

# Connected-TV: Market Status and Next Steps for Standardization

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## Abstract

This position paper reviews the background of W3C's successful work in the Web and TV area, followed by a survey of various market research and analysis, including a quarterly industry report from technology provider Digitalsmiths, a Connected-TV and Pay-TV partnership insight analyst report from Informa, and Opera's vendor view of the challenges of a successful Connected-TV experience. Based on this survey, it is recommended that further Web & TV standardization work focus on the enabling technologies for device integration and personalized content discovery.

## Overview

TV as an industry platform has evolved from a unidirectional, real-time, scheduled, and home-centered entertainment platform toward a more dynamic and Internet-connected platform. The current platform covers multi-screen, online interactive media, Over-The-Top (OTT) content, on-demand streaming media, and home networking access. Connected-TV devices, a.k.a. Smart TV or Hybrid TV, are making history as best-selling consumer electronics products. Similar to technologies enabling modern smartphones, Connected-TV involves technologies of the Internet, Web, software application frameworks, digital distribution platforms, interactive on-demand media, personalization, social networking, and advertising.

Since 2010, W3C activity on the Web & TV has successfully resulted in HTML working group specifications for MSE (Media Source Extension) and EME (Encrypted Media Extension). Work continues on use cases and requirements for home networking and assessments of further

technology gaps for Web & TV use cases. In particular AT&T's support of this work is focused on:

- Offline use cases, e.g. support for download and offline storage within the web browser or in device storage (with subsequent ability to access and use the content from the browser)
- Second-screen, e.g. playing of content on another device and launching of web content on other devices
- Logical channels, e.g. which blends program guide and other content information from different sources
- TV tuner integration across various sources

Building on that success and continuing work, this paper envisions several areas in which W3C can expand its efforts in the convergence of Web and TV.

## Market Analysis

DigitalSmiths [1] recently released its Q3 2013 Video Discovery Trends report and analyzed consumer behavior across Pay-TV, VoD, OTT, Connected-Devices, and the next generation of features that can help Pay-TV operators improve subscriber stickiness and grow revenue. The key takeaways include:

- Cord-Cutting and Cord-Thinning rate is getting slower, or decreased compared to Q2, but Cord-Cheating trend is growing, which results in lower subscriber engagement and lost revenue. The reasons behind consumer preference for OTT over VoD content include convenience, lower cost, the ability to watch everywhere, and better selection.
- Significant decrease in the number of consumers watching TV 3+ hours per day. Over half watch 0 – 3 hours per day. The current guide/grid experience could have driven this behavior.
- Growing number of consumers (88.9%) watch the same channels over and over, and 80.2% watch only 10 channels or fewer.
- Although connected-devices are on the rise and 2nd/multi-screen apps and companion apps are continuing to emerge, it still remains a challenge that “TV Everywhere” apps reach everyone.
  - Only 19.6% subscribers have their Pay-TV provider's app downloaded.
  - TV Network apps are the clear leader in terms of downloads
  - Content Discovery apps are the clear winner in terms of usage – 14.5% use them daily, indicating the desire consumers have to easily find something to watch.
- 30.8% choose to watch a TV show/movie because of the buzz it's getting on social networks. Clearly, Social TV is a key differentiator of Pay-TV provider apps to keep subscribers from leaving for other 3<sup>rd</sup>-party apps.

DigitalSmiths' conclusion is that personalized content discovery is the key to the future, and that a desirable video discovery solution should:

- Allow consumers to search and receive recommendations across catalogs and obtain an experience blended from OTT content and Pay-TV content
- Push personalized content to the consumer, allowing for content to find the viewer rather than requiring consumers to continually search for programs
- Include the functions of search, recommendation, and content discovery under various contexts e.g. social, mood, areas of interest (e.g. sports)

Informa [2] also published an analysis on Connected-TV and Pay-TV Operator Partnerships. The analysis echoes trends from the rapid rise of Connected-TV, e.g. Cord-Cutting, Cord-Thinning and Cord-Cheating phenomena. However, it projects that despite threats to Pay-TV operators, the Pay-TV market will prove remarkably robust. Informa further analyzes the value chain and the partnerships between Connected-TV device manufacturers and Pay-TV operators. Because each region and market segment is different, the nature of partnerships also varies.

Vendors are quite active in pursuing new business opportunities in the area of Connected-TV. For example, Opera [3] has looked into the key challenges of a successful Connected-TV experience, including user-experience, system and business model. Clearly, device integration is the core part of the Connected-TV system, including:

- Client-side middleware application integration
- Access to service and information
- Portability
- Interoperability
- Ease of use and superior user experience
- Privacy, security and content filtering (e.g. parental control)

## Conclusion

Based upon this survey, we recommend that further Web & TV work in W3C address:

- Device Integration
  - o HTML5 based, client-side app framework
  - o Integration with social networks / Social TV
  - o 2<sup>nd</sup>/Multi-screen
- Personalized Content Discovery
  - o Search, recommendation and social discovery

## References

- [1] <http://www.digitalsmiths.com/discoveryreport-13q3-web/>
- [2] <http://www.informatandm.com/wp-content/uploads/2012/02/ITM-CES-Connected-TV-White-Paper.pdf>
- [3] [http://media.opera.com/media/b2b/Opera\\_for\\_connected\\_TV WP.pdf](http://media.opera.com/media/b2b/Opera_for_connected_TV WP.pdf)