

OIAC Specialized Services Working Group

Video Set Top Box Case Study
Summary

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- Working group chose to look at video Set Top Boxes (STBs) as a case study of a specific category of end user hardware products that enable “specialized services.”
- This and other case discussions elucidated (at least) three possible attributes of a specialized service, although others may be appropriate as well:

1. *Reachability:*

“Broadband Internet access service likely does not include services offering connectivity to one or a small number of Internet endpoints for a particular device, *e.g., connectivity bundled with e-readers, heart monitors, or energy consumption sensors*, to the extent the service relates to the functionality of the device. Nor does broadband Internet access service include ...multichannel video programming services.... These services typically are not mass market services and/or do not provide the capability to transmit data to and receive data from all or substantially all Internet endpoints.” (OIO ¶147)

2. *Capacity Isolation:*

“broadband providers may constrict or fail to continue expanding network capacity allocated to broadband Internet access service to provide more capacity for specialized services.” (OIO ¶112)

3. *Pricing & Payment:*

“We would also be concerned by any marketing, advertising, or other messaging by broadband providers suggesting that one or more specialized services, taken alone or together, and not provided in accordance with our open Internet rules, is “Internet” service or a substitute for broadband Internet access service. Finally, we will monitor the potential for anticompetitive or otherwise harmful effects from specialized services, including from any arrangements a broadband provider may seek to enter into with third parties to offer such services.” (OIO ¶114)

Video Set Top Box Overview

- Set Top Boxes (STBs) are the hardware that enable video (linear and/or VOD) that is delivered to the consumer's home by an access network to be presented to the end user's TV.
- These access networks include Hybrid Fiber Coax (HFC) for cable networks, forms of Digital Subscriber Line (DSL) or Passive Optical Networking (PON) for telco networks.
- Cable video services may not be “specialized services” under the Open Internet rules – Historically these have been classified as Title VI Cable services. Moving to non-Internet based IP may not change this.
- Video STBs may provide other functions as well, such as DVR capability, and additional information and applications the user can access or interact with via the TV interface.

STB Functions & Types

- For this discussion, the examples will center on three prevalent categories of STBs; these include:
 - Cable/Telco provided video STB (w/or w/out DVR)
 - 3rd party STB accessing cable/telco enabled services
 - 3rd party unaffiliated (OTT) video STBs (e.g. Apple TV, Roku, etc.)

Cable/Telco provided video STB

Reachability

- Cable: typically, linear video is broadcast to STB from video “head end” in MSO facilities; provides access to MVPD service.
- Telco (IPTV): typically, linear video is provided to STB (via a “Residential Gateway (RG)” in the home) only from telco video servers that authenticate the subscribed channel package, and are sourced by the telco from the networks with whom it has carriage agreements, i.e. the STB provides access to MVPD service.

Capacity Isolation

- Cable: most video is provided by physically discrete QAM channels, not IP; the OIO is n/a
- Telco (IPTV) and a growing number of MSOs: video is provisioned on logically (versus physically) separated bandwidth, with a distinct IP queue or service flow.

Pricing & Payment

- Cable: video service is subscribed to as a standalone service including a defined number of linear channels, or in conjunction with a bundle with voice and/or HSIA service.
- Telco/Cable IPTV video service is subscribed to as a standalone service, including a defined number of linear channels, or in conjunction with a bundle with voice and/or HSIA service.

All three attributes indicate that live/linear video delivered to a cable/telco provided STB is either not an IP service at all, or is a Title VI IP-based cable service, or is a specialized service under the OIO.

3rd Party STB Accessing MVPD Video Services

Examples: Comcast XFINITY® TV on Xbox 360®, AT&T U-Verse® TV for Xbox 360®

Reachability

- Comcast VOD: Similar to a standard Comcast STB (XBox360 hardware and software, once configured, provides the same VOD services as any other Comcast STB).
- U-Verse Xbox: Same as standard U-Verse STB (XBox360 hardware and software, once configured, provides the same functionality as any other U-Verse STB).

Capacity Isolation

- Comcast Xbox: Same VOD as standard Comcast STB (uses logically separated bandwidth over and above HSIA service).
- U-Verse Xbox: Same as standard U-Verse STB (i.e. logically separated bandwidth).

Pricing & Payment

- Comcast VOD: Included in standard subscription (merely expands means by which customers can access VOD content).
- U-Verse Xbox: Service is included in standard subscription, merely eliminates a leasing fee for an additional STB if a consumer has an existing Xbox they would like to use for U-Verse video.

All three attributes indicate that video delivered by a cable/telco to a 3rd party STB can be considered either a Title VI IP-based cable service or a specialized service under the OIO. However, details of specific cases can vary, and require detailed analyses to assess.

3rd Party Unaffiliated (OTT) video STBs

Examples: Apple TV, Roku, Boxee

Reachability

- These types of STBs can generally be used anywhere there is broadband Internet access, and are not dependent on the specific provider of that access.
- They typically can access content from multiple Internet providers; content that is also available to other devices, including computers – i.e. the device provides a more convenient means of viewing the content on the larger screen of a TV versus a computer monitor.

Capacity Isolation

- Current marketplace offerings make no distinction within the ISP networks between video content delivered to a 3rd party/OTT STB, and any other Internet content delivered to any other device accessing an end user's HSIA service.

Pricing & Payment

- Payment for the device and content is made to the device/content provider, separate and apart from and HSIA service charges.

Other

- OTT Video services have not been subject to Title VI requirements (example: Franchise fees, Emergency Alert Services, Must Carry, Call Centers, Truck Rolls, etc)

All three attributes indicate that third party-provided OTT video delivered via a HSIA connection to a 3rd party STB is likely not a specialized service under the OIO, but rather a service that is enabled by broadband Internet access service. [Note that some 3d Party STBs can access MVPD video services in addition to OTT video.]