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“Over the last twenty years, the humble Pay TV set-top box has gone through dramatic transformations, from a simple signal converter to a digital security gateway and, more recently, to a networked digital video recorder ... The content revolution, however, extends far beyond the set-top box.” So begins “*Unlocking Pandora’s Set-Top Box: The FCC Flirts with Disaster, Again*” written by CBPP Project Director and Senior Industry and Innovation Fellow Larry Downes.

In this paper, Downes provides background, analysis, and sharp commentary in response to the Federal Communication Commission (FCC) February 2016 Notice of Proposed Rulemaking, “Expanding Consumers’ Video Navigation Choices; Commercial Availability of Navigation Devices.”

Establishing a policy framework in which set-top box and content providers compete vigorously, the industry continues its remarkable innovation and transformation, and where consumers enjoy the fruits of that competition and innovation is vitally important for 21st-century communications policy. In that spirit, the Georgetown Center for Business and Public Policy is pleased to present this paper to further the discussion.

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Unlocking Pandora's Set-Top Box: The FCC Flirts with Disaster, Again

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Executive Summary

In February, the FCC approved a plan to require Pay TV providers to adopt new technical standards for set-top boxes, one that would open multiple “Information Flows” to unregulated third parties, including licensed programming and the viewing habits of consumers.

While the Commission’s stated goal is to lower the cost of set-top box rental fees for consumers, the likely outcome of the plan will be to raise prices for all consumers, including the millions who never had a box or who long ago cut the cord.

The FCC’s effort to “unlock the box,” will, like the mythological Pandora, unintentionally release new demons into the marketplace—demons over which it will be hard, if not impossible, to regain control.

Unlike the technology upgrades that have required providers to replace earlier generation set-top boxes, the FCC’s new standard won’t deliver any technical or functional improvements. The FCC’s new box will be a kludge at best, and more likely what Internet security experts call a worm.

It will open a secured data channel to unregulated users that will threaten Pay TV providers’ delicate licensing deals with content producers and expose sensitive user data to companies that are exempt from stringent FCC privacy rules regulated Pay TV providers must follow.

Those are the lessons of over last twenty years of previous efforts by the FCC to mandate similar technical standards for Pay TV. Each effort not only failed, but in the process wasted millions if not billions of dollars, stymied innovation, and skewed the natural evolution of what has been a highly dynamic video ecosystem driven not by regulation but by immense technological disruption.

This Policy Paper reviews the FCC’s newest video navigation proposal in the context of its long history of attempts to reshape the Pay TV market through technical mandates that either failed or were abandoned by the agency after years of neglect.

Key points include:

- A content revolution raging just outside the FCC’s peripheral vision has been driven not by inconstant regulators but by hardware, software and service innovators, most of them unregulated and unaware of the need for the FCC to empower them. They are quite comfortable relying on the Internet and declining prices for technology components to build better, faster and smaller hardware and software alternatives.

- To encourage more competition in the video market, the FCC must loosen its tight grip on the economics and business models of existing regulated providers. Instead, the agency seems determined to double down on past failures. A closely-related proceeding, for example, will reclassify many over-the-top video services as regulated providers, subject to all the old rules—and, now, the new set-top box mandate.
- This latest rulemaking, in any case, has little or nothing to do with imagined overcharging for set-top box rentals. At least one commentator believes the made-up pricing data is a “decoy.” The real goal of the new technical mandate is to unbundle video programming to provide unearned competitive advantage to favored special interests.
- Contrary to FCC Chairman Tom Wheeler’s rhetoric of a quick and simple fix, the actual rulemaking reveals paradoxical, self-defeating principles for development and deployment of a new government-mandated set-top box that cannot yield a workable standard in the timeframe required, if ever.
- Because the agency cannot force unregulated users of the newly-released “Information Flows” to abide by strict privacy rules that apply to regulated Pay TV providers, the agency’s awkward solution is to deputize the regulated providers to “certify” unregulated users of consumer data and enforce vague “public interest” principles against them. This may be the best solution given the limits of the FCC’s legal authority, but it will not make the set-top box market more competitive. If anything, it will have the opposite effect.
- The net result of the FCC’s rulemaking will be to distract regulated and unregulated providers alike from the real work of eliminating the need for any set-top box with a messy, costly, and contentious fight over new standards for a device that will cost billions to develop and deploy, which no one will want or need by the time it arrives but which everyone will have to buy. No consumer will ever save a cent from this proposal, let alone the hundreds of dollars a year the agency is promising.

Introduction - A Warped View

Over the last twenty years, the humble Pay TV set-top box has gone through dramatic transformations, from a simple signal converter to a digital security gateway and, more recently, to a networked digital video recorder with sufficient local and cloud storage and duplicate tuners to simultaneously record and store hours of high-definition content.

The latest upgrades have added software that supports a variety of “smart TV” functions, including voice recognition, enhanced program search, Internet video playback and service scheduling. Internally, the boxes have been upgraded to handle new data encoding standards, capable of interpreting high-definition (and soon ultra high-definition) signals and the latest video protocols.

And all along, following the better-cheaper-smaller principle of Moore’s Law, the boxes themselves have reduced dramatically in both size and power utilization.¹

Many of these improvements have required replacing the hardware entirely. For Pay TV customers who lease their equipment from the provider, the cost and logistics of updates have been managed by the provider. For customers who own their own equipment, including from vendors such as TiVo, the cost of upgrades, which are significant, has been borne directly by users.²

The content revolution, however, extends far beyond the set-top box. Consumers increasingly enjoy video—scripted, amateur, and otherwise—on an expanding range of alternative platforms, including from Netflix, Hulu, YouTube, Apple and Amazon, on game consoles, smart TVs, and on computers, tablets and smartphones, using hundreds of video apps from new content and service providers large and small. Even premium content, according to a recent research report, “is not dominated by one player, but rather, the majority of the content is available from at least five sources.”³

¹ Larry Downes, *For Outmoded Set-Top Boxes, the FCC Doubles Down on Failure*, FORBES, March 1, 2016, available at <http://www.forbes.com/sites/larrydownes/2016/03/01/for-outmoded-set-top-boxes-the-fcc-doubles-down-on-its-own-failures/#5c7813126a27>; Idem, *The Danger the FCC Can't See in its New Video Proposal*, THE WASHINGTON POST, Jan. 29, 2016, available at <https://www.washingtonpost.com/news/innovations/wp/2016/01/29/the-danger-the-fcc-cant-see-in-its-new-video-proposal/>.

² Each new TiVo box comes at a cost between \$300 and \$500, plus a \$14.99 monthly service fee. See <https://www.tivo.com/>.

³ SNL Kagan, *SNL Kagan Study Finds that Films and Television Shows are More Digitally Accessible than in Previous Years*, May 17, 2016, available at <http://www.spcapitaliq.com/our-thinking/newsroom/snl-kagan-study-finds-that-films-and-television-shows-are-more-digitally-accessible-than-in-previous-years>. (“Consumers now have access to major motion pictures and TV series in the palms of their hands in a number of ways, whether it's through the iTunes or Google Play store, Netflix, Hulu or Amazon Prime app or the TV Everywhere services. This competitive landscape has led to an explosion of choices for consumers both in terms of the types of content available and variety of pricing structures.”)

Many of the new entrants produce their own content or host consumer-produced programming, much of it award-winning and viewed by millions of users.⁴ In the not-so-distant future, intelligent devices, program choices and viewing options will be integrated even further. It's likely that no set-top box will be necessary.

Yet this remarkable transformation seems to have entirely escaped the notice of the Federal Communications Commission, perhaps because their regulatory reach, at least so far, extends only to the shrinking part of the video ecosystem that makes up facilities-based Pay TV providers, or what the agency refers to anachronistically as Multichannel Video Programming Distributors (MVPDs).⁵

The agency instead sees only the twisted ghost of a highly-regulated industry, which the FCC views as stagnant, extracting monopoly rents from captive consumers both for licensed content and for the leased equipment they use to access it.

That, at least, is the view of the industry revealed in a quixotic Notice of Proposed Rulemaking approved by the Commission in February, 2016.⁶ The NPRM is oddly focused solely on correcting what the agency sees as a broken market for leased set-top boxes—odd both because device lease fees are only one relatively minor component of a complex bundled pricing formula, and because the device fees have long been regulated by the FCC itself.⁷

Rather than apply economic rigor to determine whether the set-top box market, taken in context, really exhibits anti-competitive behaviors or even if the boxes represent a cost center rather than a profit center for regulated providers, the agency simply assumes data it has failed either to collect or to analyze.

Moreover, instead of proposing solutions that would enhance competition, the FCC has veered dangerously into technical waters that have sunk the agency repeatedly over the last twenty years. After at least three previous attempts, the Commission proposes to mandate yet another technical standard for future set-top boxes that would “unlock” both the technology and the content they mediate. The proposed rulemaking will require that MVPDs agree on protocols for future set-top boxes within a year, and deploy the new box to millions of customers within two years.

⁴ Larry Downes, *A Tale of Two Video Markets: Welcome to the Post-Aero World*, THE WASHINGTON POST, July 2, 2014, available at <https://www.washingtonpost.com/news/innovations/wp/2014/07/02/a-tale-of-two-video-markets-welcome-to-the-post-aereo-world/>.

⁵ A pending 2014 rulemaking, discussed infra note 18, would extend the definition of MVPD to include many of the unregulated new entrants.

⁶ Federal Communications Commission, *In the Matter of Expanding Consumers' Video Navigation Choices Commercial Availability of Navigation Devices*, MB Docket No. 16-42, CS Docket No. 97-80, NOTICE OF PROPOSED RULEMAKING AND MEMORANDUM OPINION AND ORDER, February 19, 2016, available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0218/FCC-16-18A1.pdf (hereinafter “Video Navigation NPRM”).

⁷ See George S. Ford, *The FCC's Cynical Set-Top Box Play*, THE HILL, Feb. 3, 2016, available at <http://thehill.com/blogs/pundits-blog/technology/268004-the-fccs-cynical-set-top-box-play>.

The new boxes, notably, will be “open” to third party users to hack, allowing them to intercept the programming stream and repurpose it for what the FCC sees as competitive alternatives to everything from channel bundles and lineups to program guides, search, and other functions. User viewing data will also be included as part of the open “Information Flows” to which third parties will have unhindered access.⁸

Unlike the technology upgrades that have required providers to replace earlier generation set-top boxes, the FCC’s latest standard won’t deliver any technical or functional improvements. The FCC’s new box will be a kludge at best, and more likely what Internet security experts call a worm. It will open a secured data channel to unregulated users that will threaten delicate licensing deals with content producers and expose sensitive user data to providers who aren’t subject to the stringent FCC privacy rules that regulated MVPDs must follow.⁹

The FCC should know better. Over the last two decades, the agency has repeatedly tried and failed both to develop and mandate technical standards in the video industry. Previous efforts to mandate the technology of set-top boxes all failed to enhance competition and wound up costing MVPDs—and ultimately their customers—millions if not billions of dollars, all the while distracting critical engineering resources from more productive and pro-competitive product development.¹⁰

Whether any federal agency can be imagined capable of overseeing the development of technical standards that help consumers more than they harm them is itself debatable. But the FCC’s sudden and suspicious renewed interest in “unlocking” the set-top box is more doomed than any previous effort.

That’s because the “Big Bang” disruption on-going in the content industry—much of it outside the visibility and reach of the agency—is accelerating.¹¹ Even if the unrealistic schedule established by the NPRM could somehow be met, even in two years any new standard and new equipment manufactured and deployed to support it would be at best obsolete, an unnecessary white elephant gathering dust in the consumer’s home.

At worst, the effort will cost more wasted dollars that will ultimately be absorbed by consumers. And, if history is any guide, impede the natural evolution of one of the most dynamic industries of the last two decades.

⁸ Video Navigation NPRM, supra note 6 at ¶¶ 35-41, 73.

⁹ Brian Fung, *Third-Party Cable Boxes Won't be Able to Spy on You (Too Much), Regulators Vow*, THE WASHINGTON POST, Feb. 10, 2016, available at <https://www.washingtonpost.com/news/the-switch/wp/2016/02/10/third-party-cable-boxes-wont-be-allowed-to-spy-on-you-too-much-regulators-vow/>

¹⁰ Downes, *For Outmoded Set-Top Boxes, the FCC Doubles Down on Failure*, supra note 1.

¹¹ Larry Downes and Paul Nunes, *BIG BANG DISRUPTION: STRATEGY IN AN AGE OF DEVASTATING INNOVATION* (Portfolio 2014).

What the FCC Says

Why is the FCC once again tinkering recklessly with the delicate machinery of the Pay TV industry, even as that industry undergoes a rapid and highly competitive evolution? And why “unlock the box” when regulated MVPDs are rushing, in the face of exploding new completion from unregulated entrants, to eliminate the box altogether--that is, until the agency inadvertently gives it new life?

New rules are immediately required, according to FCC Chairman Tom Wheeler, to curb excessive set-top rental prices charged by MVPDs, who have no competition, or at least none the agency acknowledges. By “unlocking the box” with an open technical standard that will allow any third party to access and repurpose the content, program guide, and viewing habits of consumers, the Chairman believes that start-ups and technical giants alike will easily be able to create competing devices and apps that will give consumers a real choice other than to lease the box from an MVPD.

In Wheeler’s artificially limited view of the content ecosystem, this radical change is essential to correct rampant competitive failures in the market for set-top boxes. “Altogether,” the Chairman notes, “U.S. consumers spend a whopping \$20 billion a year to lease these devices. In fact, according to a recent analysis, over the past 20 years the cost of cable set-top boxes has risen 185 percent while the cost of computers, televisions and mobile phones has dropped by 90 percent.” Consumers, he complained, continue to pay for obsolete equipment “[e]ven when the company has recovered the cost of the box.”¹²

These numbers are both wildly out-of-context and wrong.¹³ Instead of relying on the agency’s own data on the costs to MVPDs of buying the devices from third parties and the prices that MVPDs can charge for rented equipment under the agency’s own regulations, Wheeler repeatedly cites facially implausible back-of-the-envelope data conjured by self-styled consumer advocates. He rails against a profit center that is in fact almost certainly a cost center.¹⁴

¹² Tom Wheeler, *It’s Time to Unlock the Set-Top Box Market*, RE/CODE, Jan. 27, 2016, available at <http://recode.net/2016/01/27/its-time-to-unlock-the-set-top-box-market/>.

¹³ See Ford, *The FCC’s Cynical Set-Top Box Play*, supra note 7. As Hal Singer quickly pointed out, the invented economics of the “recent analysis” of the advocates, among other faults, failed even to consider cost in estimating the supposed profits. Hal Singer, *Before it Unlocks the Box, the FCC Must Solve this Pricing Puzzle*, FORBES, Feb. 15, 2016, available at <http://www.forbes.com/sites/halsinger/2016/02/15/before-it-unlocks-the-box-the-fcc-must-solve-this-pricing-puzzle/#10005b5c3778>. See also Idem, *The Sketchy Stat Behind the FCC’s Unlock the Box Campaign*, FORBES, Feb. 5, 2016, available at <http://www.forbes.com/sites/halsinger/2016/02/05/the-sketchy-stat-behind-the-fccs-unlock-the-box-campaign/#52e071e269b8>. The pricing “data” also ignores the value of added functionality in today’s set-top boxes over those of twenty years ago, which merely decoded an analog video stream.

¹⁴ Holman W. Jenkins, Jr., *Net Neutrality vs. Net Reality*, THE WALL STREET JOURNAL, Feb. 23, 2016, available at <http://www.wsj.com/articles/net-neutrality-vs-net-reality-1456271862?cb=logged0.12184583372436464>.

To justify regulatory intervention, he also conveniently ignores the reality of cord-cutting, especially among millennials who never subscribed to Pay TV in the first place, and the explosion of innovation from all sides in unregulated over-the-top content production, delivery and consumption.¹⁵ A new generation of video consumers isn't paying anything to rent set-top boxes, and likely never will.

The FCC's selective memory is at least partly willful. But it's also a symptom of the FCC's severely limited view of the industry, constrained to the small part of the market they continue regulating to death.

For example, today's misshapen tangle of MVPD rules,¹⁶ reflecting the rise and fall of different interest groups over the years since cable TV first arrived, both mandate and limit the programming that MVPDs can offer, and create a hornet's nest of copyright, licensing, and carriage negotiations that elevate rent-seeking behavior over common sense, always to the detriment of consumers.

If set-top box rental fees don't reflect pure market competition, it is largely the result of disincentives and limitations imposed by the FCC, always well-intentioned at the outset but whose "public interest" goals have long since been forgotten and twisted to suit a preferred special interest.

Whatever its cause, the agency's distorted vision will generate severe unintended negative consequences. Like previous efforts to mandate set-top box technology, the newest technical standard can't help but exacerbate anomalies in the MVPD market, problems that are almost entirely the creation of dangerously obsolete rules imposed, ironically, by the very same FCC and its state-level equivalents.¹⁷

Yet instead of loosening the agency's tight grip on the economics and business model of existing regulating providers, Chairman Wheeler seems determined to double down on failure, bringing Internet-based content providers under the same molting wing of regulation. Closely related to the set-top box NPRM, for example, is a separate proceeding initiated in 2014, which

¹⁵ Mathew Ingram, *Pay TV Industry: Yes, Cord-Cutting is Accelerating, but it Could be Worse!*, FORTUNE, Nov. 10, 2015, available at <http://fortune.com/2015/11/10/tv-industry-loses-subscribers-to-cord-cutting/>.

¹⁶ See Adam Thierer and Brent Skorup, *Video Marketplace Regulation*, MERCATUS RESEARCH, April 29, 2014, available at http://mercatus.org/sites/default/files/Thierer_VideoMarketplaceRegulation_v1_0.pdf.

¹⁷ *Hearing on The AT&T/DIRECTV Merger: The Impact on Competition and Consumers in the Video Market and Beyond*, Before the Subcommittee on Antitrust, Competition Policy and Consumer Rights, U.S. Senate, Written Testimony of Larry Downes, Project Director, Georgetown University, Center for Business and Public Policy, Washington, DC, June 24, 2014 available at <http://cbpp.georgetown.edu/sites/cbpp.georgetown.edu/files/Downes-Hearing-ATTDirectTV-Merger-Impact-Competition-Consumers.pdf>. For example, local governments limited the number of MVPDs to one provider until 1992, when Congress stepped in to open the market to competition. The effects of the long-term government ban on competitive providers are still felt in many local markets. See Larry Downes, *The Comcast-Time Warner Merger is Not a Sign of Strength*, HARVARD BUSINESS REVIEW, Feb. 18, 2014, available at <https://hbr.org/2014/02/the-comcast-time-warner-merger-is-not-a-sign-of-strength/>.

would reclassify many over-the-top video services as MVPDs, subject to all the old rules—and, now, the new set-top box mandate.¹⁸

The looming reclassification is one reason Roku and other seeming beneficiaries of an “unlocked” set-top box say they don’t actually want the FCC’s help.¹⁹ That’s no surprise. Imagine what will become of innovative services including Google Chromecast, Apple TV, Amazon Fire TV, Roku, SlingTV and other fast-evolving unregulated video services once they’re subjected to FCC regulations regarding compulsory licensing, retransmission consent, must-carry, localization and dozens of other ossified rules that still apply to the regulated MVPDs.

According to Commissioner Michael O’Rielly, who, along with Commissioner Ajit Pai, dissented from the NPRM, the new cable box mandate is in fact little more than a maneuver to make that reclassification inevitable. The set-top box mandate “will be only the beginning of the new regulatory burdens” on today’s unregulated providers, O’Rielly wrote. “Who wins? Why, the FCC, of course.”²⁰

The Hidden Agenda

Chairman Wheeler, of course, doesn’t see it that way. In announcing his new mandate, he promised to “tear down the barriers that currently prevent innovators from developing new ways for consumers to access and enjoy their favorite shows and movies.”²¹ The new rules, he said, will “create a framework for providing device manufacturers, software developers and others the information they need to introduce innovative new technologies.”

The FCC’s latest technical mandate will, he said, “pave the way for a competitive marketplace for alternate navigation devices,” driving “more options for user-friendly menus and search functions as well as expand access to programming created by independent and diverse voices.”²² Consumers will at last “be able to use the device they prefer for accessing programming they’ve paid for.”²³

¹⁸ Federal Communications Commission, *In the Matter of Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, MB Docket No. 14-261, NOTICE OF PROPOSED RULEMAKING, December 17, 2014, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-210A1_Rcd.pdf.

¹⁹ Daniel Frankel, *Roku Not Backing Google and TiVo FCC Set-Top Box Proposal*, FIERCE CABLE, Feb. 17, 2016, available at <http://www.fiercecable.com/story/roku-not-backing-google-and-tivo-fcc-set-top-proposal/2016-02-17>.

²⁰ Video Navigation NPRM, *supra* note 6, at 65 (Dissenting Statement of Michael O’Rielly).

²¹ Wheeler, *It’s Time to Unlock the Set-Top Box Market*, *supra* note 12.

²² *Id.*

²³ *News Release*, FCC CHAIRMAN PROPOSAL TO UNLOCK THE SET-TOP BOX: CREATING CHOICE & INNOVATION, Federal Communications Commission, Feb. 3, 2016, available at http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0127/DOC-337449A1.pdf.

But outside the Beltway, what the Chairman proposes his agency do is precisely what has been happening for well over a decade, with innovations driven not by FCC decrees but rather by increased broadband speeds, mobile device proliferation, improving Internet standards and a frenzy of new devices.

During most of that time, the Chairman failed to note, the FCC was dithering with another dead-end proposal to replace the failed CableCARD mandate with an undefined new technology known as AllVid. When the AllVid proceeding stalled out without any resolution, it seemed as if wiser heads at the FCC had prevailed. But with the announcement of this latest scheme, the agency's regulatory machinery has roared back to life.

Only the FCC could imagine that the content revolution has ever been driven by technical rules developed (or abandoned mid-stream) by regulators. Everywhere else, it's clear the real source of transformation all along has been innovators, most of them unregulated and unaware of the need for the FCC to empower them. They are quite comfortable relying on the Internet and declining prices for technology components to build better, faster and smaller hardware and software alternatives at a feverish pace.

When it comes to technologies and markets that are already changing dramatically, in Silicon Valley our view of regulation has always been better never than late.²⁴ We believe in Moore's Law, not Washington law.

The most recent rulemaking, in any case, may in fact have little or nothing to do with imagined failures in the set-top box rental market. At least one commentator believes the made-up pricing justification for new regulations is merely pretextual: a "decoy."²⁵ The real goal of this latest effort to create a government Pay TV box, according to the American Enterprise Institute's Bret Swanson, is "to unbundle video programming across the landscape with a set of policies that will benefit some firms and harm others."

Which firms? "Unlocking" the box, as the Chairman describes the plan, would allow companies including Google, Netflix, Apple and others to offer video services without having to build or maintain networks or negotiate complex licensing deals with increasingly powerful and ever more finicky content giants such as Disney and CBS. And it would give them unregulated access to private viewing data the MVPDs are legally required to protect.

²⁴ Nick Bilton, *Marc Andreessen on the Future of Silicon Valley(s), and the Next Big Technology*, THE NEW YORK TIMES, March 18, 2014, available at <http://bits.blogs.nytimes.com/2014/05/18/marc-andreessen-on-the-future-of-silicon-valleys-and-the-next-big-technology/?ref=business&r=0>.

²⁵ Bret Swanson, *Regulation by Narrative, Part III: The Set Top Box Diversion*, Tech Policy Daily, March 10, 2016, available at <http://www.techpolicydaily.com/communications/regulation-by-narrative-part-iii-the-set-top-box-diversion/>.

On this view, Chairman Wheeler is, once again, picking winners and losers in the Internet's dynamic ecosystem, enhancing "competition," in this case, by crippling the MVPDs and scrambling a web of licensing deals made necessary by previous FCC interventions on behalf of other special interests.²⁶

But far from the Beltway, fear that the market for media consumption devices and services has become dangerously concentrated is largely absent. Instead, a flowering of Internet-based competitors to Pay TV services have bloomed, including products from Apple, Google, Sling TV, Hulu, Netflix, YouTube, Roku, Amazon, Sony, HBO, and many more that deliver content on a growing range of devices well beyond TVs. None require a provider's rented set-top box.

At the annual Consumer Electronics Show in January, every TV (and every car, refrigerator and other device that now boasts high-definition displays) was natively connected to the Internet, with increasingly sophisticated applications to find, sort, save and enjoy video content.²⁷

Together, these innovations allow users to bypass Pay TV for a remarkable range of traditional and new media. Today's consumer has become comfortable accessing content through apps on their TV, gaming console or other third-party device, or directly through a PC, tablet, or smartphone using innovative new apps.

Millennials in particular have never had a problem enjoying content on "the device they prefer" — or all of them at once. Most don't even realize there was a time when the TV was the only device on which you could watch just three channels of network programming--when cable itself was the disruptive innovation.²⁸

If anything, regulated MVPDs are losing ground, not tightening their grasp of the video stream. Hamstrung by rising prices for content from mega-producers, as well as complicated FCC rules imposed on providers that the innovators don't have to follow, Pay TV subscriptions have plummeted in the last few years as cord-cutting becomes both better and cheaper.

²⁶ Former Rep. Henry Waxman, *FCC Cable Box Proposal Affects More than Just Cable Boxes*, THE HILL, March 21, 2016, available at <http://thehill.com/blogs/congress-blog/technology/273590-fcc-cable-box-proposal-affects-more-than-just-cable-boxes>. See also Larry Downes, *The Rise and Fall of FCC Chairman Tom Wheeler's Internet Empire*, FORBES, March 16, 2016, available at <http://www.forbes.com/sites/larrydownes/2016/03/16/the-rise-and-fall-of-fcc-chairman-tom-wheelers-empire/>.

²⁷ Paul Nunes and Larry Downes, *The Five Most Disruptive Innovations at CES 2016*, FORBES, Jan. 8, 2016, available at <http://www.forbes.com/sites/bigbangdisruption/2016/01/08/the-five-most-disruptive-innovations-at-ces-2016/#638d43cf13aa>.

²⁸ Larry Downes, *The Media Revolution that Isn't Being Televised*, THE WASHINGTON POST, Jan. 13, 2015, available at <https://www.washingtonpost.com/news/innovations/wp/2015/01/13/the-media-revolution-that-isnt-being-televised/>.

Unintended Consequences

Though the Chairman's announcements of the new set-top box mandate suggested swift and decisive action from the FCC, the 65-page Video Navigation NPRM later released is far less certain, raising even more concerns about the proposal. Throughout, for example, the Commission admits again and again that it has failed to collect the data it needs to determine the actual state of the MVPD market and the nature of competition in today's access hardware and software.

The agency is now asking for the most basic information on a market that is entirely the creation of earlier FCC regulation. Do consumers use other hardware or software to watch video content? Is the architecture of satellite-based Pay TV different? Do we even have legal authority to act? The phrase "We seek comment" appears 83 times in the NPRM, even as "tentative conclusions" are reached 28 times.²⁹

Announcing the rules and then asking for data that would help determine what they should look like, if the FCC has legal authority to make them or even if they were needed in the first place is truly putting the cart before the horse. Or in this case, putting the cart before a Tesla heading toward it at 80 miles per hour.

Asking for information the agency doesn't have seems sensible enough, even though much of it is information the FCC does in fact have, or should. But it is odd to do so in the context of a proposed rulemaking that could be approved as written soon as three months from now. If the FCC wanted to do fact-finding, it has a mechanism for doing so, and it is not through a rulemaking that includes a proposed order.

But there is at least one thing the agency already does know, whether the Commissioners are willing to acknowledge it or not. And that is that this latest effort to micromanage a dynamic industry driven by rapidly-changing technology is certain to cost millions, suffer years of delay, and ultimately offer no benefit whatsoever to consumers. At best, it will simply provide a short-lived illusion that the agency is working for the public interest.

For one thing, the grinding pace of regulatory change and the limits of the agency's authority haven't changed. The same process didn't work with several earlier efforts to define technical standards for the video industry. And it won't work with whatever the agency comes to call its new set-top box standard.

About that new standard, by the way, the FCC has proscribed a process that stacks the deck even farther in favor of failure. Rather than convene and moderate the standards-setting process themselves, the NPRM instead declared that one or more unnamed "Open Standards

²⁹ Video Navigation NPRM, supra note 6.

bodies” will have to develop the design specifications for the new box, following procedures established sometime in the future by the Commission.

MVPDs are required to decide which body and which standard they will follow within two years. But of course, by definition, the providers have no control over whether any body existing or otherwise chooses to take up the challenge. Or, if anyone does, whether they will complete the process to the FCC’s satisfaction within the required timeframe.

The Privacy Time Bomb

There is also, finally, the serious problem of privacy. Under strict FCC rules that apply to regulated MVPDs, subscriber viewing habits and other information must be kept private.³⁰ As Chairman Wheeler begrudgingly acknowledges, however, forcing open that viewing history as one of the mandated new “Information Flows” available to third parties building competing boxes or software creates a loophole large enough to swallow the rule completely.

All manner of hardware, software and service providers will now have government-sanctioned access to that data. And none of them, by law, are required to follow the same privacy rules as the regulated MVPDs.

Indeed, the party most likely to take swift advantage of “open” set-top boxes is Google, which has been reportedly demonstrating a prototype of just the kind of competing box Wheeler is demanding.³¹ But for better and for worse, Google’s business model is built on subsidizing or even giving away hardware, software and information products, deriving revenue instead from advertising and other indirect channels.³² Those channels, in every case, are dependent on having wide access to user data and the freedom to make full use of it.

Anticipating reasonable objections from privacy advocates, the Chairman assured consumers in announcing the new set-top box mandate that their privacy would continue to be protected. But not by law. Instead, Wheeler said the FCC would require non-regulated users to voluntarily commit to following legal rules that don’t actually apply to them. Specifically, Wheeler said in an interview, “[W]hat we’re going to do in our rulemaking is say [to new entrants], ‘You have to have the same kind of rules that cable companies have.’”³³

³⁰ Video Navigation NPRM, supra note 6 at ¶ 73.

³¹ Daniel Frankel, *Google, the Most Profligate Lobbyist of All, Drinks the Cable Biz’s Milkshake with FCC Set-Top Proposal*, FIERCE CABLE, Feb. 2, 2016, available at <http://www.fiercecable.com/story/google-most-profligate-lobbyist-all-drinks-cable-bizs-milkshake-fcc-set-top/2016-02-02>.

³² Downes and Nunes, BIG BANG DISRUPTION, supra note 11 at 16-18.

³³ Fung, *Third Party Cable Boxes Won’t be Allowed to Spy on You (Too Much), Regulators Vow*, supra note 9.

Beyond the doublespeak of requiring a voluntary commitment, observers were left to wonder how the Chairman planned to bring his privacy vision to fruition without running afoul of the law.

The answer given soon after in the NPRM proved not only Orwellian but a solution likely to undermine the very motivating factor for the proposal in the first place.

Since the FCC can't legally force Google and other unregulated users to abide by the MVPD privacy rules, the agency will deputize a third party to enforce the same rules on its behalf. Who's the third party? Believe it or not, it's the MVPDs themselves—the only group over whom the agency has authority.

"[B]ecause these consumer protections are so important," the rulemaking explains, "we propose to require that MVPDs authenticate and provide...Information Flows only to Navigation Devices that have been certified by the developer to meet certain public interest requirements."³⁴ Those "certification" requirements include adherence to a variety of limits on information use, including the MVPD privacy protections.

To open up the set-top box market to greater competition and break the supposed monopoly of the MVPDs, in other words, the FCC will require that an unnamed open standards body first design new hardware that will free up the information flow for anyone who wants it. But only if the user promises to obey federal privacy law that doesn't actually apply to them, and which the FCC, on its own, can't legally impose.

Ironically—and potentially illegally—the authorized gatekeeper and enforcer of these "public interest" requirements will be none other than the regulated MVPDs. The same entities the FCC insists have long been using their control over existing set-top boxes to keep new competitors out of the market.

To solve the privacy problem created by "unlocking" the box, the FCC will give those same providers a new source of control, one that is far vaguer than all previous and future technical mandates. If anything, that solution will make the dwindling set-top box market less, not more, competitive.

³⁴ Video Navigation NPRM, supra note 6 at ¶73.

Those Who Study History Are Doomed to Stand by Helplessly While Everyone Else Repeats it

No one could seriously argue these paradoxical, self-defeating principles will yield a workable standard in the timeframe required, if ever.

Instead, regulated and unregulated providers alike will be distracted from the real work of eliminating the need for any set-top box with a messy, costly, and contentious fight over new standards for a device that will cost billions to develop and deploy, which no one will want or need by the time it arrives but which everyone will have to buy.

All so that today's FCC can claim it has, once again, championed the public interest, saving consumers vast amounts of money in some vague future from providers whose rental prices the agency conveniently forgets it already regulates.

Nothing could be farther from the truth, as the Commission surely knows. But by the time consumers realize they are paying more for a new box and new standards that add nothing and likely turns back the innovation clock, the Chairman's misdirection will have long since have disappeared down the memory hole.

Whether the FCC's true goal is to lower prices for consumers or hand over troves of valuable data at no charge to Google and other data intermediaries, the agency's many previous efforts to impose hardware standards and other technical mandates, as noted, provide ample evidence of the likely poor outcome for this latest effort.

The nearly identical but ultimately doomed 1998 CableCARD initiative, for example, required MVPDs to create custom security technology that both rented and third party boxes must use to gain access to programming.³⁵

CableCARD, like this latest mandate, was supposed to be developed quickly and implemented without fuss. Instead, it took nearly a decade and cost over \$1 billion—all of it wasted. By the time the FCC congratulated itself on another Washington-style solution, the technology was hopelessly obsolete. Almost no third-party manufacturer took advantage of the opportunity to create competing boxes.

CableCARD was also illegal. A 2013 court case ruled that the FCC had no authority to impose the technology on satellite providers, and voided the rules for everyone as a result.³⁶

³⁵ Federal Communications Commission, CableCARD: Know Your Rights, *available at* <https://www.fcc.gov/media/cablecard-know-your-rights>. The CableCARD standard was set in 1998, but didn't go into effect until 2007.

³⁶ *EchoStar Satellite v FCC*, 704 F.3d 992 (D.C. Cir. 2013), *available at* https://apps.fcc.gov/edocs_public/attachmatch/DOC-318451A1.pdf.

Or consider the FCC's 2002 requirement that every TV manufacturer introduce technology that would enforce a "broadcast flag" signaling when a program's owner permitted recording for later viewing.

That technical requirement was likewise ruled illegal.³⁷ When a federal appellate court tossed out the broadcast flag mandate as wildly outside the agency's authority three years later, the judges openly mocked the agency's hubris. "Are washing machines next?" one judge asked incredulously at oral argument. Said another: "You can't rule the world."³⁸

Maybe not, but that doesn't stop the agency from trying. Meanwhile, the golden age of video content creation, distribution, and access continue for American consumers. If we're lucky, the FCC's rush to save a version of the industry in which its intervention was essential—a version that effectively disappeared over a decade ago—will wind up just one more expensive, illegal and pointless waste of time.

That, unfortunately, is the best case scenario here.

Time, rather than the law, is most likely to be the undoing of the FCC's "unlock the box" campaign. The agency wants its new technical standard to be developed in one year, with millions of existing devices replaced within two years.

That schedule, everyone knows, is ridiculous.³⁹ But even if the FCC could stick to a plan, the video market will have changed so utterly in the interim that the FCC would need to arm its own military to force consumers to buy and install new hardware that will be both expensive and worthless. No consumer will ever save a cent from this proposal, let alone the hundreds of dollars a year the agency is promising.

Relying dangerously on the regulator's obsolete view of the video market, the FCC's proposed technical mandate could instead make things much worse for consumers. For one thing, forcing open the MVPDs' video stream for repackaging, reordering, and perhaps stripping out advertising would undermine the complex programming arrangements between providers and content producers, arrangements already made byzantine by a mountain of ancient FCC carriage restrictions.

Tense truces over copyright protection and program carriage for content owners and network and station owners will erupt into new and open warfare, of the kind that regularly blocks consumers from receiving popular channels. And that killed ill-fated startups such as AereoTV, which tried to walk the line between rules for MVPDs and the less restrictive requirements of

³⁷ *American Library Association v. FCC*, 406 F.3d 689 (D.C. Cir. 2005), available at [https://pacer.cadc.uscourts.gov/internet/opinions.nsf/F05B877CE3D1CB7C8525742B0055410D/\\$file/04-1037b.pdf](https://pacer.cadc.uscourts.gov/internet/opinions.nsf/F05B877CE3D1CB7C8525742B0055410D/$file/04-1037b.pdf).

³⁸ Declan McCullagh, *Court Questions FCC's Broadcast Flag Rules*, CNET, May 6, 2005, available at <http://www.cnet.com/news/court-questions-fccs-broadcast-flag-rules/>.

³⁹ Video Navigation NPRM, *supra* note 6 at 61-63 (Dissenting Statement of Commissioner Ajit Pai).

traditional over-the-air broadcasters. Aereo quickly found itself on the wrong side of the U.S. Supreme Court, and soon after disappeared, taking millions of venture funding with it.⁴⁰

Even in the best of circumstances, developing the new standards will take years, cost millions, and unintentionally slow or stifle innovations yet to be identified. The FCC took five years just to decide *not* to take action the last time it waded into these roiling waters.

Assuming a workable standard could ever be developed, moreover, mandatory implementation would simply shift the cost of compliance to higher content prices and replacement devices--costs that would apply equally to cord-cutters. The remarkable proliferation of new programming from non-traditional providers and from consumers themselves could be brought to a sudden and unintended end--just as the industry is figuring out how to optimize audiences for both popular and quality programming. It's a lose-lose proposition.

Mandating technological changes at the lumbering pace of a federal agency is almost always a counter-productive, often disastrous, endeavor. That's especially true in markets undergoing dramatic transformation. And the video industry is the poster child for continued disruption—a reality the FCC has had ample opportunity to learn in previous efforts to control the pace and trajectory of evolution, all of which have failed, and failed utterly.

⁴⁰ Downes, *A Tale of Two Video Markets*, supra note 4.