



Chromecast

Everything you love, now
on your TV.

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Description

Chromecast is a device that allows digital media streaming from computers and mobile devices to HDTVs developed by Google. The small device, a 2.83-inch (72 mm) dongle, plays audio/video content on a high-definition television by streaming it via Wi-Fi from the Internet or local network. Users select the media to play on their television from the Google Chrome web browser on a personal computer or from a supported app on their mobile device. The user just needs to plug it into any HDTV and will be able to control it with his existing smartphone, tablet or laptop (no remotes required).

The device was announced on July 24, 2013 and was made available for purchase on the same day for \$35, along with a Netflix promotion that provided free access for three months (even for existing Netflix customers). Considering that Netflix's monthly subscription fee is \$8, the actual cost of the Chromecast device for a customer at launch was effectively \$11. Currently, the device can be bought online at Google's Play store, BestBuy.com, or Amazon.com



Chromecast according to Google

- “The easiest way to enjoy online video and music on your TV.”
- “With Chromecast, you can easily enjoy your favorite online entertainment on your HDTV— movies, TV shows, music, and more from Netflix, YouTube, Hulu Plus, Google Play Movies and

Music, and Chrome. No more huddling around small screens and tiny speakers. Chromecast automatically updates to work with a growing number of apps.”




Chromecast according to industry reviews

- “Chromecast is Google’s low-cost answer to TV streaming.
- “Chromecast certainly fixes the out-of-reach hardware issue by selling for a rock-bottom price, and it's a million times easier to implement. If you can plug an HDMI cable into a television, you can use Chromecast. That's all it takes.”
- “The Google Chromecast is a dirt-cheap wireless video dongle that streams Netflix and YouTube to your TV using Android or iOS tablets as remotes, with Android users also getting access to Google Music and Google TV and Movies. Its small size hides neatly behind your TV and makes it easy to take on-the-go”

Streaming devices industry Competitive landscape

Current platforms for delivering online content via apps include Smart TVs, Apple TV, Roku, and video game consoles like the Xbox, and PlayStation. In addition, there are HDMI cables which allow consumers to connect an internet connected device (such as: tablets, smartphones, laptops, and PCs) to the TV to directly stream content.

Main competitors

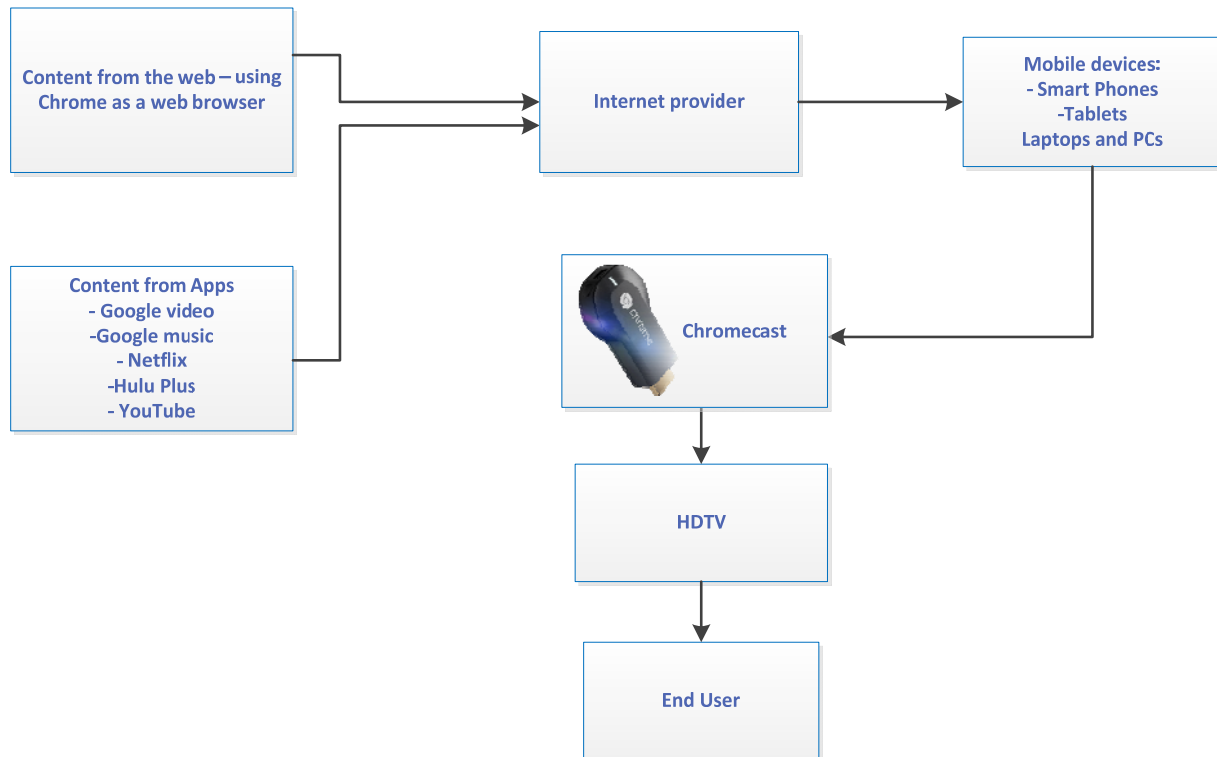
Product Image	Maker	Content	Hardware	Remote	Cost
	Apple	1. Apps: iTunes, Netflix, Hulu Plus, HBO GO, Disney, Watch ESPN, MLB.TV, NBA, NHL, MLS, VEVO, WSJ, Podcasts, YouTube, vimeo, etc 2. Content storage in any Apple device	Set top box	Proprietary	~\$100
	Roku	1. Apps: More than 350, including: Amazon instant video, Netflix, Hulu Plus, HBO GO, Pandora, Crackle, VUDU, VEVO, PBS, Disney, MLB.TV, NBA, etc.	Set top box	Proprietary	\$50 to \$100
	Google	1. Apps: Netflix, Hulu Plus, Google Video, Google Music, and YouTube 2. Chrome browser	"Dongle" 2" HDMI flash drive	Smart Phone, tablet or laptop	\$35

We believe that Google is attempting to differentiate Chromecast relative to its closest competitors in three ways 1.) it is a low cost product that commoditizes the hardware aspect of the category focusing all value on the software and thus the ecosystem; 2.) Chromecast is simple to use – you merely plug the product into your TV's existing HDMI port and connect via an existing wifi network / wireless device; 3.) as with Google / Android's platform in general, the platform is more open than the Apple platform as it works across platforms (Apple TV only operates with iOS devices and Macs). The openness of the platform is especially evident when you consider that through broadcasting the Chrome browsers, creative users can broadcast sites like Pandora even before the official app comes out.

The low cost and ease of use are the initial hooks that will incentivize consumers to purchase the product. We believe that the Google brand and its relationship with developers will give consumers the confidence that additional content will come.

Chromecast ecosystem

Ecosystem map



Analysis of ecosystem participants

Content providers (Green Light): Google Chromecast launched with apps for broadcasting Netflix, YouTube (Google), Google Play Movies, TV, and Music, and as of two days ago added Hulu Plus. In the announcement for the Launch of Hulu Plus a spokesperson from Hulu announced that they expected to gain subscribers as a result of the deal.

As an additional incentive to create a Chromecast specific app, websites such as Pandora (a company that Google is currently working with to develop an app) can be viewed on the Chrome browser and played on the TV without the app. Given the incentive to control the user experience Pandora is incentivized to develop an app to better control how it interfaces with users.

Hardware manufacturers – including tablet, smart phone, laptop, and television providers (Green

Light): Chromecast is compatible across all currently existing hardware required to create a positive user experience. Any tablet, smart phone or laptop can run Chromecast apps broadcasting to any TV with an HDMI port (an estimated 600M TVs have this). Given the simplicity of the Chromecast device and the ease of downloading the app to any common online device there are no hardware-related barriers to use.

High-speed internet providers (Green Light): Chromecast is a product that will help facilitate the use of online content in place of traditional cable television delivered through a set top box. Chromecast relies on wifi to pull content from the cloud and is therefore reliant on cable providers to access the internet. These same internet providers also provide cable services that online content competes with. Despite this conflict, Chromecast is not blocked as it uses existing wifi networks that support laptops, tablets and smartphones.

Adoption chain and co-innovation risk is primarily from content providers

The largest risks in the adoption chain come from content providers and from customers. Content providers are in search of viewers to drive subscribers and advertising revenue. With Netflix locking in an agreement with Google / Chromecast it makes sense that Hulu Plus followed suit so as to not be at a disadvantage in reaching / serving customers paying for monthly subscriptions. However, content providers do have development costs and digital rights management concerns in partnering with Google / Chromecast.

Customers are in search of the most attractive platform on which to gain access to content. Given the currently limited number of apps (Netflix initially and now Hulu Plus) Google will need to convince both

developers and customers to trust that the other will arrive despite the existence of competing platforms such as Apple TV, Roku, Smart TVs, video game consoles and even HDMI cables.

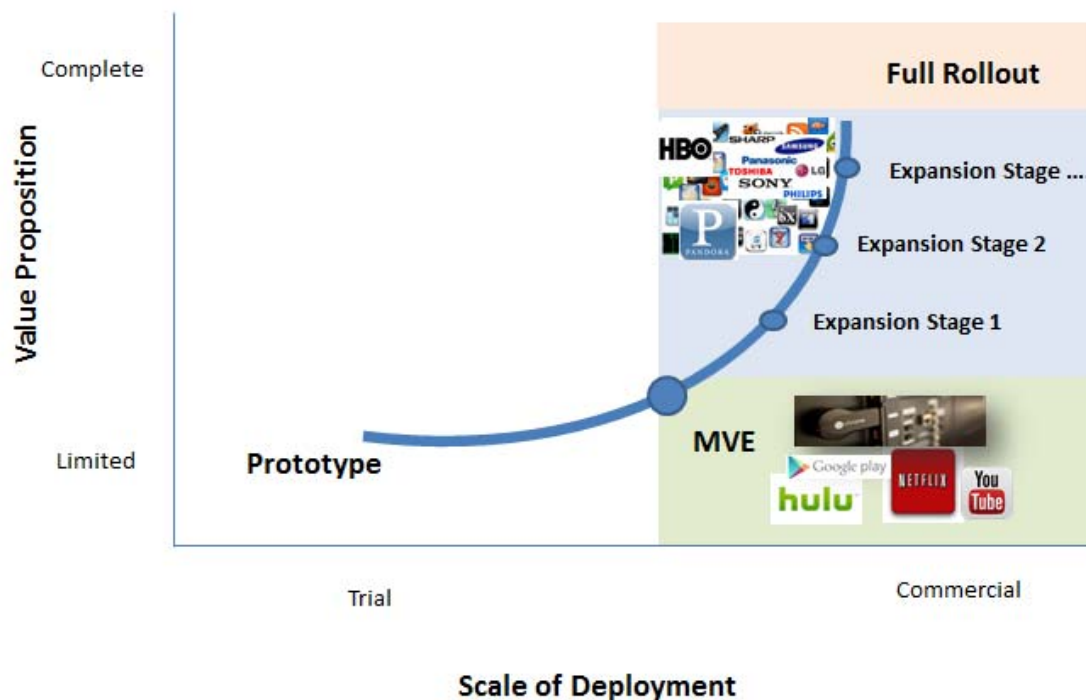
Chromecast appears to be off to a promising start despite its relatively limited initial app offering given the number of partners that are rumored to be developing

Current App Partners	Apps Rumored to be in Development		
Hulu Plus	AOL On	Plex	Songza
Netflix	Bitcasa	Pocket Casts	Tonido Home Cloud
Play Movies & TV	Blip	PostTV	Twitch.tv
Play Music	BubbleUPnP	Qello	VEVO
YouTube	Devour	Redbox Instant	Vimeo
	HBO Go	Revision3	Zattoo
	Pandora Radio		

Minimum Viable Ecosystem

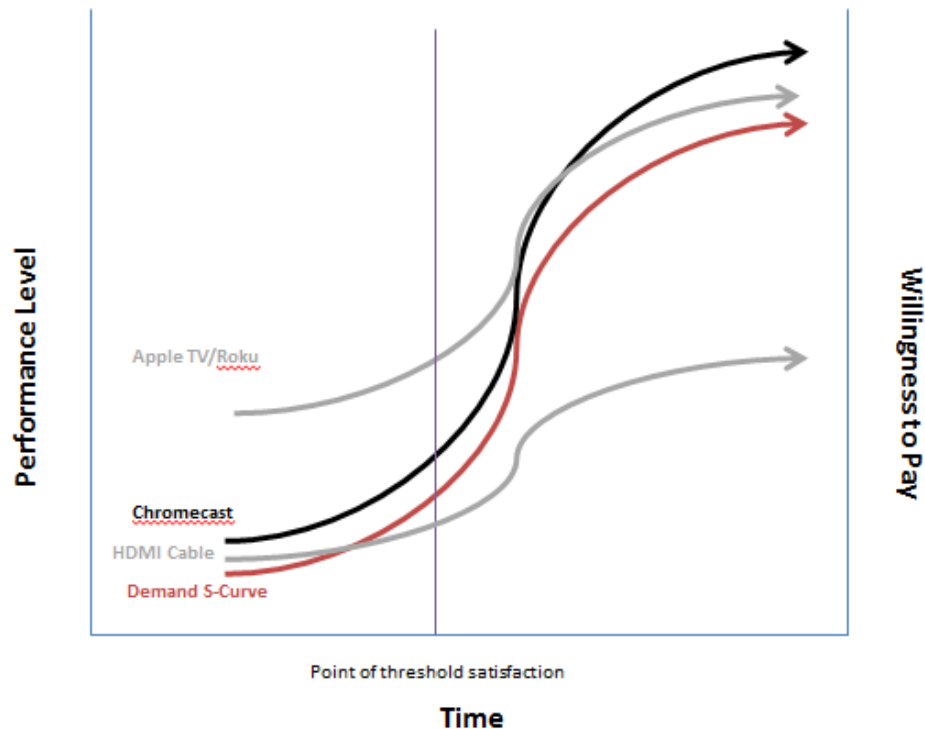
We believe that Chromecast is now well positioned to deliver its value proposition given that multiple partners in the ecosystem agreed, aligned and/or committed to incorporate the technology. Chromecast was able to construct a simple ecosystem with a relatively limited initial app offering but still creating some new value. It identified its *Minimum Viable Ecosystem (MVE)*.

In addition, starting with the MVE for Chromecast enabled Google to begin with the subset of risks it is best positioned to solve – those related to content providers and customers. These risks are relatively low and the only challenge for Chromecast would be to attain a high level of partner motivation. The evolution of partnerships with content providers over time will eventually determine the pace of the staged expansion for online streaming technologies.



A demand based perspective

Not so long ago, technologies that enable online streaming via TV as a source of entertainment became available at an affordable price. If consumers want to access to an internet video, be it a Netflix movie, a Hulu TV show or YouTube video, on to the biggest, brightest and best-viewing screen in the house, now there are plenty of options to choose from. Consumers will prefer the device that gains them the greatest access to online content. The willingness to pay will ultimately be for the online content itself – something Google hopes will be through its platform via its cost leading hardware platform.



We believe that Chromecast is a device that is above the performance threshold required by consumers. From a competitive point of view, Chromecast represents an **“emergent attack from below”** to its closest competitors Apple TV and Roku. It’s a technology that currently offers an inferior performance but we expect it to progress to eventually surpass performance position of the incumbent.

Conclusion

We conclude that currently a significant portion of streaming device customers would benefit from a simpler, cheaper and more user friendly device than the current options. Ultimately, the hardware required to deliver the content is a commoditized product and consumers will adopt a solution that delivers the best suite of online content at an attractive upfront cost. Chromecast is a simple, user friendly device, with significant add-on potential from a content perspective.

In addition, the ecosystem for the industry is already in place with no significant adoption and co-innovation risks. As a consequence, Google has quickly captured a significant share of the market despite offering fewer features than the competition due to the low initial price point along with enthusiasm for the add-on potential of Chromecast.

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