Before the
Federal Communications Commission
Washington, DC 20554

In the Matters of	)	
	)	
International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act	)	GN Docket No. 09-137
	)	
Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices	)	CS Docket No. 97-80

REPLY COMMENTS OF DIRECTV, INC. – NBP PUBLIC NOTICE #30

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January 27, 2010

SUMMARY

Much of this proceeding's focus has coalesced on a mandate to deploy a simple, or "thin," gateway device. Although not entirely clear, it would seem that such a mandate would require each MVPD to deploy a device to "translate" its offerings into Internet protocol so that third parties could repackage the MVPD's service into their own proprietary offerings. This proposal – plainly a response to cable's market power and viewers' experience with the CableCard regime – would raise difficult questions if applied to DIRECTV.

To begin with, DIRECTV has built its reputation by competing with entrenched cable incumbents through its innovative service – from leadership in high definition programming to remote DVR recording to its recent announcement of 3D television. Such innovation is not just good business, but a competitive imperative for a company that must use a one-way network to compete with two-way networks that can offer a "triple play" of services (video, voice, and broadband).

DIRECTV is also different from cable in that, because it lacks a real-time return path, it places much of its technology in the set-top box. This includes not only features commonly understood to reside in the box (DVR functionality, for example), but also some that are perhaps more surprising (parental controls, DVR scheduling, mosaic channels, and program guide, for example).

Applying a cable-centric thin gateway mandate to satellite would risk creating a number of difficulties. Most importantly, it would risk hindering DIRECTV's ability to continue innovating. For example, without the ability to ensure that downstream devices have sufficient hardware and software capabilities, DIRECTV would likely face additional challenges in introducing new service enhancements – such as the integrated parental ratings from Common

Sense Media it is about to include in its programming guide – without stranding subscribers who purchased equipment from third parties. Loss of access to and control over a portion of the set-top box's hard drive would also complicate video on demand service and potentially delay or eliminate introduction of a new capability for the insertion of local political and commercial advertising, to take two other examples.

A thin gateway mandate would likewise risk increasing subscriber costs. The proposal would appear to require DIRECTV to split its set-top box functionality into two sets of hardware – the thin gateway and the downstream box. This approach has increased costs for cable subscribers and would likely do so for satellite subscribers as well. Such an approach would likely increase costs of third-party devices, as well. If such devices were to be truly portable, they would require numerous versions of middleware and other intellectual property to interact with the signals of all MVPDs, even if those signals were provided in a common IP format. DIRECTV does not see how such devices could be produced economically, as some commenters seem to assume.

Finally, a thin gateway mandate would complicate customer service. DIRECTV has moved to a single, easy-to-use, and portable user interface in part to enable its customer service representatives to more effectively address subscriber issues. Under a thin gateway mandate, there would no longer be a clear line of responsibility for helping consumers – much as router manufacturers, ISPs, and computer makers routinely blame one another for problems with in-home wireless networks today. DIRECTV provides a service, though, not a router, and subscribers expect DIRECTV to be able to solve their problems.

On the other side of the ledger, commenters have failed to identify a substantial public interest benefit in applying a thin gateway mandate to DIRECTV subscribers. Certainly, such a

mandate would have nothing to do with increasing broadband adoption – which is, after all, the goal of this proceeding – though it might have the effect of promoting different broadband *usage*. This debate really comes down to whether, by regulatory fiat, the consumer electronics industry can select aspects of DIRECTV's service, repackage them, charge DIRECTV subscribers extra for them, and receive subsidies from DIRECTV for the privilege. The public interest case for such government intervention has not been made.

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In its initial comments,[1] DIRECTV, Inc. ("DIRECTV") demonstrated that there is no shortage of devices on the market that allow subscribers to enjoy both traditional content from multichannel video programming distributors ("MVPDs") and non-linear content from the Internet on their televisions – and that forcing MVPDs to deploy particular devices is thus not a helpful way to promote broadband deployment. Those comments focused primarily upon

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[1] *See* Comments of DIRECTV, Inc., GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) ("DIRECTV Comments").

proposals for government-mandated, Internet-capable "all MVPD" set-top boxes. DIRECTV explained that these would be difficult to develop, expensive for consumers, and largely unnecessary given current industry initiatives. Many other commenters raised similar concerns about such an all-MPVD approach.[2]

In these reply comments,[3] DIRECTV focuses on an alternative approach favored by a number of commenters in this proceeding – a requirement for each MVPD to provide subscribers a "thin" gateway device whose sole function appears to be to receive the MVPD's particular signal in the MVPD's particular format and translate it into Internet protocol ("IP") for delivery to downstream devices.[4] Although the exact contours of this regime vary in the comments,[5] the

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[2] *Id.* at i-ii. *See also, e.g.*, Comments of DISH Network L.L.C. and EchoStar Satellite Services L.L.C. at 2, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 21, 2009) ("DBS, cable, and now IPTV have evolved along starkly different technological paths. . . . Fundamental differences in architecture would require that a universal navigation device accommodate both the one-way DBS and two-way cable/telco/IPTV operating architectures and associated standards. Combining such functionality into a single box would be to make it overly complex and prohibitively expensive for consumers.").

[3] The Commission established a period for reply comments to respond to matters and issues raised since initiation of this proceeding on August 9, 2009. Public Notice, *Reply Comments Sought in Support of National Broadband Plan*, GN Docket Nos. 09-47, 09-51, and 09-137 (rel. Jan. 13, 2010).

[4] *See, e.g*, Comments of Consumer Electronics Association at 2, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 21, 2009) ("CEA Comments") (seeking "a home gateway server whose *sole* function . . . is to support the operation of the subscriber's competitive devices, on a home network"). To be clear, the "thin gateway" discussed by commenters in this proceeding is not at all like the "gateway" DIRECTV has been working on for years in connection with the development of a home networking capability. The gateway envisioned by DIRECTV would be a fully functional device with all of the intelligence of its current equipment. The output from that gateway could then be passed along to other devices in the home using a standards-based protocol such as the one currently available from the RVU Alliance, which heavily relies on DNLA.

[5] DIRECTV must admit to some confusion as to the specifics of the proposed mandate. The only mention of the proposal by the Commission came at the December 16, 2009 Open

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shared vision seems to be that this thin gateway would enable consumer electronics manufacturers to develop an array of devices that could take an MVPD's television programming and associated data, selectively integrate some or all of those inputs with content taken from the Internet, and present this content to consumers along with a variety of their own features and functions. The MVPD, in turn, would be expected to develop the thin gateway device at its own expense, turn over the "raw materials" of its service, and perhaps subsidize the downstream devices that compete with its own set-top boxes.[6]

This "thin gateway" proposal appears to be borne out of frustration with cable operators – whose network architecture and track record on innovation are very different from DIRECTV's. With respect to highly innovative satellite systems like DIRECTV's, however, it appears to be a solution in search of a problem. Indeed, this "solution" could itself become a problem for one-way networks like DIRECTV, given that much of the innovation in such networks depends upon close coordination between the network and the set-top box. It could complicate DIRECTV's ability to continue innovating in its own set-top boxes. It would likely increase the cost of consumer devices and disrupt customer service efforts. Yet commenters supporting such a

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Meeting, at which the Broadband Team proposed "[r]equir[ing] MVPDs to provide a small, low-cost device whose only functionality is to bridge the proprietary MVPD network elements (conditional access, tuning & reception functions) to common, open standard widely-used in home communications interfaces; [thereby enabling] a retail navigation device to operate on all MVPD platforms." Federal Communications Commission, *National Broadband Plan Policy Framework* 20 (Dec. 16, 2009), at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-295259A1.pdf. As discussed below, however, one crucial question as to the operation of such a devices is *which* "proprietary elements" must the thin gateway translate for third party devices.

[6] CEA Comments at 3 (suggesting that, "to the extent the Commission continues to allow MVPDs to subsidize the leasing of devices to consumers with revenues from services or from other devices, an equivalent subsidy must be offered to subscribers who choose competitive devices instead").

mandate have failed to identify measurable benefits of such an approach, particularly as applied to DIRECTV. Before embarking down this path, the Commission should fully consider the effect such a mandate would have on all MVPDs, including those that do not share the two-way architecture of incumbent cable systems.

I. DIRECTV OFFERS UNPARALLELED INNOVATION, MUCH OF IT RELIANT UPON THE SET-TOP BOX

The premise of the thin gateway proposal appears to be widespread dissatisfaction with the pace of cable set-top box innovation. DIRECTV does not believe such concerns apply to it. DIRECTV competes with cable incumbents and telephone giants on all aspects of its service – including programming, customer service, and especially innovation. Indeed, because DIRECTV cannot itself offer the "triple play" of video, voice, and broadband, it differentiates itself principally through superior video technology. This makes innovation not only desirable but imperative.

Since its launch in 1994 as the first stand-alone all-digital MVPD service DIRECTV has been a leader in innovation. For example, it led the industry in introducing ever-larger amounts of high definition ("HD") programming, was the first commercial operator to deploy spectrally efficient MPEG-4 encoding and Ka-band satellites, developed ways to present the choice of multiple camera angles for sporting events and multiple channels of news and information on a single "mosaic" screen, and launched a free application that allows subscribers to program their DVRs with their computers and smart phones.[7] DIRECTV is continuously looking for ways to

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[7] DIRECTV also enables third parties to develop applications for its system, a process that has resulted in (for example) applications that allow viewers to follow the most popular Twitter feeds, learn a new language, and even view their biorhythms. *See* DIRECTV App Store,
(continued on next page)

enhance service offerings to give existing and prospective subscribers the most compelling audio and video programming experience possible. DIRECTV has a track record of innovating side-by-side with consumer electronics companies as well. DIRECTV and TiVo started working together nearly a decade ago, and are launching a new DVR incorporating TiVo functionality this year. Most recently, DIRECTV began working with a number of TV manufacturers, including Panasonic, to enable delivery and display of 3D television to new 3D-capable displays.[8]

DIRECTV has innovated within the constraints of a one-way distribution network lacking the real-time return path to the network characteristic of two-way networks. It has done so principally by designing highly intelligent set-top boxes that, in close coordination with the network, are able to mimic features and functions that subscribers to two-way networks take for granted. Perhaps the most well known example of this is video on demand ("VOD"), which cable operators allow subscribers to access from the network but which DIRECTV offers using storage capabilities on the set-top box. But this is also true for other features and functions that the ordinary subscriber might not realize reside in set-top box – from the DVR scheduler to parental controls to on-screen technical support and interactive services (such as NFL SuperFan). Indeed, the box's hard drive and associated software are as important to DIRECTV as two-way communication is to cable and telco operators.

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http://tvapps.directv.com/index.do. These applications require a return path provided by an Internet service provider.

[8] *See* Press Release, DIRECTV and Panasonic Bring 3D Home (Jan. 6, 2010), at http://dtv.client.shareholder.com/releasedetail.cfm?ReleaseID=434745.

The difference between DIRECTV's and cable's track records of innovation appears lost on some supporters of a thin gateway mandate, as does the difference between satellite and cable network architecture.[9] But the Commission should not proceed without giving very careful consideration to the effect such a regime would have on a one-way satellite video architecture.

II. A THIN GATEWAY MANDATE RISKS HARMING DIRECTV'S SUBSCRIBERS

A thin gateway mandate could hinder DIRECTV's ability to innovate, would likely increase the cost of DIRECTV and third-party consumer devices, and would complicate customer service.

A. A Thin Gateway Mandate Would Risk Hindering DIRECTV's Ability to Innovate

As discussed above, DIRECTV places most of its innovative features in the set-top box. Below, one existing capability and two current DIRECTV initiatives are described to illustrate how placing a "thin gateway" between the satellite dish and downstream devices might actually hinder innovation rather than stimulate it.

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[9] *See, e.g.*, CEA Comments at 18 (speaking of "expos[ing] MVPD content and data to competitive devices on the home network, *and relay[ing] inquiries and commands back to the MVPD*") (emphasis added). While DIRECTV's service can be combined with a broadband return channel to the network, it is designed to operate without one. *But see* Comments of Beyond Broadband Technology, LLC at 8, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) ("Beyond Broadband Comments") ("The various MVPD systems that deliver video programming to the public were built using different technologies with different capacities, security systems and business plans. Trying to now harmonize those differences is inherently difficult, and of questionable benefit. Some cable systems are one-way systems, but many are two-way today. . . . Satellite distribution is done solely on a one-way platform, as is broadcasting. All have differing reception and tuning requirements.").

1. Enhanced Electronic Programming Guide

DIRECTV is in the process of upgrading its on-screen electronic programming guide (yet again). Over the last several months, DIRECTV has developed the capability to add new features that will, for example, include greater integration of the program ratings and reviews offered by Common Sense Media, a non-profit organization that provides parents the trustworthy information they need to help manage their children's media lives. Today, DIRECTV provides Common Sense Media's ratings and reviews through its website.[10] With this new upgrade, that information will be integrated directly into the guide so that it will be available on-screen as families consider their video options. This upgrade will also enhance the user interface by adding photos, cast biographies, and other information related to each available television program.

Before DIRECTV can implement these new features, however, it must first update the software in each set-top box to ensure compatibility with the additional information. Even after the new code for the software has been written and tested, it must be downloaded over an extended period of time and in various iterations so that every type of subscriber box gets the required upgrade. Only *after* that process has been completed can DIRECTV begin to transmit the new version of the guide. Otherwise, the boxes would not know how to process the new data stream and thus would not be able to present the guide correctly.

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[10] *See* Press Release, DIRECTV and Common Sense Media Form Partnership to Help Parents Choose Kid-Friendly Programming (Mar. 20, 2009), at http://www.commonsensemedia.org/about-us/press-room/directv-partnership.

Commenters insist that third-party devices must have access to each MVPD's programming guide, as it has become an essential part of the viewing experience.[11] If third-party devices were relying upon the DIRECTV data stream for the guide,[12] DIRECTV would not be able to implement the improved guide unless and until the manufacturers of *each* of those devices had upgraded the software appropriately.[13] Otherwise, third-party devices without upgraded software would be stranded with no ability to present the Common Sense information (in the best case) or no guide at all to present to subscribers (in the worst case). This would be an intolerable situation for a consumer-oriented service. Accordingly, the iterative process of innovation could be stymied, held captive by the lowest common denominator in the capabilities of third-parties' least expensive device.

2. Video on Demand

As mentioned above, in providing VOD services, DIRECTV cannot take the same approach as a two-way cable system does. Instead, DIRECTV downloads much of the VOD programming onto a secure portion of the hard disk of a subscriber's set-top box. When a subscriber chooses to access that programming, the box decrypts it for presentation on the television and it remains available to the subscriber for viewing during the availability window dictated by the holder of copyright in that particular program (*e.g.*, 24 hours). In most cases, the

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[11] *See*, *e.g.*, CEA Comments at 3 ("To facilitate broadband adoption and consumer choice, data shared over the home network interface must include Electronic Program Guide . . . data.").

[12] Program guide information is also available through third parties, including Tribune Media Services (which provides such information to DIRECTV). This, for example, is how Microsoft offers a DIRECTV-specific program guide in its media center.

[13] This assumes such devices had the processing power and other capabilities required.

only upstream communication from the box to DIRECTV is a non-real time message (*e.g.*, via a telephone line) for billing purposes.

There is no reason to believe that third-party manufacturers would give DIRECTV access to and control over a portion of the hard drive of a downstream device to enable such a VOD approach. Moreover, even if it had access to such storage capability, DIRECTV would not be able to simply pass along unencrypted VOD programming to the third-party device, as it would then lose control over the subscriber's ability to access that programming (a right demanded of DIRECTV by copyright holders) and would have no way to bill for the service. In theory, DIRECTV could pass along encrypted VOD programming if a method were devised for a two-way communication between the thin gateway and third-party devices to enable decryption and tracking, but such a method does not now exist and developing one would require a level of integration between devices that would be difficult to achieve.[14]

Of course, DIRECTV already achieves such integration today. As a result, its subscribers have access to a robust VOD service that allows DIRECTV to compete with its terrestrial two-way competitors. By eliminating or at best compromising DIRECTV's ability to provide VOD, a thin gateway regime would risk setting back MVPD competition and depriving DIRECTV subscribers of a basic part of the service they have come to expect. Such a result clearly would not serve the public interest.

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[14] MVPDs and third parties may also lack contractual rights with copyright holders to permit this level of integration.

3. Local Political and Retail Advertising

Terrestrial MVPDs, such as cable operators, can insert local commercials at the appropriate local headend. DIRECTV's nationwide satellite network does not have a similar capability. DIRECTV's subscribers thus do not receive cable advertising from their hometowns, local advertisers and small businesses throughout the country cannot access part of their potential audience, and local and statewide political candidates lack a vital avenue for reaching voters who subscribe to DIRECTV.[15]

As the culmination of a multi-year research and development project, DIRECTV is on the verge of introducing a local advertising capability for its service. This capability would, for example, allow candidates for local political office to place ads in their home districts or allow small retailers to target ads to their service areas. This new technology requires the use of a dedicated portion of the set-top box's hard drive, where a cache of advertisements is stored. Upon a cue from the programmer that a commercial slot is coming up, DIRECTV would then send a trigger to the box. In just one-thirtieth of a second, the box must then identify and splice into the programming stream the appropriate local advertisement from the cache.

Obviously, this new local advertising capability requires extremely close coordination between DIRECTV and its subscribers' set-top boxes. Indeed, in order for it to function, DIRECTV must be able to manage and inventory the portion of the hard drive on each set-top box where the advertising cache is stored. There is little reason to believe that DIRECTV would

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[15] *See Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992; Direct Broadcast Satellite Public Interest Obligations; Sua Sponte Reconsideration*, 19 FCC Rcd. 5647, ¶ 25 (2004) (describing limitations of political broadcasting requirements in the context of a "national" platform such as satellite).

have such access to and control over devices provided by a third party, even if such devices had the technical capability to perform the ad insertion function as required.

Accordingly, to the extent that some portion of its subscribers relied upon third-party devices, DIRECTV's ability to deliver advertisements by a political candidate or commercial retailer to subscribers in the target area could be compromised. As a result, local advertisers would view DIRECTV as, at best, a less attractive platform, and perhaps a wholly insufficient one.

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These are but three examples of innovations DIRECTV is currently implementing through its set-top boxes. But they illustrate the ways in which combining a thin gateway device with third-party devices could actually hinder the introduction of innovative products and services for DIRECTV subscribers, and access to DIRECTV's platform for local business and political communities. The result may or may not be the same for two-way cable or telco systems, which need not rely so heavily upon the capabilities of set-top boxes as opposed to the interactive network. But for DIRECTV, the continuous search for, and introduction of, product and service enhancements depends critically upon the integrated relationship between the set-top box and the network operator. If such integration were compromised, DIRECTV's ability to innovate would likely be compromised as well – directly contrary to the goals of Section 304.

B. A Thin Gateway Mandate Could Increase the Cost of DIRECTV and Third-Party Consumer Devices

As described above, a thin gateway mandate risks hampering innovation in DIRECTV's own devices. It would also likely increase the cost of both DIRECTV's own devices and third-party devices.

With respect to DIRECTV's own devices, a thin gateway mandate appears to essentially require DIRECTV to split out a small set of functions from existing set-top boxes and house them in a separate device. One might think that splitting one box into two that (in tandem) perform the same functions would not add significantly to the overall price – but that is demonstrably incorrect, as the cable industry has found.[16] There are certain basic elements to any such piece of equipment (power supply, computer chip, connector ports, etc.) that would now have to be provided – and paid for – twice. The cost could quickly add up over a subscriber base exceeding 18 million.[17]

The thin gateway mandate would also, however, appear to increase the cost of third-party devices seeking to interact with DIRECTV's programming. As described in more detail below, DIRECTV has taken a leading role in various industry initiatives working toward a standard-based approach to interconnection of MVPD networks and consumer devices.[18] Ultimately, the success of such initiatives would allow DIRECTV to provide subscribers a highly intelligent "gateway" device – including all of the features and functions currently found on a DIRECTV set-top box, but with additional capabilities as well. Such a device could then be connected to a network of devices throughout the home to display DIRECTV programming as well as other

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[16] *See* Comments of the National Cable & Telecommunications Association at 26 n.45, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) ("NCTA Comments") ("If . . . a CableCARD adds about $56 in cost to a set-top box . . ., then the cable industry has incurred approximately $935 million to date to comply with the integration ban.").

[17] *See* Beyond Broadband Comments at 21 ("The 'gateway' aspect, in whatever technical form was ultimately chosen, combined with the proprietary pre-existing set top box designs for tuning, security, return path communication (if any) etc., would likely increase the cost of those boxes.").

[18] *See infra* Part III.

content provided by the user. Because the DIRECTV gateway would provide the intelligence for its own service offering, that capability would not have to be replicated in each downstream device.

This proceeding, however, is about an entirely different kind of gateway. As conceived in this proceeding, the "thin gateway" would do nothing other than receive, decode, and pass along the MVPD data stream in an IP format, leaving consumer devices to provide all of the functionality. But intelligence has to go somewhere. So reliance upon a "thin gateway" would require intelligence in the devices connected to that gateway.

This likely means more expensive third-party devices. For example, the DIRECTV data stream must be translated by DIRECTV's middleware in order to present the programming and programming-related materials on the viewer's television. Different MVPDs, however, use different middleware to perform this task. A simple, inexpensive third-party device, with only DIRECTV-specific middleware, could not "talk" with a thin gateway connected to Comcast's or Time Warner's network, even if all three networks provided their respective data streams in a single, IP format. Such a device would not be portable among MVPD systems, undercutting one of the Commission's stated objectives.[19] Third-party manufacturers would be forced to overcome this problem by including the middleware of *every MVPD* in each device. But this would increase the cost of such devices – in turn, making them less attractive in the marketplace (and less likely to accomplish Commission goals).

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[19] *See* Public Notice, *Comment Sought on Video Device Innovation* 2, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (rel. Dec. 3, 2009) ("*Notice*") ("[T]he Commission wishes to consider taking an active role in formulating a solution that will spur the development of a retail market for nationally portable video devices that will work across all delivery platforms.").

Indeed, third-party devices could face this problem several times over in order to ensure compatibility with multiple MVPDs' thin gateways. Each MVPD, for example, offers a different set of licensed intellectual property. And each third-party device would have to separately license anti-copy software, support for video presentation formats, and a variety of audio codecs, for example. The result would be a device that could connect to multiple MVPD networks, but might be prohibitively expensive for mass consumer adoption.

C. A Thin Gateway Mandate Could Complicate Customer Service

A thin gateway mandate would also risk disrupting DIRECTV's customer service efforts. DIRECTV speaks from some experience on this point – experience relevant to commenters' remarks about the retail availability of its set-top boxes.[20] In 2004, DIRECTV offered roughly 150 separate user interfaces to its subscribers. The result was severe difficulties from a technical support perspective. Customer service representatives had to be trained to help DIRECTV subscribers navigate all of these interfaces, and, naturally, were not always able to do so. Today, with a single user interface and standardized equipment specifications, DIRECTV customer service representatives can more efficiently resolve subscriber inquiries. Indeed, the DIRECTV web site offers help pages for consumers with questions about their service or equipment – support that would not be possible with numerous equipment variations.[21] Thus, it was the

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[20] CEA Comments at 8-9 n.21; NCTA Comments at 5 n.5.

[21] Another example of an important, customer service-oriented innovation on every new DIRECTV set-top box is the "red button reset," a highly visible, front panel button that performs the same function as unplugging and plugging-in the box does. This feature adds cost to every set-top box produced but, on the whole, reduces DIRECTV customer service costs. DIRECTV has found that, when customer service representatives troubleshoot service problems, it is often inconvenient and potentially unsafe for a subscriber to reach behind his audio/visual equipment to perform this task. Third-party device manufacturers, however, do

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desire to improve the efficiency of customer service – and not a nefarious desire to "move away from support of competitive devices"[22] – that prompted DIRECTV to migrate to the single user interface it offers today.[23]

A thin gateway mandate would risk reintroducing the customer service problems we have overcome. Indeed, it would likely augment those problems because no one would ultimately be responsible for problems with third-party devices. Many consumers who have attempted to set up home wireless networks have faced a similar scenario – the router manufacturer suggests the issue is with the broadband provider, the broadband provider suggests the issue is with the computer manufacturer, and the computer manufacturer suggests the problem is with the router manufacturer. As the primary point of contact for its subscribers, the resulting consumer frustration would inevitably be aimed at DIRECTV – a significant problem for a company that gains a competitive advantage by maintaining a high level of customer satisfaction.

A thin gateway mandate could also add to confusion over which services are actually available to subscribers. As discussed above, many features that subscribers think of as central

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not necessarily care about DIRECTV's customer service costs. It is unlikely that third-party device manufacturers would implement this important feature when they have limited to no financial incentives to do so.

22 CEA Comments at 8 n.21.

23 Commenters are wrong when they suggest that DIRECTV's move to a single interface warrants revisiting the decision to exempt DBS from the integration ban. *See* CEA Comments at 8-9 n.21. The underlying facts behind the exemption remain true today: (1) DIRECTV's devices, unlike those offered by cable, can be used anywhere in the country; (2) DIRECTV, unlike cable operators, currently offers equipment produced by five manufacturers (Samsung, LG, Pace, Humax, and Thompson), and is about to re-introduce TiVo-enabled equipment; (3) DIRECTV, unlike cable operators, makes its equipment available at retail; and (4) DIRECTV, unlike cable operators, continues to offer innovative features at low prices. *See Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, 13 FCC Rcd. 14775, ¶¶ 61, 64 (1998).

to their viewing experience can be found in DIRECTV's set-top boxes – including interactive sports features, VOD, and parental controls.[24] There is no guarantee that third-party devices will correctly process the metadata delivered via thin gateways – again, not because of hypothetical DIRECTV animus to third parties, but because of an MVPD gateway's inability to ensure a third-party device has the proper capabilities. Imagine the complaints, for example, if purchasers of third-party devices were to discover that their "DIRECTV" service lacks parental controls.

III. A THIN GATEWAY MANDATE FOR DBS WOULD APPEAR TO OFFER LITTLE CORRESPONDING BENEFIT

No commenter has demonstrated that a thin gateway mandate, particularly if applied to DIRECTV's subscribers, could offer public interest benefits to outweigh its potential harms. To begin with, a thin gateway mandate appears to have nothing to do with broadband adoption – which is, after all, the goal of this proceeding.[25] As Time Warner pointed out, households lack Internet access for many reasons.[26] And a disproportionate share of those households have no set-top boxes at all – which is why the *Notice*'s discussion of the "gap" between 76% national broadband penetration and 99% television penetration is inapposite in a proceeding regarding set-top boxes. There is no evidence on the record that anybody lacking broadband today would

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[24] *See supra* Part I.

[25] *See Notice* at 2 ("The convergence of the television and content delivered by IP makes this a critical time to promote innovation in set-top devices that could support the Commission's effort to drive broadband adoption and utilization."). Indeed, numerous commenters agree with DIRECTV's assertion that *any* government technology mandate risks enshrining outdated devices. *See, e.g.*, Beyond Broadband Comments at 7 ("The last thing we need is technology engineered by lawyers.").

[26] Comments of Time Warner Cable Inc. at 8, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 21, 2009) ("Time Warner Comments") ("[M]ost households lacking internet access report reasons unrelated to PC ownership, including lack of interest or cost.").

acquire it if only third parties offered equipment able to integrate selected aspects of DIRECTV's service.[27] The most that can be said about a mandate is that it might change *broadband use*.[28] Moreover, no commenter has suggested that a thin gateway mandate has anything to do with the reasons Congress seeks to promote broadband adoption in the first place – *e.g.*, civic participation, health care delivery, public safety, etc.[29]

More importantly, the thin gateway device's reason for being – to allow MVPD content to be delivered to devices other than televisions and traditional set-top boxes – is already happening in the marketplace.[30] As DIRECTV and others described, the DLNA is developing,

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[27] To the contrary, commenters offer only conclusory statements to support such a proposition. *See, e.g.*, CEA Comments at 15 ("Network-agnostic devices, available at retail and usable on any type of MVPD system, would encourage broadband use.").

[28] Another proposal discussed in this proceeding – requiring set-top boxes to deliver "the Internet" to televisions – has at least a theoretical relationship to broadband penetration and adoption. But, as numerous commenters pointed out, a host of devices already exist to do this. *See, e.g.*, NCTA Comments at 10-11 (citing Blue-ray players, Xbox, Roku, PlayStation, game consoles by Microsoft, Sony, and Nintendo, AppleTV, TiVo, and Vudu, not to mention PCs, laptops, and netbooks, and more than 50 Internet-enabled televisions); Comments of Motorola, Inc. at 6, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) ("[T]here are already a significant and growing number of devices available at retail that enable consumers to access Internet video on their TV sets[.]"). These devices allow consumers to deliver "all" of the Internet, "some" of the Internet, or "none" of the Internet to their televisions at a variety of price points. NCTA Comments at 12. Moreover, MVPDs themselves increasingly offer Internet content as part of their service. *Id.* at 15 (describing widgets and other interactive applications that enable access to social-networking sites like Facebook and Twitter as well as Internet video).

[29] *See, e.g., A National Broadband Plan for Our Future*, Notice of Inquiry, 24 FCC Rcd. 4342, 4367-73 ¶¶ 71-86 (2009). *See generally* DIRECTV Comments at 4-6.

[30] For example, the owner of an RVU client device simply launches the RVU functionality using the device's own menus and remote control. These RVU clients have no MVPD-specific functions, but they are able to present the full user experience of any MVPD that deploys gateway devices that include the RVU server capability. In fact, the RVU Protocol allows any RVU client to support MVPD gateways from different MVPD providers on a network at the same time. In addition to including RVU technology, which requires no

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and the RVU Alliance is offering, protocols to allow television content to be networked to devices throughout the home.[31] Cable offers its own solutions, including tru2way[32] and proprietary downloadable security technologies.[33] For that matter, Slingbox already delivers MVPD programming via Internet protocol to the full panoply of third-party devices – aided, in DIRECTV's case, by access to (1) DIRECTV's program guide data directly from Tribune Media Services, and (2) proprietary remote control design and set-top box codes enabling it to interact seamlessly with DIRECTV equipment.[34] Yet there is no indication that Slingbox has led to measurably increased broadband penetration. Indeed, it is not clear that the market for Slingboxes extends beyond high-end early adopters – *i.e.*, those most likely already to have broadband access.

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business arrangement with an MVPD, these consumer electronics devices are not in any way precluded from supporting other proprietary technologies such as Yahoo widgets and Netflix capability (pending business arrangements with Yahoo and Netflix, of course).

[31] *See* Comments of RVU Alliance at 3, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) (describing a technology that "allows the television viewer to experience a consistent user interface while watching live or recorded programming on various manufacturer-branded TVs and clients").

[32] NCTA Comments at 4.

[33] Cablevision, for example, describes a "royalty free NDS 'key ladder' [that] is already embedded in scores of microprocessors in use in third party video devices . . . able to operate on Cablevision's network using downloadable security and Java-based middleware." Comments of Cablevision Systems Corporation at 3, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009).

[34] Sling Media, About Sling Media, at http://www.slingmedia.com/go/about ("Sling Media's first product, the internationally acclaimed, Emmy award-winning Slingbox®, has literally transformed the way we are able to watch TV. The Slingbox turns any Internet-connected PC, Mac, or smartphone into your home television. That means you can watch TV virtually anywhere in the world. Sling Media's innovative SlingPlayer™ software connects users on all types of computing platforms to their Slingbox which then gives them complete control over their living room TV. The Slingbox gives customers the ability to control any audio/video device including analog cable, a digital cable box, satellite receiver, digital video recorder (DVR) a DVD player or even a still video camera.").

DIRECTV offers a *service*, not simply a pipe to the home through which its customers can access television programming.[35] DIRECTV is not like the telephone company, which offers a network over which users create content (telephone conversations) and move it around to points of their own choosing on a monopoly network.[36] Nor is it like the cable and telco broadband providers, which offer access to the Internet that enables users to search out information, products, and services on their own.[37] Instead, DIRECTV has brought competition to the video marketplace precisely because it offers something more – an integrated multichannel television offering with rights to distribute valuable programming, a unique, recognizable, and nationally portable "look and feel," and integrated features that are constantly enhanced and upgraded in an effort to appeal to the largest number of subscribers possible. In the latter respect, DIRECTV's service is no different than those offered by Apple, Google, Netflix, and

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[35] *See, e.g.*, Comments of TiVo Inc. at 10, GN Docket Nos. 09-47, 09-51, 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) (discussing the "demarcation point between the technology-specific, proprietary MVPD network technology interface on one side [of the proposed thin gateway] and a home network based on ubiquitous and open Internet standards on the other").

[36] The telephone precedent cited by some commenters is thus inapposite to DIRECTV's service. *See* Comments of Google Inc. at 6-7, GN Docket Nos. 09-47, 09-51, and 09-137; CS Docket No. 97-80 (filed Dec. 22, 2009) (*citing Hush-a-Phone Corp v. U.S.*, 238 F.2d 266, 267-69 (D.C. Cir. 1956); *Use of the Carterfone Device in Message Toll Telephone Service*, 13 F.C.C. 2d 420, 242-25 (1968)). DIRECTV is not a monopolist seeking to preserve its monopoly control. Rather, DIRECTV *competes against* the cable monopoly, and must consistently innovate and improve its service in order to do so.

[37] *See* Beyond Broadband Comments at 13 ("[T]here is a fundamental difference between 'Internet Access' and what an 'MVPD' does. Comparing the two is not terribly useful. . . . Internet access is totally 'on demand,' while MVPD service is far more efficient at sending things like High Definition television pictures to a large segment of the population at the same time. . . . For the very reason that these different structures are employed so differently, the interfaces also are inherently different. A television set is not a computer.")

any number of others, which survive by presenting their own brand, and their own unique user experience to customers.[38]

This debate is really about whether the government will, by regulatory fiat, enable consumer electronics manufacturers to disaggregate the DIRECTV service and repackage it in order to capture the attendant revenues. Such disaggregation may be a goal of the consumer electronics industry. But, given the harms associated with such a government mandate, DIRECTV believes it would disserve the *public* interest.[39]

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[38] *See, e.g.*, NCTA Comments at 11 (describing the unique "look and feel" offered by TiVo, Netflix, Amazon, and Blockbuster); *id.* at 22 ("Whether you go to Google via PC or Mac, IE or Firefox, you reach a Google search engine.").

[39] *See* Time Warner Comments at 7 ("[T]here is no legal or policy basis for forcing the disaggregation of cable services such that certain components could be stripped out while others are selectively accessed via a third party's user interface.").

Respectfully submitted,

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January 27, 2010