

February 24, 2016

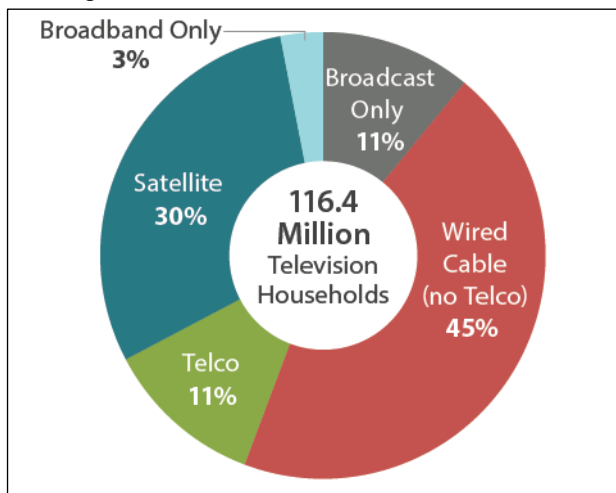
## Unlocking the Set-Top Box

On February 18, 2016 the Federal Communications Commission (FCC) proposed rules intended to make it easier for television viewers who subscribe to cable or satellite services to buy set-top boxes from retail outlets. These technical proposals have ignited a firestorm of controversy amid claims that they could alter the distribution of profits within the television industry and erode long-standing consumer protections in federal law.

### Background

More than 116 million U.S. households watch television. Of those, approximately 86% subscribe to a service that distributes multichannel video programming through cables, telephone lines, or a satellite dish on the premises. These Multichannel Video Programming Distributors, or MVPDs, fall into one of three categories: cable providers such as Comcast and Time Warner Cable; telephone company (telco) services such as Verizon's FiOS; and direct broadcast satellite providers (Dish Network and AT&T's DirecTV). (See **Figure 1**.)

**Figure 1. How Viewers Receive Television Programs**  
Percentage of Television Households as of 3Q 2015



**Source:** The Nielsen Company.

**Notes:** Some households may subscribe to multiple services.

To access MVPDs' programming, which is supplied by television networks and studios, consumers need electronic equipment compatible with the service to which they subscribe. Most subscribers lease set-top boxes from the MVPDs. Under the Telecommunications Act of 1996 (47 U.S.C. §549), the FCC must assure the availability in retail outlets of devices capable of accessing MVPD programming, thereby offering consumers an alternative to leasing set-top boxes from MVPDs.

The proposed rules, aimed to make it easier for consumers to buy and use their own set-top boxes, have incited fierce disagreement among competing interests in the television industry. There are three major areas of controversy:

**(1) Whether or not MVPDs must provide consumer electronics firms access to their raw programming feeds and programming guide data.** At present, the location of particular broadcast stations and television networks on an MVPD's menu is determined in negotiations between these parties and the MVPDs. For example, a cable television network may grant the MVPD permission to retransmit its programming only on the condition that the network receive a menu position it deems desirable and a certain number of promotional logos on the MVPD's program guides. Both MVPDs and networks are concerned that companies selling set-top boxes directly to viewers could organize the programming as they prefer, disregarding the terms of the MVPDs' and networks' contracts with one another. The FCC claims that competition in the device market cannot exist without competition in the devices' features (i.e., program presentation and navigation.) MVPDs and television networks want the FCC to allow them to control the display of information to viewers regardless of who provides the set-top box.

**(2) The extent to which consumers can switch between MVPD and other programming on a single device.** The set-top boxes leased by MVPDs usually provide access only to the MVPD's programming. Viewers wishing to watch programs from online video distributors (OVDs), such as Netflix or Hulu, must use another device to access those programs over the Internet. A set-top box sold at retail might allow the viewer to switch back and forth between MVPD programming and OVD programming, potentially making it more difficult for MVPDs to retain the attention of their subscribers. The FCC asserts that integration with OVD services will enable consumers to find minority and special interest programming more easily.

**(3) The degree to which consumer electronics firms will be required to obey the consumer protection laws that govern MVPDs.** Specifically, MVPDs must (1) keep subscribers' viewing habits private (47 U.S.C. §§531, 338(i)), (2) abide by advertising limits during children's programming (47 U.S.C. §303(a)), and (3) build devices that display emergency alerts (47 C.F.R. Part 11), closed captioning (47 U.S.C. §613), and parental controls (47 U.S.C. §303(w)). In its rulemaking, the FCC asks whether it has the legal authority to bind consumer electronics manufacturers and suppliers of software for these devices to those laws.

## History

### Integration Ban

The debate over cable boxes began as a dispute over how MVPDs could install security so that only paid subscribers have access to their programming. In 1998, when it set forth rules implementing the 1996 Telecommunications Act, the FCC required MVPDs to separate the security functions of cable boxes from the navigation functions. The security technology had to be available to third-party manufacturers of set-top boxes. To ensure that cable operators would adequately support competitors' access to this security technology, the FCC banned the cable operators from integrating it into their own set-top boxes. This requirement is generally referred to as the "integration ban."

Although the integration ban nominally applied to all MVPDs, the FCC effectively exempted satellite providers. AT&T and Verizon, known commonly as the "telco MVPDs," each took a different approach to implementing the integration ban. While Verizon separated the security functions to a limited extent for its FiOS service, AT&T did not do so for its U-Verse service.

### CableCARDs

In 2003, the FCC specified that cable operators use a device called a "CableCARD" to provide security. A subscriber may obtain a CableCARD from the MVPD and insert it in any set-top box. However, relatively few cable subscribers purchase set-top boxes and install CableCARDs.

### AllVid Inquiry

In April 2010 the FCC launched an inquiry seeking comments on whether it should replace the CableCARD standard with an "all video adapter," enabling all set-top boxes to work with all MVPD services. This proceeding is known as "AllVid." This approach would have enabled consumer electronics companies to sell devices at retail without the need to coordinate or negotiate with the MVPDs. As conceived, the adapter would perform the tuning and security decryption functions that are MVPD-specific. Manufacturers selling at retail could differentiate their devices through unique presentations of programming guides and navigation functions.

Both MVPDs and cable networks expressed concerns about the AllVid proposal. MVPDs claimed that implementing a "one size fits all" technology would be burdensome, while cable networks argued that the proposal would hamper their ability to protect and present their copyrighted content.

### Congressional Actions in 2014

Section 106 of the Satellite Television Extension and Localism Act Reauthorization (STELAR; P.L. 113-200) repealed the FCC ban on the integration of the security and navigation ("channel surfing") functions in the set-top boxes cable operators provide their customers. The ban expired on December 4, 2015.

Section 106 of STELAR also directed the chairman of the FCC to "establish a working group of technical experts representing a wide range of stakeholders, to identify, report, and recommend performance objectives, technical

capabilities, and technical standards of a not unduly burdensome, uniform, and technology- and platform-neutral software-based downloadable security system designed to promote the competitive availability of navigation devices in furtherance of section 629 of the Communications Act of 1934 (47 U.S.C. 549)." The working group was required to file a report with the FCC by September 4, 2015.

### FCC Actions in 2015 and 2016

To fulfill this assignment, the FCC chartered the Downloadable Security Technology Advisory Committee (DSTAC). The group included representatives of content owners, MVPDs, consumer electronics firms, consumers, and equipment manufacturers. Two major points of disagreement emerged: (1) whether an examination of non-security-related issues was beyond the scope of the congressional mandate, and (2) whether the definition of "MVPD service" includes all of the various functionalities and features that MVPDs offer subscribers, or simply the underlying programming.

DSTAC presented two proposals for addressing non-security features: (1) an MVPD-supported proposal that would enable MVPDs to retain control of how consumers view and select programming, and (2) a consumer electronics-supported proposal that would require MVPDs to cede control of the presentation of programming.

### New Proposed Rules

After seeking comment on the DSTAC report, the FCC proposed new rules for set-top boxes in February 2016. The proposed rules would require MVPDs to deliver three core information streams: (1) *Service discovery*: information about what programming is available to the consumer, such as the channel listing and the programming on each channel; (2) *Entitlements*: information about what a device is allowed to do with content, such as recording; and (3) *Content delivery*: the video programming itself.

To be eligible to receive these streams, third-party manufacturers selling set-top boxes at retail and suppliers of software to these manufacturers must (1) use technology conforming to specifications set by an independent standard-setting organization, and (2) certify that they will adhere to privacy protections and children's advertising limits as well as pass through emergency alert messages.

The FCC seeks comment on whether it is correctly interpreting Section 629 to cover software used in "navigation devices" and "equipment" as well as hardware.

### Filing Comments

The FCC, as an independent regulatory agency, is bound by the Administrative Procedure Act (5 U.S.C. §§551-559), which is designed to develop a public record upon which interested parties may comment and participate. Formal comments are due 30 days after publication for the proposed rules in the *Federal Register*; reply comments are due 60 days after publication in the *Federal Register*.

**Dana A. Scherer**, Analyst in Telecommunications

IF10364

---

## Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.