1</sup>. This can easily generate up to 80GB of traffic per month if we're talking about high-definition content. Power users can easily exceed 160GB per month when P2P downloads are taken into account (see Figure ii). Compare this to figures released by Sandvine<sup>2</sup>, wherein Europeans average around 13GB per month on their fixed line service. Their USA counterparts are over three times higher, averaging 45GB. So in countries where OTT is relatively mature, bandwidth usage can easily skyrocket.

The bottom line is that ISPs are not earning the same incremental revenue from OTT because these are existing subscribers that are already paying for their ISP service. But now they are also using the connection to download video from their OTT provider. From an infrastructure perspective, when Netflix doubles their users, they can effectively use those funds to double the capacity of their OTT service. On the flip side, the ISP sees an accelerated increase in bandwidth usage, reaching and exceeding 10 times more than normal with no



foreseeable increase in revenue. But they still must upgrade their networking infrastructure in order to meet capacity. Some see this as ISPs getting the short end of the stick (Figure iii).



### Figure ii – Internet Usage Comparison – Europe vs. USA

Certainly bandwidth usage cannot be blamed on OTT providers themselves. Video is also streamed from websites, video is downloaded through P2P networks, and corporate infrastructures are increasingly using video for communications. Regardless, in markets where video streaming services are prevalent, bandwidth usage per subscriber can burden network infrastructures.

ISPs may feel they are losing power over their subscribers. As a counter-offensive, we're seeing examples where ISPs are vying to bring control back to their camp. One way is through bandwidth caps on fixed line services (similar to bandwidth caps on mobile services). ISPs are looking to regain control of the subscriber through what could be viewed as a form of Internet governance: charging extra fees based on the type of traffic traversing their network, or traffic shaping, whereby certain traffic such as P2P or OTT video is set to low priority or blocked all together, with traffic being prioritized in a way that is preferred by the ISP. This serves to stifle the use of high bandwidth applications such as OTT and may result in higher fees for heavy Internet users. Essentially this is a way for ISPs to level the playing field.



## Figure iii – ISP vs. OTT Revenue Compared to Infrastructure Cost

Increased bandwidth usage due to digital video brings new challenges to an infrastructure provider. But this isn't necessarily a bad thing for all those involved as threats can also be turned into opportunities. Some Internet providers (eg. cable companies and satellite companies) are working towards regaining control of their market space by investing in OTT - essentially adding OTT as an extension to their communications portfolio. Triple

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play<sup>3</sup> (Internet, telephone, and television) and quadruple play<sup>4</sup> providers (who include mobile services) are already heading in the right direction. ISPs that are already responsible for transmitting video envision hosting and managing entertainment assets as a strategic expansion of their communications portfolio. This speaks to the convergence of communications, computing and entertainment industries through a conduit that converges onto OTT.

It's not just ISPs that have seemingly lost control and are being relegated to utility providers. Mobile providers have also been bumped from the pedestal of supremacy. The three applications they owned - voice, contacts, and text messaging (SMS<sup>5</sup>) - have now been over-shadowed by the millions of applications accessible through the Internet. Mobile providers no longer control the handset, applications, or content. And for that reason they are under threat of becoming a utility, an infrastructure of interconnections, where their borders are wireless base stations, not end-users. To regain relevance in their market telcos need to reach consumers once From again. an entertainment perspective, telcos have an opportunity to extend their participation in the content value chain - creating, uploading, managing, delivering and consuming content by investing in OTT services. This investment solidifies their value in the virtual supply chain of digital video.

# • Entertainment Challenges in Today's Digital Society

• Check out additional thought leadership answers to the entertainment challenges in today's digital society:

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4. How is OTT evolving, and what's in store for subscribers?

http://gdusil.wordpress.com/2014/02/26/entertain ment-challenges-in-todays-digital-society-iv-of-vii/

### • Synopsis

Understanding the entertainment market from ten thousand meters helps industry executives make strategic decisions. This leads to tactical initiatives that drive innovation, new services, and revenue growth. This Q&A series takes a top-level view of today's digital landscape and helps decision makers navigate through the latest technologies and trends in digital video. Gabriel Dusil, Chief Marketing and Corporate Strategy Officer from Visual Unity discusses the ongoing developments in Over the Top (OTT) services, how these platforms are helping to shape today's digital society, and addresses the evolving changes in consumer behavior. Topics include 2nd Screen, 4K Ultra High-Definition video, H.265 HEVC, global challenges surrounding content distribution, and the future of OTT.



#### About Gabriel Dusil



Gabriel Dusil is the Chief Marketing and Corporate Strategy Officer at Visual Unity, with a mandate to advance the company's portfolio into next

generation solutions and expand the company's global presence. Before joining Visual Unity, Gabriel was the VP of Sales & Marketing at Cognitive Security, and Director of Alliances at SecureWorks, responsible for partners in Europe, the Middle East, and Africa (EMEA). Previously, Gabriel worked at VeriSign and Motorola in a combination of senior marketing and sales roles. Gabriel obtained a degree in Engineering Physics from McMaster University in Canada and has advanced knowledge in Online Video Solutions, Cloud Computing, Security as a Service (SaaS), Identity and Access Management (IAM), and Managed Security Services (MSS).

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#### • Tags

• 4K, Broadcast, Connected TV, Digital Rights, Digital Video, DRM, Gabriel Dusil, H.265, HEVC, Internet Piracy, Internet Video, Linear Broadcast, Linear TV, Multi-screen, Multiscreen, New Media, Online Video, Online Video Platform, OTT, Over the Top Content, OVP, Recommendation Engine, Search & Discovery, Search and Discovery, second screen, Smart TV, Social TV, TV Everywhere, Ultra HD, Ultra High Definition, Visual Unity

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- <sup>2</sup> Sandvine Global Internet Phenomena Report (12.2H)
- <sup>3</sup> Triple Play, Wikipedia, http://en.wikipedia.org/wiki/Triple\_play\_(teleco mmunications)
- <sup>4</sup> Quadruple Play, Wikipedia, http://en.wikipedia.org/wiki/Quadruple\_play
- <sup>5</sup> Short Message Service, Wikipedia, http://en.wikipedia.org/wiki/Short\_Message\_Ser vice

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