

Whitepaper

The Rise of Netflix and its Impact on Broadband

Executive Summary

Netflix subscribers now make up approximately 17 percent of all U.S. television households. **During peak hours, Netflix streaming accounts for more than 20 percent of all downstream traffic in North America.** Their CEO was named Fortune Magazine's businessperson of the year for 2010, and their stock price has more than tripled over the past year. But what does this rapid success mean for broadband service and service providers? This whitepaper will explore subscriber and streaming trends, as well as the adoption of consumption based pricing models in the U.S.

The Ascent of Netflix

Netflix first took on Blockbuster and the local video store with its red envelopes and DVD mail service. In 2007, the company ventured into online streaming, but its initial streaming



service was limited to PCs and about 1,000 movies and television titles. Fast forward to the summer of 2010, and Netflix announced that it had inked a \$1 billion deal to add films from Paramount Pictures, Lions Gate, and

MGM to its online subscription service. And in November 2010 the company solidified its online position by introducing an unlimited streaming-only plan to its packages.

In a matter of months, the movie delivery company shifted from the fastest-growing customer of the USPS to the biggest source of Web traffic in North America during peak hours.¹ CEO Reed Hastings was quoted telling analysts, "We are very proud to announce that by every measure we are now a streaming company, which also offers DVD-by-mail."²

This transformation from a mail-order business to a technology company is transforming the way people watch television and movies. And it has the potential to upend the traditional content delivery model for cable and satellite providers, who have long controlled the home's entertainment.

The Growth of Netflix: by the Numbers

Back in 2003, Netflix's subscriber base was roughly 1.5 million.

By 2010, it surpassed the 20 million mark which is roughly equivalent to 17 percent of the estimated 116 million U.S. TV households in 2010.³

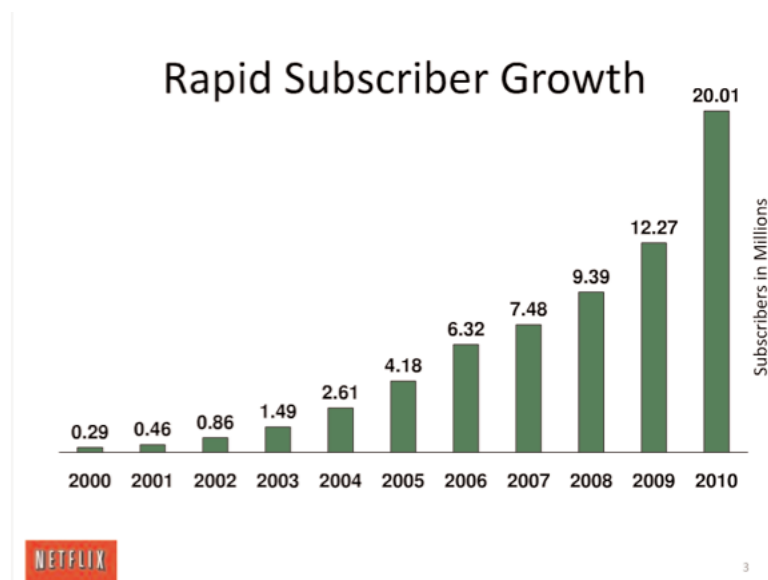


Figure 1: Netflix subscriber growth (in millions)
Source: Netflix

The Growth of Online Video

Netflix's move to an online subscription service coincides with strong growth in the overall adoption of online video. **According to Nielsen, online video usage in the U.S. increased by 45 percent from January 2010 to January 2011.**⁴

Although the number of unique online video viewers only increased by 3.1 percent during that time period, the level of activity was up as viewers streamed 28 percent more video and spent 45 percent more time watching video on PC/Mac/laptops from home and work locations. Total video streams also saw significant year-over-year growth, up 31.5 percent to 14.5 billion streams.

Nielsen also estimated that the typical customer streams approximately 11 hours of video from Netflix's website per month [Figure 2]. However, it should be noted that this data represents video content viewed on PCs and laptops only and does not include any content streamed via Roku, iPads, set top boxes, gaming consoles, Blu-Ray players, or any of the other 250 devices Netflix's streaming service is now available on. These devices represent some of the biggest drivers for the company's online video growth. As a result, the actual bandwidth consumption and hours spent streaming could be dramatically higher.

Top Online Video Brands by Time per Viewer (January 2011, U.S.) / 250K Unique Viewer Minimum		
Video Brand	Time per Viewer (hh:mm)	MOM % Change in Time
Netflix	11:08	22.9%
Tudou.com	6:30	17.4%
Hulu	5:35	13.9%
Megavideo	3:39	15.6%
StageVU	2:52	-65.9%
Justin.tv	2:33	55.5%
YouTube	2:23	-3.0%
Veoh	2:16	99.7%
Nickelodeon Family & Parents	2:06	11.5%
CwTV.com	1:44	-38.3%

Source: The Nielsen Company

Read as: During January 2011, the average U.S. video viewers spent 11 hours, 8 minutes watching video content on Netflix

Figure 2: Top online video brands by time per viewer
Source: The Nielsen Company, February 2011

Numbers from The NPD Group points to just how large a player Netflix has become in a relatively short period of time. According to data released in March 2011,

six out of every 10 digital movies are streamed via Netflix.⁵

Netflix accounts for 61 percent of digital movies in February 2011, followed by Comcast at 8 percent, and DirecTV, Time Warner Cable, and Apple all at 4 percent apiece.

Netflix's Impact on Bandwidth Consumption

So, just how does Netflix's rise in online streaming affect broadband bandwidth and usage. A study from Sandvine reveals that **Netflix traffic accounts for more than 20 percent of all downstream traffic during peak hours** (8 pm to 10 pm) on fixed access networks in North America.⁶

It's clear that as consumers use the Internet and online streaming for more of their daily content, the demands on broadband networks will grow. (According to Netflix, one hour of viewing standard video equates to 1 GB, while one hour of HDTV equals approximately

2 GB.) Credit Suisse analyzed the daily television habits in the U.S. to assess the impact on broadband consumption if more of this viewership transfers to over-the-top content like Netflix.⁷ The average adult in the U.S. consumes slightly more than 3 hours of TV per day. However, Credit Suisse believes this figure masks a wide band of viewership. According to Figure 3, the heaviest quintile watches approximately 7.5 hours of television per day, while the lowest quintile (representing 20 percent of the TV population) consumes only half an hour.

	Quintile of TV Viewing					Avg.
	I	II	III	IV	V	
2009						
TV Viewing Hrs./Person/Day	7.5	4.4	2.8	1.1	0.5	3.3
x People per TV Home	2.5	2.5	2.5	2.5	2.5	2.5
= TV Viewing Hrs./Home/Day*	18.8	11.0	6.9	2.9	1.2	8.2
x Days per Month	30	30	30	30	30	30
= TV Viewing Hrs./Home/Month	562.8	330.4	208.0	85.7	36.7	244.7
x GB's per Hour of Streaming	0.88	0.88	0.88	0.88	0.88	0.9
= GB's Consumed per Month	494.0	289.9	182.6	75.2	32.2	214.8

The lightest TV viewing quintile (20% of homes) would consume ~32 GBs of broadband, if they consumed all their video Over-the-Top

* Assumes no overlap in TV viewing between different people within a TV home and all viewing is in standard definition. Source: TV Dimensions and Credit Suisse estimates.

Figure 3
Hypothetical bandwidth consumed in an OTT environment based on actual TV usage in the U.S. (2009)
Source: Credit Suisse, 2011

According to Credit Suisse’s analysis, **if heavy TV viewers (watching 7.5 hours per day) shifted all their TV consumption to over-the-top content, such as Netflix, they would consume nearly 500 GB a month.** By contrast, the lightest TV viewers (who watch .5 hours per day) would consume approximately 32 GB per month if all their viewing occurred over-the-top.

Will Netflix Replace Cable TV?

The news is full of stories of people dropping their TV packages for Netflix. But just how many subscribers are cutting the cord? Analysts from Credit Suisse surveyed 250 Netflix subscribers, and found that:⁸

- 17 percent of Netflix subscribers of all ages and incomes are substituting Netflix for cable
- 37 percent of Netflix subscribers between the ages of 25 and 34 substitute Netflix for pay television
- 30 percent of Netflix subscribers between 18 and 24 substitute Netflix for pay television

At present, content limitations present a major roadblock to the widespread replacement of cable by Netflix. In terms of television programming, **Netflix has a big delay in its offerings.** If subscribers want to watch last night's TV comedy, or even last month's episode, Netflix is not a viable option. Users can easily watch the first four seasons of NBC's Friday Night Lights on Netflix. However, they'll have to turn to NBC to watch the fifth and final season. And then, of course, Netflix does not have an answer for live programming, such as The Super Bowl, NCAA tournament, or the Academy Awards.

In the summer 2010, Netflix finalized a \$1 billion deal to add movies from Paramount Pictures, Lions Gate, and MGM to its online streaming service. And the industry will be closely watching how a deal between Netflix and Starz's pay-TV channel will shape up in 2011. Starz has the pay-TV and online distribution rights to two of Hollywood's biggest studios, Walt Disney Co and Sony Corp's Sony Pictures.

But while these moves are significantly improving the catalog of older movie titles on its streaming service, Netflix still does not have access to new releases. In an effort to protect their lucrative DVD sales, Hollywood studios have delayed the availability of new releases on Netflix. For example, with Warner Brothers, **Netflix agreed to delay the availability of DVD releases for 28 days after they appear in stores.**

However, it should be noted that as Netflix agrees to more pay larger sums of money, studios may be more willing to carve out more attractive contracts for the streaming service.

Netflix and Original Programming

In March 2011, Netflix made waves by entering the original programming market. The company announced that it was licensing House of Cards, an original TV series set to be directed by The Social Network's David Fincher and starring Kevin Spacey.⁹ Netflix will have exclusive access to stream the new series beginning in late 2012.

In a blog post, Netflix Chief Content Office Ted Sarandos told the Netflix community:

"We've found the gripping, serialized one-hour drama, such as "Heroes," "Lost," "Dexter" and "Weeds," has become a very important part of the Netflix experience and over the years, we've been able to add these shows from many different channels, with the notable exception of HBO."

“House of Cards is unique, as it is the first exclusive TV series to originate on Netflix...“House of Cards” represents a slightly more risky approach; while we aren’t producing the show and don’t own it, we are agreeing to license it before it is successfully produced.”

There are several reasons why **Netflix would consider getting into original content**. For starters, the price of content licensing will simply continue to rise. When discussing the lower price deals the industry has made with Netflix, Time Warner chief executive Jeffrey Bewkes was quoted as saying, “this has been an era of experimentation, and I think it’s coming to a close.”¹⁰

In addition, as Hollywood, service providers, and OTT companies like Netflix converge in a struggle to own the audience, original content offers a compelling way to gain, and keep, subscribers.

Conclusion

The TV and Internet are merging. We already see frequent everyday examples of people watching television shows on their laptops and mobile devices, and streaming web-based content to their television. But the question remains: who will bring this service to the home? Netflix may be proving to be a headache for Internet Service Providers, as cable, fiber, and satellite providers are faced with a double hit – losing revenue to Netflix’s OTT offerings, while also experiencing significant added pressure on their network capacity. However, time will tell whether Netflix can be a sustainable mass-market replacement for television programming, or be a value-add enhancement.

About Actiontec

Actiontec Electronics develops broadband connectivity and broadband-powered solutions that simplify and enrich the digital life – delivering a unified experience that encompasses communications, entertainment, home management, and more. Actiontec offerings range from the market’s broadest selection of IPTV-capable broadband home gateways for bringing IP-based video services into the home, to DSL modems, wireless networking devices, routers and digital entertainment devices. The company’s carrier-class products are easy to install, manage, and use, and are sold through retail channels and broadband service providers. The company is committed to protecting the environment through energy efficient products and other green-friendly practices. Founded in 1993, Actiontec is headquartered in Sunnyvale, CA, and maintains branch offices in Colorado Springs, CO; Shanghai, China; and Taipei, Taiwan.

Appendix: Resources and References

¹ "Netflix's Move Onto the Web Stirs Rivalries." Tim Arango and David Carr. The New York Times. November 24, 2010.

² IBID.

³ "Netflix Subscriber Base Could Double to 55 Million." Seeking Alpha. November 2, 2010.

⁴ "January 2011: Online Video Usage Up 45%." NielsenWire Blog. February 11, 2011.

⁵ "Six out of every 10 digital movies are streamed via Netflix." NPD Group Press Release. March 15, 2011.

⁶ Fall 2010 Global Internet Phenomena Report. Sandvine. October 20, 2010.

⁷ "Project Canada: Netflix Streaming and Consumption Based Pricing Case Study." Credit Suisse. January 7, 2011.

⁸ "Third of Young Netflix Users Cut Cable." John Melloy, Fast Money. CNBC.com. September 16, 2010.

¹⁰ "House of Cards." Ted Sarandos. Netflix Blog. March 17, 2011.

¹¹ "Time Warner Views Netflix as a Fading Star." Tim Arango. The New York Times. December 12, 2010.