Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

A National Broadband Plan For Our Future	)	GN Docket No. 09-51
International Comparison and Survey Requirements in the Broadband Data Improvement Act	)	GN Docket No. 09-47
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

COMMENTS OF THE NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION ON NBP PUBLIC NOTICE #27

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EXECUTIVE SUMMARY

NCTA agrees that a fully competitive retail MVPD navigation device market has not yet developed – despite the persistent efforts of the Commission, the cable industry, and consumer electronics (CE) manufacturers and retailers. Yet even in the absence of a retail marketplace, the video landscape has grown dramatically more competitive since 1996. Four of the ten largest MVPDs are direct broadcast satellite and telephone companies who already collectively serve more than 37 million customers and whose share continues to grow while cable's share continues to decline. There is also now a flourishing and rapidly-growing market for Internet-enabled devices that offers consumers an ever-widening array of choices for information, entertainment, and communications applications – a testament to the billions of dollars invested by the cable industry to innovate and bring high-speed broadband Internet to more than 90 percent of American households. Therefore, it would be prudent for the Commission to recognize these fundamental marketplace changes and launch a wide-ranging Notice of Inquiry to examine all of the relevant issues in a much broader and more comprehensive context than the limited questions asked in the *Notice*.

Since the Commission adopted its navigation rules, the cable industry has spent hundreds of millions of dollars and given Herculean support to kick-start a retail marketplace, including:

- enabling CE manufacturers to build nationally-portable retail devices that could be used to access all one-way and two-way cable operator video services, and supporting those "plug and play devices";
- allowing CE manufacturers to add Internet and any other content source desired by consumers;
- voluntarily developing tru2way middleware to permit portability of interactive applications, and providing tru2way development tools and support to the CE industry;
- negotiating the Two-Way Memorandum of Understanding ("*Two-Way MOU*") with major CE DTV manufacturers and others to resolve the complex business terms surrounding the deployment of tru2way;

- buying set-top boxes supplied by a growing number of consumer electronics manufacturers, including over 17 million CableCARD-enabled boxes; and
- rolling out the tru2way platform across the industry and deploying millions of tru2way-enabled set-top boxes.

But despite these enormous undertakings, most CE manufacturers have abandoned "one-way" devices, and only a few "two-way" products have been brought to retail market to date.

Unless the Commission orders consumer electronics manufacturers to produce devices, retailers to stock them, and consumers to buy them, it must first come to grips with fundamental economic realities in the market today before it can evaluate, let alone craft, technical or regulatory solutions for today's vastly changed marketplace. The Commission must ask some important questions: How many consumers prefer to lease MVPD devices rather than buy a device and assume the risk of obsolescence? How can a retail market ever form when a "digital cable ready" device is cable-only, and a consumer needs a different and unique box for DISH, DirecTV, AT&T, and Verizon? Is the cost of bringing that MVPD functionality into the TV more than consumers are willing to pay? What is the price of access to retail shelf space?

NCTA welcomes the opportunity to further examine these questions as part of a Notice of Inquiry which can delve into the myriad issues that must be addressed in developing an approach to retail availability that has a chance to succeed. The Commission has already raised some thoughtful proposals on possible new approaches on navigation device issues, and we provide below some additional ideas on how the Commission might approach this area. These various proposals raise a host of technical, economic, practical, legal and regulatory questions that will require input from all stakeholders and are not yet ripe for rulemaking. The Commission should focus on whether and to what extent such proposals reflect current and projected marketplace realities and truly accommodate demonstrated consumer preferences. The video marketplace is

innovating rapidly, and the surest path to continued innovation is to allow consumers, not government, to decide which business models and technical solutions succeed.

Today's variety in set-top boxes may look like a cacophony of navigation devices, but that is not a bad thing. It reflects intense competition to present innovative competitive choices to consumers. In a one-way analog world, cable channels could be "broadcast" downstream within fixed frequencies and be received by a "cable ready" TV following the same channel plan. In a two-way digital world, the network is constantly interacting with set-top devices with up- and down-stream signaling and set-top applications to run sophisticated programs. These services work only through careful platform management and the integration of networks, servers, systems, and set-top boxes, all of which continue to change and improve with innovation. The same care is evident in CE devices that include Internet content today. Most, like TiVo, Roku, Xbox 360, and Kindle devices, provide "walled gardens" that link only to specific Internet content that suits the business relationships of the manufacturer and the technical capabilities of the device. The wireless market follows the same approach. Each provider makes decisions on how to balance features, costs, and impact on the network. Consumers can then select the device and price point for the functionalities they want.

The *Notice* suggests that if all MVPDs were forced to provide "network agnostic" set-top boxes capable of browsing the Internet, consumer appetite for video could be used to bridge the digital divide for households that do not own a computer. But such an approach would impose extraordinary expense on millions of MVPD subscribers for dubious returns to very few. While 99 percent of households have TV sets, only about 85 percent subscribe to multichannel video service and only some of them have set-top boxes. Millions of those boxes are connected to analog TVs that are not well suited to display all Internet content. Almost all consumers who do

have set-top boxes already have PCs, and many of those with set-top boxes but not PCs may have no interest in paying to subscribe to Internet service. If the Commission concludes that it should force Internet capability into a ubiquitous device, it would do better to choose the television itself for its mandate rather than the set-top box. Even then, it would need to confront difficult technical, operational, and business issues, and to address and manage difficult regulatory questions. Would the Commission, for example, decide which players, plug-ins, and runtimes should be supported in the browser?

Cable eagerly supports the delivery of Internet content to consumers and has invested billions to make high-speed broadband Internet available to more than 90 percent of American households. Some cable operators are delivering Internet content to their customers via "widgets," access to Facebook and Twitter, and Internet video, rising to meet evolving market demand. But after studying market failures like "WebTV" and "AOL-TV," cable operators and the rest of the market have made reasoned decisions about how to bring Internet to the TV. The cable industry is a strong believer in creative adoption programs, but such an inefficient and expensive mandate to require full Internet connectivity for all set-top boxes is not one of them.

Cable's path for leased set-top devices does not constrain others from developing retail devices that have access to content from all sources presented in a navigation and user interface of their choice. Unlike other MVPDs, the cable industry's interactive applications are not dependent solely on operator-provided equipment, as they can also run on other devices and multiple hardware platforms using the tru2way middleware as a universal translator. Tru2way defines a baseline for accessing cable content and running interactive cable applications from disparate cable operator systems, but it does not restrict manufacturers from combining video sources or adding full-fledged Internet access to their "digital cable ready" DTVs. Cable

operators agreed to help populate a guide provided by the CE manufacturer in a tru2way device. The DBS and telephone-company video providers that serve nearly 40 percent of the market do not offer any such support for retail devices.

The *Notice* also raises old issues that have been long settled. Testing and certification are ordinary features of platform management, rather than the barriers that the *Notice* appears to presume. Suggestions to strip the navigator and platform from cable service, or strip management from the platform, were considered and rejected by both cable and CE signatories to the tru2way agreement. For comparison, Google does not offer its underlying databases to be rearranged and repacked indiscriminately, and the government does not compel sources on the Internet to present their content to search engines; these are business-driven decisions. The MVPD business model is what is fueling the deployment and adoption of broadband today, and the Commission should not upend that model with regulatory mandates.

We suggest that the Commission move forward to a comprehensive Notice of Inquiry. It must study the economics of leasing and buying. It should evaluate the entire MVPD and video services market rather than only cable, and pursue a policy of treating all MVPDs equally particularly when nearly four in ten MVPD customers are served today by DBS or telephone company video providers. The Commission should also study current home-networking approaches, which, with appropriate content protection, could turn home-networked devices into navigation devices. It should explore new security approaches, such as software-based and network-based security. It must take great care not to arrest innovation. It must respect the limits set by Congress and the Constitution. In the interim, it must continue to act on requests for waiver of the current navigation device requirements in order not to freeze pro-consumer innovations.

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COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION
ON NBP PUBLIC NOTICE #27

The National Cable & Telecommunications Association (NCTA) hereby submits its comments in response to the Public Notice issued by the Commission in the above-captioned proceedings.[1] NCTA is the principal trade association for the U.S. cable industry, representing cable operators serving more than 90 percent of the nation's cable television households and more than 200 cable program networks. The cable industry is the nation's largest provider of broadband service after investing over $145 billion since 1996 to build two-way interactive

[1] *See* Public Notice, *Comment Sought on Video Device Innovation*, NBP Public Notice # 27, DA 09-2519 (rel. Dec. 3, 2009) ("*Notice*"). The Notice requested comment by December 21, but, in accordance with Section 1.4(e)(1) of the Commission's rules, these comments are being filed on December 22 because the Commission was closed on December 21 as a result of snow.

networks with fiber optic technology. Cable companies also provide state-of-the-art competitive voice service to over 20 million customers.

I. CABLE OPERATORS HAVE MADE IT POSSIBLE FOR CONSUMER ELECTRONICS COMPANIES TO BUILD NATIONALLY-PORTABLE RETAIL DEVICES

The *Notice* solicits comments on the technological and market limitations that constrain the availability of retail devices from accessing all of an MVPD's services.[2] Unlike DBS, and contrary to a statement in the *Notice*,[3] cable operators have made it possible for CE companies to build nationally-portable retail devices that can be used to access all one-way and two-way cable operator video services. However, as the *Notice* observes, the production and adoption of such devices has been slow. But that is not for lack of support from the cable industry. Cable has put Herculean efforts into supporting the Commission and meeting the challenges of Section 629 throughout a tumultuous time of technological and market change. The cable industry supported from the outset the Commission's requirement to develop and provide separate security modules (i.e., CableCARDs) which would work with retail devices – a requirement also supported by the CE industry and not mandated by Section 629. Cable operators and major CE manufacturers negotiated the landmark "plug and play" agreement for "unidirectional" devices (UDCPs), which was subsequently codified in the Commission's rules. While CE manufacturers and the Commission knew that cable systems were already transforming into interactive two-way digital platforms, they took this first step to develop "one-way" digital cable-ready devices while cautioning consumers that these retail UDCPs would need set-top boxes to access two-way services like video-on-demand (VOD) and interactive program guides.

[2] *See Notice* at Questions A.1-3.

[3] *See Notice* at 2 ("[W]e know of no device available at retail that can access all of an MVPD's services across that MVPD's entire footprint.")

Then – without regulatory compulsion – the cable and CE industries created informal mechanisms to effectively handle the field issues that inevitably arose with the rollout of new and complex technology. The record is replete with how much work the cable and the CE industries have done to ensure that CableCARDs work. On cable's side, the work includes consumer education, internal training, free lab time to CE manufacturers, extensive troubleshooting, and much more. In addition, the cable industry worked cooperatively with Microsoft to allow for interconnection of personal computers (PCs) and CableCARD-enabled devices, and then worked with Microsoft to extend the opportunity for consumers to add CableCARD-equipped tuners to PCs at home. The cable industry also developed MultiStream CableCARDs ("M-CARDs") for use in retail products, enabling consumers to watch and record different channels off the same CableCARD.

To meet the far greater challenge of making interactive digital two-way services accessible to CE retail devices, the cable industry voluntarily developed tru2way middleware to permit portability of interactive applications used on cable systems through a nationwide common software platform. The CE industry helped write and rewrite the specification and the test suites to assure their compatibility with all manner of CE devices, including multi-function CE devices. The cable industry, over a dozen independent CE companies including leaders in HDTV technology, and more than 50 other equipment, application, and implementation vendors, invested years of effort and millions of dollars to develop the tru2way middleware solution. For example, Intel agreed to put the resulting technology in its system-on-a-chip architecture. The middleware is now an ANSI/SCTE, ATSC, and an ITU standard.

The cable industry has taken numerous other steps in support of tru2way. It spent years helping to establish a worldwide patent pool for tru2way and made it available on reasonable and

non-discriminatory (RAND) terms; provided the development tools and support for bringing two-way tru2way devices to market; developed and deployed a tuning adapter to help TiVos built exclusively as "one-way" receivers to operate as "two-way" cable devices for the tuning of SDV signals; and negotiated the *Two-Way MOU*, resolving the complex business terms surrounding the deployment of tru2way, including device certification, innovation, protection of consumers' experience and investment, content protection, and CableLabs' specification-setting processes.

Cable operators are now engaged in the massive roll-out of the tru2way platform across the industry. Cable operators have already deployed over 2.5 million tru2way set-top boxes for lease to their customers, and are upgrading their cable headends to support tru2way.[4] Panasonic tru2way DTVs are working in Chicago, Denver, and Atlanta. Operators also are undertaking enormous engineering efforts to port interactive applications to the tru2way platform, including multiple guides, multiple VOD applications, switched digital video applications, interactive advertising, Caller-ID on TV, email viewers, on-screen subscriptions, and even the TiVo interface.

Despite these enormous undertakings, we know that a fully-competitive retail navigation device market has not yet developed. Most CE manufacturers abandoned "one-way" devices, and only a few "two-way" products have been brought to retail market to date. We welcome the opportunity to work with the Commission on examining why the CableCARD regime has been unsuccessful in developing a retail market, and exploring possible paths forward on navigation device issues. As NCTA has previously stated, we believe that a Notice of Inquiry is the appropriate vehicle for conducting such a review given the complex economic, technical,

[4] Although only large cable operators signed the *Two-Way MOU*, they serve 82 percent of cable customers. As equipment manufacturers ramp up, tru2way is likely to become standard equipment, as occurred with DOCSIS and the deployment of cable modems.

practical, legal and regulatory issues involved. We provide in the sections that follow responses to the issues raised in the *Notice* as well as some ideas for consideration in a follow-on Notice of Inquiry.

II. THE ECONOMICS OF RETAIL

Before the Commission tries to mandate a new technology and craft a new regulatory approach, it must address basic economic issues of a retail market. For a retail market to develop, CE manufacturers have to build devices, retailers have to stock them, and consumers must buy them. The Commission could conceivably command the manufacture and retailing of navigation devices, but consumers ultimately have to decide whether to buy such devices.

One basic economic issue is whether the majority of consumers prefer to lease or buy video devices. Cable set-top boxes are leased at low, government-regulated "cost-plus" rates, or at rates otherwise kept low in markets where effective competition exists. Leasing a set-top box at a low, monthly charge offers an attractive way for consumers to enjoy advanced services without significant upfront equipment costs. Such consumer preference for leasing is commonplace today. DBS providers have largely migrated from a sale to a lease model for their equipment, without any apparent impact on their ability to attract new customers,[5] and telco video providers lease their equipment to customers.

Consumers also may prefer the option of leasing devices that can be upgraded when the next model is released, with more memory, more processing power, more features or newer

[5] DirecTV and DISH do not support the use of third-party retail devices such as HD TiVos or cable-ready DTVs for new customers without an operator-supplied set-top box. *See* GN Docket Nos. 09-47, 09-51, 09-137 and CS Docket 97-80, Letter from Stacey Fuller, DirecTV, to Marlene H. Dortch, FCC (Dec. 15, 2009) ("Consumers can choose to purchase or lease DIRECTV receivers. DIRECTV has found, in offering both alternatives, that customers overwhelmingly prefer to lease their set-top box"). If you "buy" a DISH box at retail, it will have been built to proprietary spec for DISH, and will save no money over leasing a DISH box. *See* DISH DBS Corp., Form 10-K, at F-14 (Mar. 16, 2009) ("DISH Network subscribers have the choice of leasing or purchasing the satellite receiver and other equipment necessary to receive our programming. Most of our new subscribers choose to lease equipment and thus we retain title to such equipment.").

ports, rather than purchasing a device at retail and assuming the risk of obsolescence. *Consumer Reports* recommended that consumers lease rather than buy DVRs for exactly this reason, advising that "a DVR from a cable or satellite provider is the best way to go – it's convenient and you need not worry about investing in obsolescent equipment."[6] Likewise, it may be that the ultimate consumer cost for adding set-top functionalities to a retail device—after including CE R&D, the cost of other features that CE manufacturers bundle with set-top functionalities, bill of materials, manufacturer markup, and the substantial retailer markup—is more than consumers are willing to pay. Access to retail shelf space also may be a bottleneck for retail navigation devices: CE manufacturers must convince big box retailers to devote shelf space to product lines and terms for obtaining that space are complex and often expensive. And retailers must initiate expensive training programs for their sales and service staff.

Leasing also makes it easier for customers to switch from cable to satellite to telco video services and back again. In contrast, there are strong disincentives for consumers to buy retail navigation devices given their limited portability. One of the gravest failings of the current approach is that the Commission does not uniformly apply its rules to DBS providers, AT&T, or other telco video providers, despite the fact that the Section 629 mandate applies to all MVPDs. The net result to the consumer is that even if a "digital cable ready" DTV can work perfectly without a set-top box across the cable footprint, a consumer would need a different and unique box for DISH, DirecTV, AT&T, and Verizon to work with that DTV.[7] In 1996, these competitors did not exist or had very modest market shares. Today, they have almost four out of ten MVPD subscriptions. The Commission has been looking backward only on the cable industry, while consumers live in the real world marketplace where video, entertainment,

[6] "*Digital Recorders: Lease a Model in this Time of Transition*," CONSUMER REPORTS (Nov. 2006) at 35.

[7] Consumers cannot buy an AT&T U-Verse box or lease one with separable security. Verizon offers a CableCARD, but it does not currently provide on-demand, VOD, or parental controls through a CableCARD.

broadband, and electronic device choices are not similarly constrained. Given today's competitive market, how many consumers will pay extra (and how much) for a feature in an HDTV that only works with cable? Unless the Commission first grapples with these basic economic issues, it cannot evaluate, let alone craft, technical or regulatory solutions for today's marketplace.

It also bears emphasis that the economic model for cable set-top boxes differs significantly from the wireless model with which it has been compared.[8] Cable leases set-top boxes to consumers at-cost along with a monthly service that can be terminated at will. Wireless phones are heavily subsidized upon retail sale when bundled with long term agreements. From the consumer's perspective, the ability to change at will to a competitive provider, or to continue to lease a set-top box at cost, may be the preferable arrangement. The different models may also be driven by practicality: cable is comfortable leasing set-top boxes that do not usually get lost or stolen; a wireless company is far less likely to lease a cell phone that can easily be lost or stolen.

III. TODAY'S VARIETY OF VIDEO DEVICES REFLECTS INNOVATION AND COMPETITION IN NETWORKS AND SERVICES

A. MVPD Devices Are Evolving Rapidly In A Highly-Dynamic Marketplace

The *Notice* begins by finding a problem in the variety of devices being used to access video today. It asks why different set-top devices are used for accessing different video platforms.[9] A key technological and market reason for this fact is the synergy of developing services and access devices in concert. Integral to a robust competitive market is the ability of each MVPD platform to design, deploy, and utilize network and premises technologies that present competitive choices to consumers. In today's highly competitive video marketplace,

[8]National Broadband Plan Presentation (Nov. 18, 2009), Commission Meeting Slides, Slide 18, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-294708A1.pdf.

[9] *See Notice* Questions A.1-3.

MVPDs and new entrants alike engage in equipment differentiation and use complex interactions between networks and access devices to innovate quickly and deliver new features to consumers. This in turn spurs competitive response by others in the market. Satellite uses QPSK; cable responds with QAM, DOCSIS 3.0, and tru2way. Verizon devotes an entire fiber wavelength to its linear video offering and goes all-digital; AT&T switches all channels to gain bandwidth; cable responds with switched digital video ("SDV") of its own. Each MVPD seeks to augment its own technology to compete with the best features of the others.

Cable equipment has been evolving rapidly in this robustly competitive, dynamic marketplace. In recent years, cable operators have digitized, switched, and repurposed their spectrum for more HD, more services, and faster broadband. In tandem, cable set-top boxes are changing rapidly. Far from being like static black rotary phones, they have grown from devices that merely extended the tuning range of consumers' televisions into high-definition devices and DVRs, offering on-demand content, interactive program guides, t-commerce, voting, polling, two-way network services like StartOver, cross-platform services like caller ID on the TV, AVC H.264, Internet-fed widgets, and a Java-based middleware layer as the platform for future innovation. Cable operators are now buying set-top boxes supplied by a growing number of consumer electronics manufacturers, including Pace, Motorola, Cisco, Evolution Broadband, Samsung, Panasonic, and TiVo.

B. Two-Way Cable Networks and Devices are Tightly Integrated for Ease of Consumer Use

A key requirement for making advanced two-way networks work in this highly-competitive marketplace is tight integration between video networks and connected devices. In a one-way analog world, cable channels could be "broadcast" downstream within fixed frequencies and be received by a "cable ready" TV following the same channel plan. In an

interactive digital world, the network is constantly interacting with the set-top box with up- and down-stream signaling and set-top applications to run sophisticated programs.

For example, VOD service involves a combination of VOD servers, navigators, interactive set-top boxes and billing systems. Cable operators use a wide variety of VOD systems, [10] navigators,[11] third party applications,[12] operating systems,[13] and billing systems. There is no single vendor or single combination. Some operators today use as many as 15 different VOD configurations, only some of which are common to those used by other operators. SDV provides another example. SDV requires the network to constantly monitor client devices to turn channels on and then turn them off and recover bandwidth when no one is watching the channel.

The cable operator's navigator and user interface are yet another example. The operator's navigator is part of its service; it is the cable operator's store front. It supports cross-platform services like Caller ID and interactive Enhanced TV Binary Interexchange Format (EBIF) applications such as point-and-click capability for t-commerce, polling, voting, remind/record messages, and interactive advertising. It provides parental controls. It carries advertising and marketing messages to encourage existing customers to add or try new services. It carries additional messages at the bottom of the screen. The cable operator selects, buys, and organizes channels for each market and then presents its "store front" in the order, look, and feel it believes is most appealing to its customers and potential customers. And it supports new, digital interactive services that have not yet been launched, but that are counting on the features that the navigator supplies for services to launch quickly and meet the competition. Contrary to

[10] *E.g.*, SeaChange, C-COR, Concurrent, Broadbus, Arroyo.
[11] *E.g.*, Guideworks, Passport, SARA, Mystro, Optimum.
[12] *E.g.*, GoldPocket/Tandberg, BIAP, Bluestreak, TVWorks, Zodiac, Navic, Visiware.
[13] *E.g.*, PowerTV, VRTX, Linux, VxWorks, OS20, Aperios.

the suggestion in the *Notice*,[14] the cable navigator is not a barrier to reaching cable service. Rather, it is an integral part of the service itself, and is carefully engineered to work with the set-top box.

These are only three illustrations of the complex relationships between and among networks, servers, devices, user interfaces, the service experience, and the variations in them all that fuel competition and innovation and benefit consumers. These services work only through careful integration and management of networks, devices, and systems, all of which continue to change and improve with innovation. Cable operators engage in rigorous development, testing, and continual fine tuning of the set-top boxes that they purchase from third-party suppliers, and of the applications they use, to provide and keep this platform stable for their services. They must manage their platform so that programmers, developers, vendors, consumers, customer support, and technical representatives can rely on a stable platform that supports their business and functions as advertised.

C. CE Internet Devices Use a Similar Managed Platform

Other devices used today to put Internet video on the TV illustrate these same characteristics – rapid innovation and close management of the service and device – in operation. Blu-Ray players and Xbox 360 link to Netflix. Roku streams Netflix, Amazon VOD, out-of-area Major League Baseball, and an emerging Channel Store. PlayStation Networks streams movies and TV episodes. Microsoft, Sony, and Nintendo have already sold over 45 million game consoles that can be used to watch Internet-delivered video.[15] Apple TV, TiVo, and Vudu offer

[14] *See Notice* at 2.

[15] *See* Yukari Iwatani Kane, *Beyond Gaming: Watching TV on Your Xbox*, WALL ST. J. (Nov. 12, 2009), available at http://online.wsj.com/article/SB10001424052748704328104574516240890098438.html ("For many consumers, though, videogame consoles appear to be the go-to living-room device—particularly for those who already own one of them. Microsoft, Sony and Nintendo have already sold over 45 million units collectively, according to the companies. That compares with the 5.3 million networked TVs, Blu-ray players and set-top boxes estimated to be sold by the end of this year, according to consulting firm Envisioneering Group.")

Internet-connected products tightly coupled with their navigation guide "store fronts." PCs, laptops, and netbooks stream video through HDMI or other connections. Over 50 Internet-enabled TV models from Samsung, Sony, Panasonic, Vizio, and other top manufacturers are on sale now, equipped with Ethernet ports that can plug into a home network or a networked PC.[16]

Yet except for the PC, most CE devices that include Internet connectivity offer only walled gardens with access only to selected specific content for specific highly-managed services. These CE devices typically enable customers to access portals of content from selected vendors' offerings with whom the device manufacturers have a business relationship governing access, presentation, marketing, billing, and revenues.[17] When those business relationships have not met mutual interests, access to content can be removed from the device.[18] The devices present their services and organize offerings into the order, look, feel, and editorial presentation they need to provide service and position themselves in a competitive market and to satisfy the business agreements between content providers and the device provider. In each case, the presentation is according to the constraints that the device manufacturers and content suppliers have negotiated.

For example, TiVo currently offers VOD from Netflix, Amazon, and Blockbuster, but the consumer entering TiVo's Netflix-branded service will enter the Netflix library courtesy of a direct Netflix account that the consumer manages (and pays for) via his or her PC. At the

[16] *Id*. ("Research firm iSuppli Corp. estimates there are over 50 Internet-enabled TV models from the top five manufacturers on sale now, more than double the number last year.").

[17] For example, TiVo is reported to earn a share of the video rental fee from Amazon.com, but not from Netflix. *See* Saul Hansell, The Economics of the TiVo-Netflix Deal, N.Y. TIMES BITS BLOG (Oct. 30, 2008), available at http://bits.blogs.nytimes.com/2008/10/30/the-economics-of-the-tivo-netflix-deal/. TiVo's agreement with Blockbuster involves joint marketing and sales of TiVo boxes at Blockbuster stores. *See* Brad Stone, Blockbuster and TiVo Join to Deliver Digital Movies, N.Y. TIMES BITS BLOG (Mar. 25, 2009 available at http://www.nytimes.com/2009/03/25/technology/internet/25video.html.

[18] *See, e.g*., Greg Sandoval, Hulu Pulls Content Off Boxee, CNET NEWS (Feb. 18, 2009) available at http://news.cnet.com/8301-1023_3-10167152-93.html ("Our content providers requested that we turn off access to our content via the Boxee product," Hulu wrote. "We are respecting their wishes.")

highest level of navigation, the user is presented with a user interface dictated by TiVo, but once the user enters the Netflix content area, for example, the Netflix user interface guidelines are implemented to govern access to the "walled" Netflix VOD library, which is separated from TiVo's and other VOD libraries.[19] Similarly, Amazon and Blockbuster make their offerings available, but do not turn their underlying catalogues into an aggregated TiVo VOD library, and TiVo does not provide the equivalent of PC web-browser access. TiVo only accesses and presents the content as determined by the relationship between it and the content companies with which it has relationships.

These design choices – such as including selected content from specific sources, widgets and weblinks, rather than a full Internet browser – also reflect the designers' decisions on how to balance features, costs, and impact on the network. If the CE manufacturer wanted to match the full PC experience and provide full Internet browsing to the device, the manufacturer would have to add a browser, all of the PC plug-ins (Silverlight, Adobe, etc.), all of the media content protection clients, virus and malware protection, remote keyboard and mouse, and, in most cases, much more processing power. All of these new requirements, and the technical integration they require, would add cost and change the user experience. But it is not – and should not be – the government's concern that some manufacturers include full Internet browsing capability in video devices and others do not. The result of designers' decisions is different features at different price points. Consumers today can select the device and price point for the functionalities they want. Those who want to put "all" Internet on TV, for example, can connect a PC to their television using an HDMI, DVI, or VGA output cable. An HDMI card can be added to a PC for as little as $50. Those who want "some" Internet can use one or more of the other CE devices

[19] *See* Netflix Developers page at http://developer.netflix.com/page. ("Why all the Rules? We want to ensure a great customer experience. We want things to work. …").

available that provide "some" Internet-like services such as widgets or access to "walled" Netflix VOD libraries. And those who want no Internet connectivity should have that choice as well.

D. Wireless Networks Also Are Tightly Managed To Optimize The Customer Experience

Wireless providers, with whom cable was recently compared,[20] also depend on management of their networks to ensure the quality of their service offerings. Apple iPhone apps do not run except on the proprietary Apple platform. The same is true with Android, BlackBerry and Qualcomm's BREW. All carriers want to provide applications, but each has learned the lesson that an unmanaged application platform does not give developers the confidence in a stable, functioning platform on which they can rely. For example, after experiencing serious network problems associated with its initial launch of the iPhone, AT&T delayed launching the BlackBerry Bold to avoid similar problems.[21]

As a result, wireless is a world of active platform management, rules, software development kits (SDKs), handset certification, application testing, and subscription-handset bundles. Each platform creates its own community, invites innovation, creates new business models, and spurs competition – all to the benefit of consumers. Handsets may seem to roam from protocol to protocol, but only if manufacturers have incorporated multiple protocols for multiple platforms inside the handsets to meet widespread consumer demand for daily portability. Even some of those have lost their network "agnosticism" as they handle more robust services: the T-Mobile version of the new BlackBerry Bold 9700 carries an HSPA radio for T-Mobile's 3G bands; and the AT&T version includes one for AT&T's frequencies. Even if the devices were unlocked, they would not be able to access 3G services on the other provider's

[20] National Broadband Plan Presentation (Nov. 18, 2009), Commission Meeting Slides, Slide 18, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-294708A1.pdf.

[21] *AT&T Delays BlackBerry Bold Launch To Avoid Network Complaints Like The iPhone* (Oct. 3, 2008), available at http://moconews.net/article/419-att-delays-blackberry-bold-launch-to-avoid-network-complaints-like-the-/.

network, and they will not work on the CDMA/EV-DO networks of Verizon Wireless and Sprint – which vary depending on who won which band.

The wireless and MVPD marketplaces differ, of course, but all providers share the need to manage platforms, resulting in a great diversity in devices and functionality among providers. Applications, distributors, platforms and set-top boxes do not interoperate seamlessly across MVPDs. All MVPDs want applications, but just as is the case with wireless operators, each has learned that an unmanaged platform does not give them, their programmers, developers, vendors, or consumers a stable, functioning platform on which they can rely.

IV. BROADBAND USAGE DOES NOT DEPEND UPON MANDATING INTERNET FUNCTIONALITY IN ALL MVPD SET-TOP BOXES

The *Notice* suggests that if the Commission mandated that all set-top boxes be redesigned to include Internet access and browsing capability, the consumer appetite for video could be used to bridge the digital divide for households that do not own a computer, thereby serving the National Broadband Plan.

But if the *Notice* seeks to target an audience of non-broadband households without a computer, MVPD set-top box households are not the right match. While, as the *Notice* states, 99 percent of households have TV sets, only about 85 percent subscribe to multichannel video service. Many fewer still have digital set-top boxes since nearly a third of cable customers do not subscribe to digital services. More than half (100 million) of the television sets in cable homes are not attached to a set-top box. Millions of MVPD boxes are connected to analog TVs that have insufficient resolution to display most web pages adequately. For all of these reasons, the percentage of consumers with digital MVPD set-top boxes and DTVs is much lower than 99 percent.

Moreover, almost all of this group that does have set-top boxes and DTVs already have PCs and ready means to "adopt" the Internet. Digital cable subscribership and DTV ownership are higher among the same demographic groups that already have computers in their homes. No doubt some of these households do not have computers, but the data suggests that the "gap" is closer to 5% (85% MVPD subscribership-80% computer ownership) rather than the wide gulf implied by the *Notice* (99% - 76% = 23%). If the Commission actually wanted to force Internet capability into a device that almost every consumer will have, it should choose the television itself for its mandate rather than the set-top box.

Even if Internet on the TV would motivate some consumers to adopt broadband, the costs of mandating such capability in all MVPD set-top boxes would greatly exceed its benefits. As an initial matter, as discussed above, there are already a large and growing number of retail options for consumers to access Internet content over their TVs. These Internet-connected TVs and set-top boxes allow customers to access a wide array of video content without having to subscribe to an MVPD service.[22] Moreover, retail tru2way devices can combine both cable and Internet content. Beyond these retail options, MVPDs are starting to make Internet-based content available via the set-top box. Certain cable operators deliver Internet content to their customers via "widgets" and other interactive applications that enable access to social-networking sites like Facebook and Twitter as well as Internet video. The marketplace for such services is still evolving and it is still uncertain what consumer preferences will be in this area. As consumer preferences change, MVPDs respond. But MVPDs and their customers should not be compelled by the government to bear the costs of a functionality that is not justified by actual consumer demand.

[22] See, e.g., Nick Bilton, *Cable Freedom Is a Click Away*, N.Y. TIMES (Dec. 9, 2009), available at http://www.nytimes.com/2009/12/10/technology/personaltech/10basics.html.

A mandate to add Internet and browsing capability to every MVPD set-top box would be extraordinarily expensive for consumers. There are an estimated 175 million to 180 million set top boxes deployed in cable, DBS, and telco TV households. To add full Internet capability to even the newest generation of set-top boxes would require more processing power, a browser, PC plug-ins (Silverlight, Adobe, etc.), media content protection clients, parental controls,[23] virus and malware protection, and a remote keyboard and mouse, among other features.[24] Most of the cost would be borne by the millions of MVPD subscribers who already have a computer and who may have no interest in having Internet functionality added to their television sets. Either they already have broadband or have decided that they do not want to pay for it. While cable makes broadband available to over 120 million homes, nearly one-third of our video customers (a number that must include many computer owners) do not subscribe to our Internet services.

There is even less justification or marketplace data for forcing MVPDs to add Internet functionality, at the expense of all households, when history indicates that Internet on the TV functionality may not be embraced by most non-broadband households. After studying market failures like "WebTV" and "AOL-TV,"[25] cable operators and the rest of the market have made reasoned decisions about how to bring Internet to the TV. NCTA and cable operators are strong believers in the need for creative adoption programs that focus on target audiences, digital

[23] Generally, online video sites (including adult sites) have very limited mechanisms to ensure that the consumer sitting in front of the screen is an adult or a child. If "unrestricted" Internet access was made broadly available via set top boxes on TVs, without adequate mechanisms to restrict viewing of age-appropriate content, all of the concerns about parental controls for the PC would translate to the TV, with even fewer controls available than are available on PCs.

[24] Such a mandate also would raise novel regulatory issues as it would likely involve the Commission in defining the specific technical requirements of MVPD set-top boxes. For example, would the Commission specify which players would be supported, which plug-ins are to be included, and which runtimes are to be used? These are typically decisions made in the marketplace, not by regulators.

[25] WebTV started service in 1996 and six months later, with only 56,000 customers, was sold to Microsoft. In 1999, AOL announced that it was going to compete with Microsoft to deliver Internet service over TV sets, launching AOL-TV in June 2000. Approximately 2 ½ years later, AOL announced that it was discontinuing the AOL-TV product. Microsoft has relabeled the WebTV service as MSN TV, but while it continues to support the product, it no longer sells hardware to support the service and makes no mention of it in its financial statements.

education, and appropriate subsidies,[26] but there is no record or marketplace data support for upending those decisions and imposing a regulatory mandate to require all set-top boxes to have Internet and browsing capability as a method for achieving ubiquitous broadband adoption. Before regulations are built upon that assumption, we believe that a thoughtful Notice of Inquiry is required to explore its basis.

V. CE MANUFACTURERS MAY INCLUDE CABLE AND INTERNET SERVICES IN MULTI-FUNCTION, MULTI-SOURCED EQUIPMENT

Regardless of the choices that cable operators have made for their Original Equipment Manufacturer (OEM) set-top boxes, they do not restrict other manufacturers from combining video sources or adding full-fledged Internet access to their "digital cable ready" DTVs, with or without CableCARDs. Instead, CE manufacturers have the opportunity today to build multi-function devices. In earlier years, there was a vigorous debate over how best to fit "multi-function" retail devices into a two-way cable ecosystem while preserving room for vigorous innovation on the network and service side as well as on the retail device side.

Many of the issues raised in the *Notice* – about guides, testing and certification – echo issues that NCTA has thoroughly briefed to the Commission in prior submissions, which we incorporate herein by reference.[27] After exhaustive analysis and debate in outside negotiations and before the Commission, the major CE manufacturers, set-top box makers, cable companies, and the world's largest chip manufacturer agreed on a marketplace solution that protects innovation in CE devices *as well as* innovation in the cable network and cable services – all

[26] For example, NCTA has proposed its own Adoption Plus (A+) public-private partnership to promote broadband adoption for up to 3.56 million middle school-aged children eligible for the National School Lunch Program living in approximately 1.8 million low-income households that do not currently receive broadband services.

[27] *See, e.g.*, CS Docket 97-80, Comments of the National Cable & Telecommunications Association (Aug. 24, 2007), Reply Comments of the National Cable & Telecommunications Association, at 14 (Sept. 10, 2007), Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, FCC (Oct. 30, 2007) and Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, FCC (Nov. 1, 2007); *see also* MB Docket 07-269, Further Reply Comments of the National Cable & Telecommunications Association (Aug. 28, 2009).

while protecting the consumer experience. The agreement is embodied in the "*Two-Way MOU*."[28] To the extent the *Notice* suggests that there are issues outstanding with respect to testing, certification, licensing and the like, the significant inter-industry agreement on the tru2way approach belies that assumption.

Unlike the case with other MVPDs, the cable industry's interactive applications are not dependent solely on their own set-top boxes, but can also run on other devices and multiple hardware platforms using tru2way. Tru2way acts as a Java-based universal translator for the staggering variety in cable networks that were built by different owners at different times using different technologies and which offer different, interactive services that continue to evolve rapidly.

To deliver the full suite of two-way services, tru2way acts as a baseline middleware layer that allows cable applications that are written to that layer to work on devices that include the tru2way layer. VOD service, for example, involves a combination of VOD servers, navigators, interactive set-top boxes and billing systems. As noted in the *Notice*, it is possible for a specific MVPD to engineer its specific VOD server to deliver VOD titles to a TiVo box, but that solution is not portable across all MVPDs, VOD equipment, billing systems, or CE devices competing with TiVo. By contrast, tru2way translates VOD service to make it available through the cable

[28] The Memorandum of Understanding among Cable Operators and Consumer Electronics Adopters Regarding Interactive Digital Cable Ready Products, or "*Two-Way MOU*," is an enforceable contract was signed on April 25, 2008, by cable operators serving more than 82 percent of all U.S. cable subscribers and whose systems pass over 105 million homes. The MOU signatories include major consumer electronics manufacturers - Sony, Samsung, Panasonic, LG Electronics, Funai (known in the US under the brand names Philips, Magnavox, Sylvania, and Emerson); Digeo, ADB, and chip maker Intel; and the nation's six largest cable providers—Comcast, Time Warner, Cox, Cablevision, Charter and Bright House Networks. *See* CS Docket 97-80, Letters from Kathryn Zachem, Comcast, to Monica Desai, Media Bureau Chief (May 28, 2008) (summarizing the MOU) and June 10, 2008 (attaching its text), and Joint Status Report of the National Cable & Telecommunications Association and the Consumer Electronics Association (July 29, 2008) (advising that the *Two-Way MOU* had also been signed by Samsung, Panasonic, LG Electronics, Funai Electric (which trades products in the United States under the brand names Philips, Magnavox, Sylvania, and Emerson), Digeo, ADB, and Intel.

navigator to a wide variety of tru2way devices.[29] That means that interactive applications can run without needing to be rewritten to each device. A Windows PC is analogous: by including Windows, the PC can operate a wide variety of Windows applications, and application developers need not write their applications to the native code of each PC before launching. Likewise, tru2way gives consumers the assurance that they can continue to receive the cable services they want and pay for when they use different models of retail navigation devices and as services evolve.

The *Notice* reflects three basic misunderstandings about how tru2way operates. First, the tru2way platform specifically invites and encourages the addition of features and functionalities – including connectors for accessing the Internet – in retail devices.[30] In particular, tru2way devices can bring Internet content to the same device, create and manage home networks, and include gaming, widgets, or other features and functions. One key tenet of the *Two-Way MOU*, for example, explicitly preserves this right of continuous innovation in networks, devices, and services.[31] Tru2way's flexibility fosters, rather than frustrates, the development of diverse innovative products for consumers.

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[29] CableLabs publicly posts the tru2way Specifications on the web and provides a free Reference Implementation of the tru2way middleware, which provides CE manufacturers and application developers a sample of a full implementation of the tru2way specifications to facilitate development and manufacture. CableLabs also provides development lab time and interoperability events to any interested manufacturer of "plug and play" TVs.

[30] *See* tru2way Host Device License Agreement, § 1.0 ("Innovation in Host Devices. … Licensee may include in a Host Device additional features or functionalities not specified in the Specifications. … To facilitate such innovation in multi-function Host Devices while maintaining a user friendly experience, the Specifications and the tru2way Multi-Mode Functionality Requirements define a "CE Mode," a "Cable Mode," [and the specifications] do not require a cable "monitor application" to be in control of the presentation of services to the user or the allocation of resources in the Host Device, while in CE Mode. Innovative features and functions in the Host Device that are not specified in the Specifications are allowed and encouraged.") (available at http://www.opencable.com/downloads/tru2way_agreement.pdf); CHILA, § 5.2 ("Nothing in this Agreement shall preclude Licensee from including in a Host Device additional features or functionalities not specified in the OpenCable Specifications" so long as the service, network, and security is not harmed.); *Two-Way MOU* at § 2 ("Innovative features and functions in [retail two-way devices] that are not specified in but are consistent with the tru2way Specifications and License Agreements are allowed and encouraged.").

[31] *Two-Way MOU* at § 9 ("Innovation in cable networks, cable services, and devices that access cable services is desirable. The parties agree neither access to the cable network and to a current offering of cable services by retail

Second, although the agreed-upon specifications, licenses, and the *Two-Way MOU* all require support of the cable navigator, they also support alternative navigation and user interfaces – a design decision that is left to the CE manufacturer. CE manufacturers may develop their own, unique user interfaces and use their own, unique navigation tools. CE-branded navigators are allowed, such as cross-bars from which consumers may select among program sources. Cable operators agreed to help populate an alternative CE guide with guide data for linear channels, so that consumers may have a choice of user interfaces within the same device.[32] Just as CE devices handle Netflix, Amazon, and Blockbuster websites and offerings today, a cable operator's current VOD library may be accessed by a CE device through that cable operator's VOD user interface, but cannot be dismantled and combined with other VOD libraries.

Third, the necessary tru2way testing and certification process is an ordinary feature of platform management, rather than the barrier that the *Notice* appears to presume. Testing and certification are widely used to provide distributors, developers, consumers and retailers the assurance that the platform, devices and applications designed for them will actually work. A good example is HDMI. Until recently, differing CE implementations of HDMI led to a cacophony of non-interoperable "standard" interfaces that finally was sorted out in December, 2006, when Best Buy demanded a new "Simplay HD" testing and certification regime for CE devices. There are other marketplace examples: retail DOCSIS modems are subjected to a full certification process; the WiFi Alliance tests and certifies 802.11 equipment; and Underwriters Laboratories, Inc., Dolby Laboratories, THX digital cinema, Windows Server, and Verizon

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devices nor this MOU shall be a basis for limiting or freezing the cable network, cable services, Adopters' IDCPs [consumer products] or Founder navigation devices, or for imposing additional investment requirements on the cable network.").

[32] The guide data is delivered via the CBS digital channel for use by CE manufacturers who have license rights to use such guide data from the owner of the guide data.

Wireless and other carriers use comparable regimes. In the same manner, testing and certification are used for tru2way equipment and that process has been further streamlined with flexible scheduling and a clear path to self-certification for those who pass the tests with their early models.[33]

VI. A "CONVERGED" DISAGGREGATED MODEL IS NOT A PATH FORWARD

The *Notice* solicits comments on ways to encourage video convergence by presenting a multitude of video sources via consistent, network "agnostic" navigation.[34] Additionally, the *Notice* asks how such convergence can be achieved while still encouraging innovation and limiting unnecessary costs, complexity, and obsolescence.[35] However, it erroneously suggests that CE devices present "a consistent menu as they navigate through video content regardless of its source," and that it is an "obstacle" that cable content is not presented in that menu, rather than through a cable operator's navigator.[36] As we described above, the design of CE (and OEM) devices and their interfaces follow common business and technology principles. A "converged" menu is not among them. Netflix, Amazon, and Blockbuster do not turn over their underlying catalogues and databases to TiVo, Xbox 360, or a Blu-Ray player to be marketed as an aggregated VOD library. Netflix titles do not show up in the TiVo grid guide.

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[33] *See* tru2way Host Device License Agreement §5.2; *Two-Way MOU*, §12. Previously disputed CableLabs technology licenses and processes have been reformed pursuant to the *Two-Way MOU*. Certification testing of retail devices begins at CableLabs using the CableLabs tests, but there is a defined path for self-certification. Beginning in 2010, devices may be submitted for certification at any time. *See* http://www.cablelabs.com/downloads/2010_Certification_Schedule.pdf. A new Founders Advisory Board composed of representatives of the cable television, content, consumer electronics, and information technology industries, has a formal role in requesting a vote on specification changes that raise costs without adequate justification. If four or more motion picture studios agree, digital outputs and/or content protection technologies must be approved and the Commission may entertain appeals. If tru2way support is sunset, Adopters may participate in CableLabs processes to define specifications for a successor technology.

[34] *Notice* at 3.

[35] *Notice* at 4.

[36] *Notice* at Question D.1.

Even in the world of the PC with a fully equipped browser, Internet search does not mean that the service offerings are to be disassembled and stripped of their presentation, frames, look, feel, organization, trade dress, or business model. Whether you go to Google via PC or Mac, IE or Firefox, you reach a Google search engine. Google does not offer its underlying databases to be indiscriminately repackaged, re-sorted into different order, searched, rebranded, or accompanied by alternative advertising. PlayStation Networks provides thousands of movies and TV shows exclusively to its device; it doesn't share its catalog or content with any other device. The government does not compel sources on the Internet to make themselves available for search by third party engines. In fact, many commercial sites specifically prevent or limit that search in order to maintain their commercial business models.[37]

Suggestions in the *Notice* to strip the navigator and platform from service, or strip management from the platform, was the recipe considered and rejected – after exhaustive analysis, debate and negotiations – before the major CE manufacturers, set-top box makers, cable companies, and a chip manufacturer agreed on a marketplace solution. Renewed interest in navigation devices is not a reason to resurrect this approach. The reality is that a dual revenue stream (subscription plus advertising) has funded the cable industry, cable networks, advanced networks, and broadband deployment. Today, there is justifiable concern for the future of newspapers that have been disaggregated from their advertising and subscription revenues – so much so that government subsidies are being considered. It would make little sense to drive the

[37] For example, subscription content from ESPN Insider is not accessible by search engines. After Rupert Murdoch complained about the use of Wall Street Journal articles by Google News, Google clarified that such content will be removed at the owner's request. *See* Bobbie Johnson, *Murdoch Could Block Google Searches Entirely*, GUARDIAN.CO.UK (Nov. 9, 2009), *available at* http://www.guardian.co.uk/media/2009/nov/09/murdoch-google (discussing Mr. Murdoch's plans to remove stories from Google's search index); *Google Says Murdoch Stories Can Be Taken Off*, GOOGLE NEWS (Nov. 10, 2009), *available at* http://www.google.com/hostednews/afp/article/ALeqM5itzqNKUWQQEZlPHMekGqZuHgZ3kg (presenting Google's response to Mr. Murdoch's complaints).

cable industry towards that model, at the very time that the funding of broadband deployment is recognized to be an urgent and critical national priority.

The market has certainly not yet settled on sustainable business models for video on the Internet, so it would be unrealistic to build proposals from any assumption that the *business model* for video should be made agnostic as to source. In fact, recent technology history should be a guide: Congress explicitly blamed the death of video dial tone on the passive pipe common carrier regime that the Commission imposed upon it.[38] By contrast, DBS flourished into a robust competitor to cable once the Commission dropped the common carrier model and let it blend content with transmission.[39] The MVPD business model is what is fueling the deployment of broadband today, and it should not be upended.

VII. A RECOMMENDED PATH FORWARD

The *Notice* asks what role the Commission should play in order to "fix" all this.[40] In particular, the *Notice* requests comment on how the Commission could develop a standard to promote a retail market for devices that combine an all-MVPD solution and Internet video sources.[41] On a related note, the *Notice* also asks what the Commission can do to promote video convergence within retail navigation devices.[42] As the Commission knows from NCTA's letter of December 4, 2009, we agree that the *status quo* has not created a retail market and the cable industry wants to work with the Commission to determine the reasons for this and to develop a

[38] *See* S. Rep. 104-230 at 179 (1996) ("Those rules implemented a rigid common carrier regime, including the Commission's customer premises equipment and Computer III rules, and thereby created substantial obstacles to the actual operation of open video systems."). Open Video Systems were the next installment, with the same premise, and failed to do any better. It is generally recognized to be "a flop." *See* M. Botein, *Open Video Systems: Too Much Regulation Too Late?*, 58 FED. COMM. L.J. 439. These models failed because they lacked a realistic business model that enabled the provider to profitably offer smart services over a dumb pipe.

[39] *See National Ass'n of Broadcasters v. FCC*, 740 F.2d 1190, 1195 (D.C. Cir. 1984).

[40] *See Notice* at 3; *id.* at Question D.1; Alison Neplokh, *Networking the Television: Set-top Box Innovation*, BLOGBAND, THE OFFICIAL BLOG OF THE NATIONAL BROADBAND PLAN (Dec. 7, 2009), available at http://blog.broadband.gov/?authorId=17309.

[41] *See Notice* at 3.

[42] *See Notice* at 4.

solid path forward. Today, there is no reasoned basis grounded in a genuine understanding of the market or technology on which to base even a proposed regulation. But there is a pathway to gain that grounding. We believe that the Commission has a very constructive role to play, starting with a Notice of Inquiry into why Section 629 has not met its stated goals and what solutions could work across all video providers.

A. Study the Economics of Leasing and Buying

First, as noted above, the Commission should genuinely explore the economics of why the hoped-for retail market has not developed. It is not sufficient to adopt easy rhetoric or false analogies and hope for the best – such as demanding "Carterfone for Cable." The Commission has rightly rejected the telephone analogy as inapt for cable, for good reasons.[43] The Commission must come to grips with fundamental economic realities in retail. How many consumers prefer to lease at government regulated "cost-plus" rates? How many would rather buy and assume the risk of obsolescence? How can a retail market ever form when a "digital cable ready" device provides cable-only readiness, and a consumer needs a different and unique box for DISH, DirecTV, AT&T, Verizon and other telco video providers? Is the cost of bringing that cable functionality into the DTV more than consumers are willing to pay? What is the price

[43] *Commercial Availability of Navigation Devices*, CS Docket 97-80, First Report and Order, 13 FCC Rcd 14775, 14788-14789, ¶ 39 (1998) ("*First Report and Order*") ("the telephone networks do not provide a proper analogy to the issues in this proceeding due to the numerous differences in technology between Part 68 telephone networks and MVPD networks."). The telephone network was originally built to a common standard nationwide by a single homogenous entity, AT&T. The Commission's Part 68 rules applied to devices connected to a highly stable interface: a telephone loop with electrical characteristics that had remained essentially uniform and unchanged for a century, and used only for a well-defined "plain old telephone service" that needed no content protection. By contrast, cable technology, facilities and services are widely varied and evolving rapidly, delivering multiple new broadband, two-way, digital services. Second, the Part 68 rules never imposed government constraints on the design of telephone networks and services. It merely required disclosure of the interface characteristics established unilaterally by the Bell System. Cable has *already* provided a consensus-driven tru2way interface for retail navigation devices. Third, the cable business is also quite different from the telephone business in the pre-*Carterfone* days. The Bell System sought to prevent competition from Carterfone to its wholly-owned Western Electric equipment division. By contrast, cable does not own any of its set-top box vendors. Cable operators buy set-top boxes supplied by a growing number of consumer electronics manufacturers, including Pace, Motorola, Cisco, Evolution Broadband, Samsung, Panasonic, and TiVo to rent to consumers at regulated rates that allow only the recovery of costs.

of access to retail shelf space? What assurance is there that CE manufacturers will build navigation devices? How do you measure consumer welfare when leasing a set-top box at-cost with a monthly service which can be terminated at will? How do you compare the navigation experience with the wireless experience when wireless handsets are subsidized at retail sale but consumers are locked into long term agreements? Will content providers participate in wholesale changes to their current mass subscription and bulk advertising business models?

The Commission must gain a much firmer grasp on the underlying economics before it can even propose a technology or regulatory solution with any prospect of success. With respect to the issues raised in the *Notice*, a Notice of Inquiry also could examine the premise that Internet-connected TVs and set-top boxes can be drivers for broadband adoption and study consumer behavior in this area.

B. Adopt an All-MVPD Perspective: All MVPDs Should Have Room to Innovate and Compete, Not Just Some

Second, the Commission should take a fresh look at today's video landscape.[44] The Section 629 mandate applies to all MVPDs. Today, four of the ten largest MVPDs are DBS providers and telephone companies who collectively serve more than 37 million customers, yet the Commission has given them a broad pass. There may have been reasons for this approach years ago, but that time has passed: a decade ago, satellite was viewed as a new entrant that relied upon a retail equipment model it has long since abandoned; in 1998 telcos had not entered the video market in any significant way. A decade later, a blind eye was turned toward the changes that have occurred. From the consumer's view, the net result is that a CableCARD-enabled DTV will work across the cable footprint, but the consumer would need a different and unique set-top box to enable that DTV to work with DISH, DirecTV, AT&T, or Verizon. From

[44] *See Notice* at Questions B.1-2.

the cable industry's perspective, we alone have poured a fortune into CableCARDs[45] – more than $30 of "common reliance" insurance for every $1 of CableCARDs in retail devices – and every attempt to bring true network or service innovation to our customers is confronted with regulatory resistance that none of our competitors face.[46]

NCTA has previously raised the possibility of an "all-MVPD" plug-and-play solution that allows retail devices to work across diverse MVPD networks, but was rebuffed by telephone and satellite.[47] The *Notice* rightly identifies some warming to the approach. Two such approaches were recently described in the trade press.

The first approach involves the use of a set-back device that is connected to DTVs. The set-back box would be suited to a particular MVPD's network, but would use a standard network interface for output to DTVs. This approach would not require the homogenization of networks,

[45] If, as the Media Bureau has suggested, a CableCARD adds about $56 in cost to a set-top box (*see James Cable, LLC et al., Requests for Waiver of Section 76.1204(a)(1) of the Commission's Rules*, Memorandum Opinion and Order, 23 FCC Rcd. 10592, ¶ 9 n.30 (2008)), then the cable industry has incurred approximately $935 million to date to comply with the integration ban (*i.e.*, $56 x 16.7 million = $935.2 million).

[46] CEA has opposed virtually every type of innovation sought by cable operators, such as waivers to allow for downloadable security (Cablevision, CSR-7078-Z), low-cost DTAs (*e.g.*, Evolution Broadband, CSR-7902), and transitions to all-digital systems (e.g., BendBroadband, CSR-7057), but has not pressed the Commission to require DBS to provide any type of support for retail devices. The resulting Enforcement Bureau proceeding paralyzed cable's ability to continue to innovate and deploy switched digital services and recover spectrum needed for other new services, as discussed in Section VII.E. below.

[47] *See Notice* at Questions D.2-3. In the summer of 2007 and thereafter, the cable industry asked the Commission to encourage an all-provider solution and actively sought support for the concept from AT&T, Verizon, and the DBS providers, including numerous high-level contacts among the parties. *See, e.g.*, Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, FCC, CS Docket No. 97-80 (filed June13, 2007); Letter from Kyle McSlarrow, NCTA, to Marlene H. Dortch, FCC, CS Docket No. 97-80 (filed August 12, 2008). Unfortunately, AT&T, Verizon, and the DBS providers all declined the cable industry's invitation and the cable industry proceeded to negotiate and conclude the *Two-Way MOU* with major CE and IT companies. When NCTA announced the MOU in June 2008, we specifically renewed the cable industry's invitation to collaborate on a voluntary all-MVPD solution. *See* Kyle McSlarrow, President & CEO, NCTA, Remarks at the National Press Club, at 4, available at http://www.ncta.com/ReleaseType/MediaRelease/McSlarrow-Remarks-at-National-Press-Club.aspx. Since then, Verizon, TiVo, the Consumer Electronics Association, and a number of public interest groups have endorsed an all-MVPD approach to retail availability. *See* CS Docket No. 97-80, Letter from Dee May, Verizon, to Marlene H. Dortch, FCC, (July 31, 2008); CSR-8200-Z, CS Docket No. 97-80, Opposition of the Consumer Electronics Association, (Sept. 24, 2009) at 8; Comments of TiVo, MB Docket 07-269 (filed July 29, 2009); CS Docket 97-80 *et al.*, Petition for Rulemaking of Public Knowledge, Free Press, Media Access Project, Consumers Union, CCTV Center For Media & Democracy, Open Technology Initiative of New America Foundation at 21 (Dec. 18, 2009) ("The emerging video market is more technologically diverse than the cable-centric world of the 1990s, and this diversity has exposed additional problems in the current FCC rules (which apply only to some platforms, despite Section 629's applicability to all MVPDs")).

but could remove the presence of a set-top box, the need for another remote control, and impediments to innovation on either side of the interface.

A second approach builds on ongoing efforts to serve programming from gateways into home networks.[48] We discuss various home-networking options below, but fundamentally they involve the use of a gateway device – in the home, network, or cloud – that feeds content to various devices in the home over secure connections. The gateway model could convert a wide variety of consumer devices into "navigation devices" for MVPD programming and services.

Both of these approaches would need to take exceptional care not to dismantle the complex and delicate systems that each MVPD has created and managed. Each has optimized its platform for different business models. Each has positioned itself for quick innovation and rapid response to changes in consumer demands and in competitive pressures. But solutions can be crafted that preserve those consumer benefits – if the Commission permits refinement in approach and considerable cooperation across many industries to succeed. An Inquiry should proceed from the premise that all MVPDs are subject to Section 629 and must play a part in a Section 629 solution. If there is to be sufficient room for innovation and competition in networks and services, then there should be room for all MVPDs to innovate and compete, and not just for some.

C. Consider Home Networking Approaches

Third, the Commission should explore home networking solutions. The *Notice* seeks comment on whether existing multimedia home networking standards can be used to connect

[48] *See* Jeff Baumgartner, *Cable's Got Ideas for a Universal Retail Box,* CABLE DIGITAL NEWS (Dec. 11, 2009), available at http://www.lightreading.com/document.asp?doc_id=185738&site=cdn.

home broadband service with video network devices.[49] Further, the *Notice* asks how such standards could be implemented.[50]

Home networking shows promise as a new means for providing services, but there needs to be much more done than the *Notice* suggests.[51] For example, it is not enough to deliver high-value programming to the home. Once it reaches the home, it must be protected by the rules under which the content provider licenses the content to a distributor. The Commission has sports blackout rules to accommodate sports markets; Commission rules should likewise accommodate the copy protection, geographic limits, and release windows that studios use to protect their models against indiscriminate redistribution. Studios are not obligated to license content for MVPDs to provide to their customers, and they do not do so without content protection requirements. They warned the Commission that content will move to other platforms if it is not adequately protected. Congress itself directed the Commission not to compromise security when adopting rules for navigation devices.[52] Fortunately, the *Two-Way MOU* embraced tru2way, which studios and MPAA have endorsed. Any network interface approach would have to account for the business necessity of such content protection.

Joint efforts by the content, cable, satellite, and CE industries in home networking offer some good illustrations of how these business realities are accommodated as all stakeholders find ways to better serve the consumer. In DLNA, for example, the participants have come to agreement on a "profile" that allows recorded commercial programming content to be shared

[49] *See Notice* at 3.

[50] *Id.*

[51] *See Notice* at Questions C.1-2.

[52] 47 U.S.C. § 549(b) (prohibiting the Commission from adopting regulations under Section 629 "which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems, or impede the legal rights of a provider of such services to prevent theft of service").

within home networks using approved content protection technologies.[53] Work continues to handle live content. The Digital Entertainment Content Ecosystem (DECE) is developing a new approach in which consumers may have content from many sources stored in a personal "rights locker." The content could be forwarded from a wide variety of distribution platforms (including the Internet, retail, wireless, or cable) to DECE devices using different DRM technologies, allowing for multiple points of purchase and multiple distribution paths.

At the same time, cable and other distributors are also working on means for distributing services through a variety of home networking approaches and delivering services via gateways, which might in turn feed home networks.[54] This approach could allow video distributors to deliver services through a wide variety of gateways – whether a physical device at the premises or a virtual presence delivered in IP – which in turn could be one of many sources of video made available over home networks. But a "gateway" should not mean loss of the rich diversity and variation in MVPD offerings. Multiple approaches to "3D" displays and imaginative solutions to make voice, video and broadband services more accessible to people with disabilities will call for continued experimentation and innovation. Like a thoughtfully constructed "all-MVPD" device, a carefully crafted gateway would not require the termination of such developments, the homogenization of networks, or the dismantling of services into pieceparts.

[53] Such approval processes are used in many technology regimes, including the DVD Copy Control Association on DVD players, AACS for high definition optical discs, Association of Radio Industries and Businesses (ARIB) in Japan, Digital Living Network Alliance (DLNA) for networked devices, and the Content Management License Administrator (CMLA) trust model for the Open Mobile Alliance Digital Rights Management for handsets and PC laptops. The cable industry continues to work cooperatively with the content provider community and the CE community to assure consumers' ability to record and network broadcast and subscription programming in digital formats for personal use. For example, working in cooperation with Paramount Pictures Corporation, Sony Pictures Entertainment, Inc., The Walt Disney Company, Warner Bros. Technical Operations, and the Digital Transmission Licensing Administrator (DTLA), CableLabs approved DTCP-IP technology for protection of cable content including two-way video-on-demand. DTCP-IP joins a long list of approved content protection technologies, including HDCP (for HDMI), DTCP (for 1394), Microsoft Windows Media Digital Rights Management (WMDRM), Real Helix DRM, IP Rights Management (IPRM), Macrovision, CGMS-A, and recording technologies VCPS and CPDO.

[54] *See* Jeff Baumgartner, *Cable's Got Ideas for a Universal Retail Box,* CABLE DIGITAL NEWS (Dec. 11, 2009), available at http://www.lightreading.com/document.asp?doc_id=185738&site=cdn.

It is even possible that some legacy consumer-owned equipment (PCs, for example) could be software upgraded for such emerging regimes; but it is fair to expect that many consumer devices would not support new architectures, just as older cell phones cannot automatically download video off 3G and 4G wireless networks.

These approaches hold great promise – but there is no basis for incorporating them into rules. Work is still progressing in DLNA, DECE, and other forums, and even when that work is completed, it is unwise to pick and enshrine a "winner" in federal rules.

D. Explore Solutions Beyond CableCARD

Fourth, the Commission should explore technologies that could enable consumers to navigate to MVPD services while preserving other critical consumer benefits in network and service innovation, competition among platforms, and innovation in devices. It is worth asking whether the CableCARD is becoming outdated. The CableCARD form factor (PCMCIA) is ten years old; AT&T's U-verse and other IPTV services use DRM-based security methods; and other technology models move security farther from CPE and back into the network. Such approaches also hold the possibility of converting a wide variety of consumer devices into "navigation devices" for MVPD programming and services.

E. The Commission Must Take Care Not to Arrest Innovation

Fifth, the Commission must take great care not to arrest innovation. The fierce competition between cable, satellite, and telephone has spurred each industry to more and more innovative consumer offerings. Specialized devices are offering other video and entertainment platforms. Sony has 15 million video subscribers in the United States over its PlayStation 3 platform who have access to 2,400 movies on demand and over 15,000 TV episodes, and who

download over 25 petabytes of programming annually.[55] Last year, 17 million Xbox 360 owners, who enjoy similar features, spent $1 billion on subscription fees.[56] Video is streaming to wireless handsets and iPODs, as well as TiVo, Roku, and Apple TV boxes. Likewise, Kindles, Readers, and Nooks are being sold with connectivity included. If at any time the government had called time out in favor of network-agnostic "universal" devices, these innovations in networks, services, companion devices, and their evolving combinations may never have come to fruition.

The *Notice* asks, "[i]s there a solution that would allow MVPDs to continue innovating without making navigation devices obsolete when MVPDs adopt incompatible delivery methods?"[57] The fact that older devices may sometimes not be prepared for the results of innovation is not new to consumers, the Commission, or the CE industry. Only a few months ago, CEA President Gary Shapiro said of the DTV transition: "Think about it: you buy a television 15 years ago. Why do you have the constitutional right that it'll last forever? Any other product you use you know that it's likely to break down, service will be stopped. That's just the risk you take. Hell, I signed up for ClearPass to get through airports three months ago and a month after I signed up it went out of business. I wasn't thrilled, but that's the risk you take."[58] Regulations that attempt to mandate future-proofing of old devices are more likely to undermine innovation than enable old devices to keep up with it. In adopting its initial navigation device rules, the Commission observed that any regulation in this area "is perilous because regulations have the potential to stifle growth, innovation, and technical developments at

[55] John Koller, Director, Marketing, Playstation Platforms, Sony Computer Entertainment America on December 15, 2009 at Digital Living Room Conference, Santa Clara, CA.

[56] Xbox Press Release, Jan 7, 2009: http://www.xbox.com/en-US/press/2009/0107-biggestyear.htm

[57] *Notice* at Question D.2.

[58] Erica Ogg, *Reflecting on the DTV Transition*, CNET NEWS (Aug. 4, 2009), available at http://news.cnet.com/8301-1001_3-10303225-92.html.

a time when consumer demands, business plans, and technologies remain unknown, unformed or incomplete. Our objective thus is to ensure that the goals of Section 629 are met without fixing into law the current state of technology."[59]

Switched digital is an object lesson in the hazards of holding networks hostage to deployed devices. Initially, the Commission's Enforcement Bureau took the position that the cable industry could not recover spectrum by switching digital channels because some CE manufacturers had deployed one-way receivers without the ability to receive two-way switched channels.[60] The Commission later reversed course, praised the consumer benefits of switched digital, and recognized that innovation in networks must not be held hostage by the limitations of deployed devices.[61] But a year was lost for switched digital technology, spectrum recovery, and new services – a lesson for caution in considering standards that could constrain innovation.

Today's market may look like a jumble of navigation devices, but innovation at its best is dynamic, competitive and disruptive.[62] These competing technologies and platforms are

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[59] *First Report and Order* at ¶¶ 15-16.

[60] *See Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Oahu Central Cable System*, Notice of Apparent Liability for Forfeiture, 23 FCC Rcd 14981 (Enf. Bur. 2008); *Oceanic Time Warner Cable, a division of Time Warner Cable, Inc., Oceanic Kauai Cable System*, Notice of Apparent Liability for Forfeiture, 23 FCC Rcd 14962 (Enf. Bur. 2008); *Cox Communications, Inc., Fairfax County, Virginia Cable System*, Notice of Apparent Liability for Forfeiture, 23 FCC Rcd 14944 (Enf. Bur. 2008); *Oceanic Time Warner Cable, a subsidiary of Time Warner Cable, Inc.*, Notice of Apparent Liability for Forfeiture, 23 FCC Rcd 12804 (Enf. Bur. 2008).

[61] *See Oceanic Time Warner Cable, a Subsidiary of Time Warner Cable, Inc.*, FCC 09-52, 48 CR 161(June 26, 2009). The Commission has said that "[i]t is not our intent to force cable operators to develop and deploy new products and services in tandem with consumer electronics manufacturers. Cable operators are free to innovate and introduce new products and services without regard to whether consumer electronics manufacturers are positioned to deploy substantially similar products and services." *Commercial Availability of Navigation Devices, Second Report and Order*, FCC 05-76, 20 FCC Rcd 6794, 6809 ¶ 30 (2005).

[62] As Mr. Shapiro of CEA explained recently, allowing technologies to emerge and to fail is part of an economic process that gives consumers better, faster and less expensive technology choices, that forces market players to adapt to the changing demands, and that creates new jobs. "In the technology industry, failure has been a powerful force for advancement. Technologies are displaced as newer, better ones emerge to meet the changing needs of consumers and our society. The VCR gave way to DVD players, which in turn have been challenged by Blu-ray devices and Internet streaming. The beneficiaries of these failures are consumers and by extension, the economy itself…. For the technology industry, creative destruction forces even the most established players to adapt to the changing demands of the market or risk fading away. The American economy and consumers have historically benefited from this perennial cycle of improvement. Innovations get better, faster and less expensive for consumers. Meanwhile, more jobs are created to make room for new opportunities and evolving consumer demand.") *See* Gary

dynamic, and worthy of careful study before any proposals are entertained for homogenization or network agnosticism.

F. Respect Legal Bounds

Caution and a thorough Inquiry are warranted not only to base proposals on facts, but to conform to applicable law. Section 629 did not invite the Commission to remake the MVPD, television or equipment marketplaces. Section 629 seeks the "availability" of navigation devices from vendors other than MVPDs. However, without an assurance that CE manufacturers will build, retailers will stock, or that consumers will buy a certain number of cable- or MVPD-ready devices, no such market will form.

Congress warned the Commission that in implementing the law, the Commission must "avoid actions which could have the effect of freezing or chilling the development of new technologies and services."[63] Congress also narrowed the Commission's prior technical authority to the minimum, leaving all features, functions, protocols, and other product and service options for selection through open competition in the market.[64] And it made clear that

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Shapiro, *Here's How To Deepen the Recession*: CBS NEWS (July 23, 2009), available at http://www.cbsnews.com/stories/2009/07/22/opinion/main5180932.shtml. As Mr. Shapiro added in a more recent interview, "we have a position that we believe in the free market and we don't think we should be asking government for special favors for our industry." Erica Ogg, *Reflecting on the DTV Transition*, CNET NEWS (Aug. 4, 2009), available at http://news.cnet.com/8301-1001_3-10303225-92.html.

[63] H.R. Rep. No. 104-458, at 181 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 124, 194.

[64] In 1992 Congress sought to address incompatibilities between premium functions and features of television receivers and video cassette recorders ("VCRs") and cable scrambling, encoding, and encryption technologies, by directing the Commission to report on "means of assuring compatibility between televisions and [VCRs] and cable systems...;" and to establish technical requirements for "cable-compatible" or "cable-ready" retail converter boxes and remote controls. 47 U.S.C. § 544A(a)(1). The Commission was in the process of establishing overreaching technical standards when Congress stepped back in 1996 and expressly retracted the Commission's technical authority and sought balance. 142 Cong. Rec. H1145, H1160 (daily ed. Feb. 1, 1996) ("Section 301(f) modifies the FCC's authority in order to reign in the Commission's ongoing rulemaking on cable equipment compatibility"). It stated that Congress' compatibility goals could be achieved through much narrower technical standards that leave features, functions and protocols to be determined through the open market: "[C]ompatibility among televisions, video cassette recorders, and cable systems can be assured with *narrow technical standards* that mandate a *minimum degree of common design and operation*, leaving *all features, functions protocols*, and other product and service options for *selection through open competition in the market.* Telecommunications Act of 1996, § 301(f)(1), codified at 47 U.S.C. § 644A(a)(4) (emphasis added).

Section 629 was intended to allow equipment to receive MVPD services, not to receive some supplemental or derivative service that a CE manufacturer may wish its product to provide.[65]

The *Notice* also raises a host of copyright and patent issues, such as how a disaggregation model could comport with Copyright Act and treaty obligations to protect compilation and other copyrights, and how parts of service – such as video-on-demand and electronic programming guides – can be altered without running afoul of the hundreds of patents (e.g., SeaChange, Gemstar) around which current implementations have been developed. These are complex issues that were raised in some detail in prior rulemaking comments, but have never been answered.[66] Other constraints, such as the statutory prohibition on treating cable as a common carrier, and First, Fifth and Fourteenth Amendment limitations on the Commission, all serve to further define and limit the Commission's authority.[67]

G. Continue to Entertain Appropriate Waivers

In concert with this Inquiry, the Commission should be following parallel paths to promote competition, innovation, and other pro-consumer benefits while it develops and considers the record in a new Notice of Inquiry. One critical path is to continue acting on requests for waiver of the current navigation device requirements. Waivers granted to promote the widespread availability of low-cost digital-to-analog converter boxes (DTAs) with integrated

[65] *See Gemstar Int'l Group, Ltd*., Memorandum Opinion and Order, 16 FCC Rcd 21531, 21542, ¶ 31 (2001).

[66] *See* CS Docket No. 97-80, Comments of the National Cable & Telecommunications Association (Aug. 24, 2007) at 43.

[67] *See* 47 U.S.C. § 541(h) ("Any cable system shall not be subject to regulation as a common carrier or utility by reason of providing any cable service."). The Supreme Court has long recognized that a cable operator's choice and arrangement of programming and services is protected editorial expression. *See Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622, 636 (1994) ("Cable programmers and cable operators engage in and transmit speech, and they are entitled to the protection of the speech and press provisions of the First Amendment"). *Hurley v. Irish-American Gay, Lesbian and Bisexual Group of Boston*, 515 U.S. 557, 570 (1995) (likening cable channel lineup newspaper's opinion page and advertising selections).

security, for example, have helped the cable industry carry out its own digital transition.[68] The cable industry is reclaiming analog bandwidth in order to provide consumers with more high definition and niche programming, faster (DOCSIS 3.0) broadband, and other services. Cable competitors such as DBS providers and telephone companies are all-digital; in order to compete, cable must become all-digital as well. Low-cost DTAs help make cable's digital transition as seamless as possible for consumers – as low-cost converters did for the over-the-air DTV transition. The consumer benefits that result from cable's digital migration should not be put on hold while the Commission considers possible ways to jumpstart the video devices marketplace.

Waiver requests do not undermine Section 629: they are an integral part of the statute, were expressly contemplated by Congress in the statute and by the Commission in its navigation devices rulemaking, and would be compelled by the courts had the Commission not already wisely incorporated them into the fabric of its regulation.[69] We have no doubt that other waivers will be required during the pendency of an Inquiry. It will take time to explore whether and how a retail market for video devices should develop, adopt any necessary technical and regulatory requirements, and bring products to market. In the meantime, the cable industry's need to compete, innovate, and reclaim its analog bandwidth to benefit consumers is immediate.

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[68] The Commission has approved several DTA waivers thus far and consumers have been the beneficiaries since the price tag for simple, one-way DTAs would be dramatically increased – and cable's digital transition dramatically slowed – if operators were required to include a CableCARD slot on each DTA to meet the Commission's separate security mandate. *See Evolution Broadband, LLC's Request for Waiver of Section 76.1204(a)(1) of the Commission's Rules; Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Memorandum Opinion and Order, 24 FCC Rcd. 7890, 7894-95 ¶¶ 11-12 (2009) (citing *Implementation of Section 304 of the Telecommunications Act of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Second Report and Order, 20 FCC Rcd 6794, 6814-15 ¶ 37 (2005).

[69] *See* 47 U.S.C. §549(c) (requiring the Commission to waive a Section 629 regulation within 90 days of filing upon certain showings); *First Report & Order*, 13 FCC Rcd. at 14783 ¶ 22 (in explaining its decision to apply Section 629 rules to all MVPDs, noting that "we believe the waiver process can sufficiently address the concerns of developing MVPDs"); *KCST-TV, Inc. v. FCC*, 699 F.2d 1185, 1191-92 (D.C. Cir. 1983) (vacating FCC denial of waiver request, holding that once the premise of the rule had been shown not to apply, the "logic of applying [the rule] collapses," and it was arbitrary to apply the rule); *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969) ("agency[ ] discretion to proceed in difficult areas through general rules is intimately linked to the … safety valve procedure for consideration of an application for exemption based on special circumstances").

It is therefore critical that, while the Commission develops and considers the record in a new Notice of Inquiry, it continue to evaluate requests for waiver of the current navigation device requirements. For example, the cable industry already has CableCARDs installed in more set-top boxes than the standard that the CE and cable industries mutually agreed would be sufficient "common reliance" in the *Two-Way MOU* for tru2way devices: 20 percent of newly purchased OEM set-top boxes, up to a ceiling of 10 million OEM boxes. A waiver for one cable operator from the requirements to include a CableCARD slot on each operator-supplied set-top box provided it with the room to deploy a new downloadable security technology.[70] It would provide cable operators with greater room to develop and deploy other innovative solutions if, for example, the Commission adopted the common reliance cap threshold that CE manufacturers found to be sufficient in the *Two-Way MOU*, and not require cable operators to place CableCARDs in their own devices above and beyond 20 percent of their newly purchased boxes up to a ceiling of 10 million boxes nationwide.

Given the pace of innovation, other examples where consumers could benefit from waiver of the current rules will continue to arise. Consumer expectations around high-definition make it more questionable whether waivers should be limited to standard-definition set-top boxes. It becomes less and less defensible to include a costly but largely unused 1394 connector on all operator-supplied high-definition boxes. Innovations still unknown will call for waivers if consumers are ever to enjoy their benefits of rapid innovation in a fast-moving, competitive, and dynamic marketplace.

[70] *See Cablevision Systems Corporation's Request for Waiver of* Section *76.1204(a)(1) of the Commission's Rules*, CSR-7078-Z, Memorandum Opinion and Order, 24 FCC Rcd 393 (Jan. 16, 2009).

CONCLUSION

We therefore encourage the Commission, as it gathers data and comment in response to Public Notice #27, to take the next step and launch a Notice of Inquiry into fresh approaches to facilitate the commercial availability of video devices in the retail marketplace, while continuing to accommodate today's MVPD operations and innovation through appropriate waivers.

Respectfully submitted,

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