

BEFORE THE  
Federal Communications Commission  
WASHINGTON, D.C.

In the Matter of	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
Commercial Availability of Navigation Devices	)	
	)	
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	PP Docket No. 00-67
	)	

**REPLY COMMENTS OF COMCAST CORPORATION**

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Comcast Corporation (“Comcast”) hereby files this reply to comments that were filed in response to the Fourth Further Notice of Proposed Rulemaking (“*Notice*”) in the above-captioned proceeding.<sup>1</sup>

**I. INTRODUCTION AND SUMMARY**

The record in this proceeding demonstrates that Comcast and the rest of the cable industry have dedicated substantial resources in support of CableCARD devices. The marketplace for these devices has not developed as the Commission expected, but that cannot be attributed to lack of cable industry effort, contrary to the claims of the Consumer Electronics Association (“CEA”), the Consumer Electronics Retailers Coalition (“CERC”), and certain other commenters. In Comcast’s case, we provided detailed information on all we have done in

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<sup>1</sup> *In re Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, Fourth Further Notice of Proposed Rulemaking, 25 FCC Rcd. 4303 (2010) (“*Notice*”).

support of CableCARD devices, including, among other things, providing CableCARDS to Unidirectional Digital Cable Ready Product (“UDCP”) customers at no additional charge, giving these customers a self-installation option in several markets, and working closely and collaboratively with consumer electronics (“CE”) manufacturers to ensure that CableCARD deployments in our markets go smoothly. Notwithstanding these substantial, good-faith efforts, retail CableCARD devices have not been popular among consumers. CE interests do not explain, nor could they, how adding significant new CableCARD mandates will change that fact, particularly in the absence of any commitments by CEA and CERC actually to build such devices and stock them at retail stores.

Commenters overwhelmingly support approval of the Commission’s proposal to exempt high-definition (“HD”) and other digital transport adapters (“DTAs”) from the integration ban. Comcast and others emphasized the substantial pro-consumer benefits associated with DTAs, which facilitate the reclamation of cable bandwidth for faster Internet speeds, more HD channels, and more ethnic and other niche programming services, and also explained the importance of providing consumers with a low-cost HD DTA option. Public Knowledge’s claim that the proposed exemption will undermine the Commission’s common reliance goals is without merit. The cable industry has deployed over 21 million CableCARD-equipped set-top boxes, so the Commission’s common reliance goal has already been met. Likewise, CEA/CERC’s suggestion that DTA waivers have affected cable operators’ support for CableCARD devices is unfounded and contradicted by the industry’s significant and ongoing expenditures on CableCARDS.

Almost all commenters favor giving cable operators greater flexibility in the interfaces used in operator-supplied HD set-top boxes. IEEE 1394 (“1394”) is a little used technology that has been superseded in the marketplace by Ethernet, MoCA, and other commonly-used IP

interfaces. Comcast and other commenters urged the Commission to let marketplace forces and consumer preferences dictate the types of interfaces and interface functionality that are supported in HD set-top boxes, rather than mandating specific technical solutions. With respect to proposals that the Commission adopt Digital Living Network Alliance (“DLNA”) home-networking guidelines for Ethernet and WiFi, several commenters noted that DLNA work in this area is ongoing and that the Commission should let these voluntary industry efforts continue and defer further consideration of home-networking issues to its companion AllVid proceeding.

Comcast supported, with certain modifications, a number of the Commission’s CableCARD-specific proposals, but urged the Commission to reject expansive new CableCARD requirements, particularly given the limited consumer appeal of retail CableCARD devices and the Commission’s efforts to focus stakeholders on retail solutions that apply across the multichannel video marketplace. A number of CEA/CERC and Public Knowledge proposals fall into this latter category. For example, their proposals for extensive new pricing and billing regulations would exceed the Commission’s rate-making authority under Section 623 and the narrow CableCARD “fixes” contemplated in this proceeding, and further distort competition in the multichannel video marketplace since the proposals would apply to cable operators but not their DBS and telco competitors. With respect to CEA/CERC’s proposal to let retailers handle CableCARD installations, Comcast is prepared to explore this proposal with retailers, but notes that a retail self-installation option raises a host of complex business, technical, and operational issues that cannot be easily addressed via rules.

Lastly, many commenters agree that the Commission should not impose requirements on switched digital video (“SDV”). As the Commission previously concluded, and as several commenters affirm, SDV is helping cable operators reclaim bandwidth for faster Internet, more

HD programming, and other pro-consumer benefits. Commenters also underscore that the Tuning Adapter is a proven, effective, and no-cost way for UDCP customers to access SDV channels. In light of this existing marketplace solution, and given the relatively small number of UDCP customers, the Commission should reject proposals to impose a costly “IP backchannel” requirement on cable operators. Such requirements are unnecessary and would chill cable industry investment in SDV.

**II. CONTRARY TO CE CLAIMS, COMCAST AND OTHER CABLE OPERATORS HAVE WORKED IN GOOD FAITH IN SUPPORT OF CABLECARD DEVICES.**

CEA/CERC assert in their joint comments that “CableCARD-reliant devices have never been given even minimal support” by the cable industry.<sup>2</sup> Likewise, Public Knowledge alleges that “the Commission allowed the cable industry to construct formidable barriers to adoption and use of [CableCARD] technology.”<sup>3</sup> These claims are inaccurate. The record in this proceeding makes abundantly clear that Comcast and the rest of the cable industry have dedicated substantial resources in support of CableCARD devices. The marketplace for these devices has not developed as the Commission expected, but that cannot be attributed to lack of cable industry effort.

Comcast provided detailed information in its comments about all it has done and continues to do in support of CableCARD:<sup>4</sup>

- We generally provide CableCARDS to our subscribers at no additional charge. The one exception to that “no-charge” policy is UDCP customers who require a

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<sup>2</sup> CEA/CERC Comments at 5.

<sup>3</sup> Public Knowledge Comments at 3.

<sup>4</sup> *See* Comcast Comments at 6-10.

second CableCARD in their device, and that second CableCARD is provided at a low monthly charge.<sup>5</sup>

- We give customers with retail devices the option to self-install their CableCARDS in a number of markets. Our experience with these efforts has been positive. TiVo commented on this fact with respect to self-installations in our Bay Area systems.<sup>6</sup>
- We dedicate significant resources to training our customer service representatives, technicians, and others on CableCARD-related matters, and also provide extensive web resources to customers regarding CableCARD devices.
- We work closely and collaboratively with TiVo, Moxi, and other manufacturers of CableCARD devices to ensure that CableCARD deployments in our systems go as smoothly as possible. Where problems do arise, Comcast works immediately to address them.
- We have worked with other cable operators and CE companies to develop and implement tru2way, which enables compatible CE devices to access two-way cable services.<sup>7</sup>

In short, the “parade of horrors” referenced in certain CE and advocacy organizations’ comments do not reflect the situation on the ground in Comcast’s cable systems today. We have worked in good faith with TiVo, Moxi, and others to make the customer experience as seamless and as hassle-free as possible, and will continue to take further steps as necessary to improve on that experience.

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<sup>5</sup> See Letter from Neal M. Goldberg, General Counsel, NCTA, to Marlene H. Dortch, Secretary, FCC, CS Dkt. No. 97-80 (June 23, 2010) (“NCTA CableCARD Report”) (reporting that Comcast’s average monthly charge for second CableCARD is \$1.63).

<sup>6</sup> See TiVo at Comments at 6 n.14. As our experiences with both professional installations and self-installations underscore, CableCARDS are “tested and working.” CEA/CERC’s suggestions to the contrary, CEA/CERC Comments at 6, are incorrect. Likewise, there is simply no basis for the new and expanded enforcement processes outlined by CEA/CERC. See *id.* at 8-10. With respect to CEA/CERC’s proposal that states and LFAs be given enforcement authority over CableCARD matters, *id.* at 8, CEA/CERC fail to explain why the Commission is not up to the task of administering the CableCARD rules, how giving states and LFAs enforcement powers would advance the Commission’s CableCARD goals, or how such an approach is even authorized under the Communications Act or consistent with the narrow purpose of the instant rulemaking.

<sup>7</sup> See Comcast Comments at 9; see also NCTA Comments at 5-6.

Notwithstanding these efforts, CableCARD has plainly not fulfilled the goals of Section 629. But that is not the fault of the cable industry. As NCTA and numerous other commenters explained, the reasons for CableCARD's lack of marketplace success may include, among other things, customer preference for devices that support video-on-demand and other interactive services; customer preference for leasing, rather than buying, set-top boxes; and the inability of CableCARD devices to work in DBS and most telco networks, which now collectively serve almost 40% of the marketplace.<sup>8</sup>

Furthermore, CE interests provide no support for their claims that new CableCARD mandates will boost consumer interest in CableCARD devices. CEA/CERC talk about the possibilities of CableCARD-enabled TVs that can also access Internet content,<sup>9</sup> but make no commitments about actually building such devices or stocking them at retail. Consequently, any claim that their proposed "fixes" will bolster the marketplace for CableCARD devices are speculative and contrary to marketplace evidence, as CE manufacturers and retailers largely abandoned CableCARD devices several years ago.

### **III. COMMENTERS OVERWHELMINGLY SUPPORT APPROVAL OF THE PROPOSED DTA EXEMPTION.**

Commenters overwhelmingly support the Commission's proposal to exempt DTAs from the integration ban. This includes small and large cable operators,<sup>10</sup> equipment vendors,<sup>11</sup>

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<sup>8</sup> See NCTA Comments at 4-5; Comcast Comments at 10-11; TWC Comments at 4-5; Motorola Comments at 5.

<sup>9</sup> See CEA/CERC Comments at 3-4.

<sup>10</sup> See Charter Comments at 7-9; Cox Comments at 12-13; Sweetwater Cable Comments at 3; TWC Comments at 16-17.

<sup>11</sup> See Motorola Comments at 14-17; Nagravision Comments at 2-3; Evolution Digital Comments at 1-2.

Panasonic and the Telecommunications Industry Association,<sup>12</sup> and various other commenters.<sup>13</sup> Many underscore the substantial public interest benefits associated with giving consumers a low-cost equipment option to access HD programming and thereby enabling the rapid digitization of cable networks.<sup>14</sup> Commenters also emphasize how the DTA exemption would advance the Commission's broadband and program diversity goals by helping to free up more cable bandwidth for faster Internet, more HD channels, and more ethnic and other niche programming services.<sup>15</sup>

Public Knowledge opposes the proposed exemption on the grounds that it will undermine the Commission's common reliance goals.<sup>16</sup> These concerns are unfounded. The cable industry

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<sup>12</sup> See Panasonic Comments at 8; TIA Comments at 4-5.

<sup>13</sup> See John Staurulakis, Inc. Comments at 7.

<sup>14</sup> See, e.g., ACA Comments at 3-4 (explaining that HD DTAs are less expensive than CableCARD-compliant set-top boxes, and these cost savings are ultimately passed on to consumers); Cable One Comments at 7 (noting that the proposed revision would allow more efficient use of system capacity, provide a low-cost option for viewing HD programming, and fuel additional HDTV sales); NCTA Comments at 8 ("Consumers would benefit enormously if this proposed DTA relief were granted for all MVPDs. Low-cost DTAs are a vital tool for all cable systems and cable customers."); Motorola Comments at 14 ("DTAs are substantially cheaper than CableCARD-enabled devices . . . and can thereby facilitate the rapid reclamation of analog bandwidth for faster Internet, more HD channels, more Spanish language and other diverse programming . . ."); TWC Comments at 16 (noting that DTAs provide a "low-cost means of accessing digital content" and that HD DTAs allow access to one-way HD content "without any need to rely on more expensive alternatives"); U.S. Chamber of Commerce Comments at 3 (explaining that by using low-cost DTAs to reclaim bandwidth, operators can offer faster Internet, more HD channels, and other digital services); Cisco Comments at 21-22 (detailing the many benefits DTAs have for operators and ultimately for consumers); TIA Comments at 5 (noting that a broad DTA exemption will "result in more cost-effective access to advanced services through the availability of less expensive converter boxes, while promoting more effective use of the network").

<sup>15</sup> See, e.g., Cable One Comments at 1, 6-7 (noting HD DTAs would serve the public interest by promoting the Commission's objectives in the National Broadband Plan and the digital TV transition); NCTA Comments at 8 (explaining that exempting all DTAs will allow cable operators to repurpose spectrum -- "a prerequisite to delivering on the National Broadband Plan's goal of 100 Mbps broadband service"); Motorola Comments at 14 (noting that DTAs provide a "critical tool in the digitization of cable systems and advancement of the Commission's broadband goals"); U.S. Chamber of Commerce Comments at 3 (explaining that a broad exemption for DTAs is consistent with the goals of the National Broadband Plan as it conserves bandwidth, facilitating higher broadband speeds and other consumer benefits).

<sup>16</sup> Public Knowledge Comments at 20-22.

has deployed over 21 million CableCARD-enabled set-top boxes,<sup>17</sup> so the Commission's common reliance goals have already been achieved.<sup>18</sup> Public Knowledge ignores this fact. Moreover, the claimed benefit of Public Knowledge's approach -- that scale economies would make CableCARD devices cost competitive with a DTA<sup>19</sup> -- do not withstand scrutiny. CableCARDS add significantly to the cost of a set-top box.<sup>20</sup> In Comcast's experience, the lowest-end CableCARD-equipped SD set-top box costs at least three times as much as an SD DTA, and the cost differential for HD-enabled devices would be even greater. Comcast can generally provide DTAs to customers at no additional charge.<sup>21</sup> It could not take a similar approach with a CableCARD-equipped device.

There also is no support for CEA/CERC's claim that waivers have "contributed to operators' continued poor support for CableCARD-reliant devices."<sup>22</sup> As Comcast noted in its initial comments, it has strong incentive to ensure that all of its customers have a positive

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<sup>17</sup> See NCTA CableCARD Report at 1 (reporting that the ten largest cable operators have deployed over 21 million CableCARD-equipped set-top boxes).

<sup>18</sup> See Comcast Comments at 3, 15; see also NCTA Comments at 48 ("[C]able operators have already deployed enough CableCARD devices to assure any purpose that could realistically be achieved by the integration ban.").

<sup>19</sup> See Public Knowledge Comments at 21.

<sup>20</sup> See Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, FCC, CS Dkt. No. 97-80, CSR-7902-Z, at 2-3 (Dec. 22, 2009) (noting that IPCO's planned one-way SD box would likely cost three times as much as an SD DTA); see also Letter from Neal M. Goldberg, NCTA, to Marlene H. Dortch, FCC, CS Dkt. No. 97-80, GN Dkt. Nos. 09-51, 09-47, 09-137, at 2 (Apr. 14, 2010) (same).

<sup>21</sup> See Comcast Comments at 3, 13 & n.26 (noting that, in markets where Comcast is digitizing the expanded basic tier of service, expanded basic customers get two DTAs at no additional charge).

<sup>22</sup> CEA/CERC Comments at 9.

experience, or risk losing them to competitors.<sup>23</sup> That helps explain the substantial resources that we have dedicated -- and continue to dedicate -- in support of our UDCP customers. There is likewise no merit to CEA/CERC's proposal that the Commission should refuse further waivers until the cable industry complies with navigation device rules.<sup>24</sup> Comcast *does* comply with the rules, at considerable expense to its customers and itself. CEA/CERC's proposals would simply have the effect of imposing yet more CableCARD-related costs on our customers, without *any* countervailing benefits.<sup>25</sup>

Panasonic supports the Commission's proposed exemption for DTAs, but asks that the Commission require cable operators to adopt a standardized DTA solution for retail devices and commonly rely on that solution by July 1, 2011.<sup>26</sup> Comcast is willing to work with Panasonic and the rest of cable industry on a DTA solution for retail, but does not support any new "common reliance" mandate in this area. Some cable operators like Comcast have elected to use

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<sup>23</sup> See Comcast Comments at 5-6 ("Ensuring customer satisfaction is essential to success in today's robustly competitive [MVPD] marketplace, and this business imperative applies whether our customers lease equipment or bring their own."); NCTA Comments at 6 (noting cable operators have "a strong incentive to assure that their customers who do choose retail devices are satisfied with the provision, installation, and support of CableCARDS in retail devices. Many of these customers purchase broadband and telephone service, and of course all of them purchase video services from the cable operator"); TWC Comments at 5 ("TWC has every reason to ensure that all of its subscribers . . . are satisfied with their service experience, and any departure from that commitment risks severing the customer relationship entirely."); Cox Comments at 14-15 ("Keeping customers satisfied . . . protects Cox's ability to compete on the basis of customer service . . . . Cox does not have the luxury or the desire to abandon consumers that have made an investment in retail devices equipped with CableCARDS.").

<sup>24</sup> See CEA/CERC Comments at 8-10.

<sup>25</sup> As several commenters note, the costs associated with the integration ban may now exceed \$1 billion. See, e.g., NCTA Comments at 48; Motorola Comments at 5. Moreover, the ban has adverse impacts on cable innovation, requiring Comcast and other cable operators to divert significant engineering and other resources to developing CableCARD devices, rather than products and services that would provide actual benefits to our customers. In contrast, our DBS competitors and AT&T face no similar constraints on their ability to innovate. See NCTA Comments at 51.

<sup>26</sup> See Panasonic Comments at 8.

DTAs for their digitization efforts, while others are relying primarily on switched digital video (“SDV”) or network buildouts. Mandating that the entire industry support DTAs -- whether a particular operator wants to use DTAs or not -- does not make sense in this environment. Moreover, the CE industry is focusing its retail efforts on devices with more advanced functionalities.<sup>27</sup> There is no indication that CE companies would actually build DTA-enabled devices for retail or that retailers would stock such devices.

Lastly, CEA/CERC assert that “operators have demonstrated that DTAs can, in fact, support interactive services such as VOD through an Internet link to the operator . . . in an apparent attempt to extend the ‘DTA’ waiver to interactive devices.”<sup>28</sup> As an initial matter, DTAs cannot function as interactive devices. In contrast to conventional digital set-top boxes, which can communicate back-and-forth with the cable headend over the cable plant, DTAs have no return path capability, and have no way to directly access VOD content or other two-way services. Also, in contrast to UDCPs in the marketplace today, DTAs have no Internet connectivity.

With respect to the Xfinity remote control application demonstrated at the Cable Show, this service is being developed for our two-way digital set-top boxes, not for DTAs. That being said, it may be technically possible to develop a similar solution for DTAs. DTAs have the ability to receive instructions from the network to “force tune” to a particular channel -- for example, this is how EAS alerts are implemented in the DTA -- and such capability could

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<sup>27</sup> As Comcast noted, approval of the Commission’s proposed exemption would have no effect on the retail marketplace for navigation devices since UDCPs sold at retail today have significantly more functionality than DTAs. *See* Comcast Comments at 15 (describing advanced features of TiVo and Moxi DVRs).

<sup>28</sup> CEA/CERC Comments at 9.

theoretically be extended to other services. In the case of the Xfinity application, this would require significant new standardization and development work.

But even assuming that the Xfinity remote control application could be developed for the DTA, that would *not* make the DTA an interactive device. As noted, the DTA has no return path, and any customer requests for VOD content would have to be delivered to the headend via a separate device (*e.g.*, an iPad) plus a separate Internet connection. This would be analogous to the old one-way converter boxes that could receive pay-per-view content if the customer placed an order for the content via a phone call to the cable operator. It cannot be credibly argued that this made the converters “two-way.”<sup>29</sup>

#### **IV. COMMENTERS STRONGLY SUPPORT GIVING OPERATORS MORE FLEXIBILITY WITH RESPECT TO HD STB INTERFACES.**

Almost all commenters favor giving cable operators more flexibility in the interfaces used in operator-supplied HD set-top boxes.<sup>30</sup> As the Media Bureau concluded in recently

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<sup>29</sup> Beyond Broadband Technology (“BBT”) states in a recent *ex parte* letter in this proceeding that it opposes the proposed DTA exemption even while it supports elimination of the integration ban. *See* Letter from Steve Effros, BBT, to Marlene H. Dortch, Secretary, FCC, CS Dkt. No. 97-80, PP Dkt. No. 00-67, at 1-2 (June 23, 2010). BBT claims that “even ‘one-way’ boxes can directly or indirectly do essentially everything a two-way device can do” and then cites by way of example to program guide and recording capabilities. *See id.* at 1. It is incorrect to suggest that DTAs are functionally equivalent to two-way digital set-top boxes. DTAs are simple, low-cost devices whose primary purpose is to deliver one-way programming services to customers. They do *not* have built-in DVR capability, return path capability for VOD and other interactive services, broadband access capability, or multiple tuners. With respect to the specific functionalities referenced in the BBT filing, DTAs can output content to recording devices, such as a VCR or DVR, but do *not* have the ability to communicate on a bi-directional basis with “whole-home” DVRs or other devices in the home. Likewise, while not supported today, DTAs have the ability to provide program information delivered on a one-way basis from the cable headend, similar to the one-way guide capabilities in over-the-air digital converter boxes. *See* NTIA, *Rules to Implement and Administer a Coupon Program for Digital-to-Analog Converter Boxes*, 72 FR 12097 ¶ 76 (2007) (program information display functionality for coupon-eligible converter boxes). However, DTAs *cannot* support program guides and guide applications that require two-way communication.

<sup>30</sup> *See, e.g.*, BBT Comments at 13-14; Cable One Comments at 11-12; CEA/CERC Comments at 20-21; Cisco Comments at 18-19; EchoStar Comments at 4; Intel Comments at 7; MPAA Comments at 5; Motorola Comments at 11; NCTA Comments at 30-33; OPASTCO *et al.* Comments at 5-6; TIA Comments at 2-3; TWC Comments at 17-18; TiVo Comments at 19; U.S. Chamber of Commerce Comments at 22; Verizon Comments at 7-9.

granting a broad interim waiver of the 1394 requirement, “IP has overwhelming marketplace support.”<sup>31</sup> In contrast, 1394 remains a little-used technology that adds unnecessary costs to HD boxes.<sup>32</sup> With respect to the Commission’s interface proposal, several commenters urge that the Commission let marketplace forces and consumer preferences dictate the types of interfaces that are used on operator-supplied boxes, rather than mandating specific output technologies.<sup>33</sup> Comcast supports that approach.<sup>34</sup>

In its *Intel Waiver Order*, the Bureau declined to pick and choose among particular physical connectors, but rather allowed for the deployment of HD boxes that include any IP-based interface that can output video in a format that third-party devices can receive.<sup>35</sup> The Bureau predicted that “consumers will adopt the [interface] method that they prefer for networking their devices”<sup>36</sup> and further expressed its confidence that the Commission will take

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<sup>31</sup> *In re Intel Corporation et al. Requests for Waiver of Section 76.640(b)(4)(ii) of the Commission’s Rules*, Memorandum Opinion and Order, DA 10-1094, ¶ 9 (rel. June 18, 2010) (“*Intel Waiver Order*”).

<sup>32</sup> Comcast Comments at 28.

<sup>33</sup> *See, e.g.*, MPAA Comments at 5 (arguing that the Commission should remove the 1394 requirement and allow operators to choose the most appropriate network interfaces based on consumer demand); Motorola Comments at 12 (arguing the Commission should avoid mandating particular technologies given the rapid pace of innovation); NCTA Comments at 30 (“Even in the absence of any rule, cable operators would continue to support and offer interfaces in their leased devices that their customers want.”); TWC Comments at 18 (explaining that flexibility will better serve Section 629’s goals than prescribing specific technical requirements); U.S. Chamber of Commerce Comments at 4-5 (“The Chamber urges the Commission to give operators maximum flexibility on outputs. . .”); OPASTCO Comments at 5-6 (arguing that interface requirements should be as flexible as possible); TIA Comments at 3 (arguing in favor of flexibility and asking the FCC not to limit manufacturers to the four options listed in the *Notice*).

<sup>34</sup> *See* Comcast Comments at 28-29.

<sup>35</sup> *See Intel Waiver Order* ¶ 9.

<sup>36</sup> *Id.*

“marketplace and technological factors into account” in considering the interface issue in this rulemaking.<sup>37</sup>

We believe that eliminating the 1394 requirement would be consistent with this consumer-driven approach. After all, “IP communications over Ethernet and Wi-Fi has achieved overwhelming marketplace acceptance for home networking of media devices,”<sup>38</sup> and has done so in the absence of any government mandate and notwithstanding the regulatory preference accorded 1394.<sup>39</sup> In the alternative, if the Commission elects to retain, rather than eliminate, an interface requirement, the Commission should make the list of approved technologies as expansive as possible. For example, as numerous commenters propose, the Commission should add MoCA to the list given the growing use of that technology in the marketplace,<sup>40</sup> and also give operators the added flexibility to use other interfaces that enable distribution of video programming in the customer’s home.<sup>41</sup>

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<sup>37</sup> *Id.* ¶ 12.

<sup>38</sup> *Id.* ¶ 7.

<sup>39</sup> BBT underscores the risks associated with selecting particular technologies. The Commission has proposed including USB 3.0 on the list of interfaces. *See Notice* ¶ 20. However, BBT notes that USB 2.0, rather than USB 3.0, is commonly used in the marketplace today, and should be allowed under any changes to the interface rules. *See BBT Comments* at 13-14.

<sup>40</sup> *See Comcast Comments* at 29; *Motorola Comments* at 9-10; *MoCA Comments* at 6.

<sup>41</sup> *See Comcast Comments* at 28-30; *NCTA Comments* at 29-30; *MoCA Comments* at 7. Texas Instruments and the 1394 Trade Association are the lone commenters who urge the Commission to keep the 1394 Rule in place. *See 1394 Trade Association Comments* at 2; *Texas Instruments Comments* at 1. Texas Instruments argues that 1394’s market failure is entirely due to the cable industry’s alleged “refusal” to “fully enable the existing features” of 1394. *Texas Instruments Comments* at 1. This argument has no merit. Set-top boxes used on Comcast’s cable systems fully support the features referenced in the 1394 requirement. *See Comcast Comments* at 28. Moreover, virtually no home entertainment products utilize 1394, so it defies common sense to think that mandating still more 1394-related requirements will have any impact on 1394 adoption or use. Rather, such mandates would just add more unnecessary costs for consumers, operators, and equipment manufacturers.

Commenters also urge the Commission to avoid mandates around interface functionality.<sup>42</sup> Consumer preferences and marketplace demand are already achieving the Commission's objectives relating to home networks. As Motorola notes, cable operators are developing or implementing home-networking solutions today, and have "every incentive that their set-top boxes communicate with networked devices using MPEG, IP, or whatever standard video formats may develop in the future."<sup>43</sup> Certain commenters suggest that the Commission should approve the DLNA specifications for IP communications and content formats.<sup>44</sup> However, while DLNA has made progress in defining functions over Ethernet and Wi-Fi connections to enable DLNA-compatible devices to receive MVPD content, more work still needs to be done.<sup>45</sup> The Commission should let these voluntary industry efforts continue, and defer further consideration of this issue to the *AllVid NOI*, where all stakeholders -- including telcos and DBS providers -- will be involved.<sup>46</sup>

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<sup>42</sup> See, e.g., Motorola Comments at 10 ("[T]he Commission should refrain from imposing functional requirements on box interfaces. The poor experience with the 1394 Rule amply illustrates the point. . . . [T]hese technical requirements have had no apparent impact on consumer interest in, or use of, the 1394 port itself."); NCTA Comments at 30; Verizon Comments at 7-9.

<sup>43</sup> Motorola Comments at 11; see also NCTA Comments at 32 ("The cable industry is committed to providing video content to consumers where and when they want it, on all possible consumer devices, and for those devices to be innovative platforms for new applications.").

<sup>44</sup> See, e.g., Panasonic Comments at 7; Intel Comments at 5-6; CEA/CERC Comments at 22-23.

<sup>45</sup> See Comcast Comments at 30; NCTA Comments at 34 ("NCTA cannot predict when such DLNA Guidelines will be finalized and implemented.").

<sup>46</sup> See NCTA Comments at 33 ("[B]i-directional home networking issues are best left to the *NOI* where they can be considered on an all-MVPD basis.").

**V. COMMENTERS UNDERSCORE THAT THE COMMISSION SHOULD AVOID ONEROUS NEW CABLECARD-SPECIFIC REQUIREMENTS.**

Comcast indicated in its initial comments that some of the CableCARD-specific proposals in the *Notice* could, with certain modifications, provide benefits to CableCARD customers.<sup>47</sup> However, given the very limited consumer appeal of CableCARDs and the Commission’s efforts to focus stakeholders on retail solutions that apply across the multichannel video marketplace, Comcast also urged the Commission to refrain from imposing costly new CableCARD mandates.<sup>48</sup> A number of the CableCARD-specific proposals made by CEA/CERC and certain other commenters fall into this latter category, and should be rejected.

**A. Self-Installations**

As noted, Comcast already permits self-installations in certain markets,<sup>49</sup> and expressed its willingness to extend that option to other markets where customers can self-install leased equipment, provided that CE manufacturers also provide adequate customer support for self-installations.<sup>50</sup> ARRIS is one CE manufacturer that does exactly that. ARRIS notes the extensive efforts it takes to educate Moxi customers about self-installing CableCARDs, and concludes that with these types of efforts, self-installations “can be an effective option for UDCP

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<sup>47</sup> See Comcast Comments at 2.

<sup>48</sup> See *id.*; see also NCTA Comments at 20 (“NCTA could support the proposed rule if, in addition to being applicable only when a cable operator itself offers self-installation for leased set-top boxes, it is limited to requiring a self-installation option for devices for which the manufacturer provides (1) detailed installation instructions, a troubleshooting guide and its toll-free telephone number within the packaging of the device and on its website, and (2) a ready means for customers to access the CE firmware and software updates (such as an automatic process over an Internet connection).”).

<sup>49</sup> Consequently, the suggestion in Public Knowledge’s comment that Comcast requires professional installations of CableCARDs in every market, see Public Knowledge Comments at 14, is inaccurate.

<sup>50</sup> See Comcast Comments at 21-23.

customers.”<sup>51</sup> TiVo provides similar support to its UDCP customers. Comcast also asked that, if the Commission adopts rules in this area, operators be given a reasonable amount of time to plan and implement a self-installation option for retail customers.<sup>52</sup> Charter suggests that operators be given at least four months to phase in a self-installation option.<sup>53</sup> Comcast believes that at least six months would be necessary to make all of the necessary operational, billing, and other preparations for a self-installation option across our footprint.

CEA/CERC propose that cable operators be required to supply CableCARDS to retailers that sell CableCARD devices, so that retailers can then install the CableCARDS in the store or give customers information about self-installing a CableCARD.<sup>54</sup> Comcast has no objection to exploring this proposal further with retailers, but notes that a retail option would not be as simple as CEA/CERC appear to suggest. For example, some CableCARDS are coded to work on a system-specific basis, so a retail store that draws customers from multiple cable systems would need to ensure that the correct CableCARD is installed in the device. Likewise, retailers would need to take measures to prevent theft or loss of CableCARDS (so that the CableCARDS do not end up being used to pirate cable service)<sup>55</sup> and to the extent that CEA/CERC are proposing that CableCARDS be supplied to retailers on a consignment basis, a mechanism to compensate cable

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<sup>51</sup> ARRIS Comments at 3.

<sup>52</sup> See Comcast Comments at 23.

<sup>53</sup> See Charter Comments at 4-5.

<sup>54</sup> See CEA/CERC Comments at 6-7.

<sup>55</sup> The navigation device statute and the Commission’s implementing rules and orders expressly recognize cable operators’ need to prevent theft of service. See 47 U.S.C. § 549(b); see also 47 C.F.R. §§ 76.1201, 76.1203, 76.1204(d) & 76.1209; *In Re Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Report and Order, 13 FCC Rcd. 14775, ¶¶ 40-43 (1998).

operators for the cost of the lost or stolen CableCARDS. Furthermore, retailers would need to work with the cable operator on establishing processes for managing CableCARD inventory and authenticating and activating CableCARDS in the retail device.

Comcast is not suggesting that these and other complexities could not be addressed through inter-company or inter-industry discussions, but they are not easily dealt with via Commission rules.

## **B. Billing/Pricing**

CEA/CERC and certain other commenters propose extensive new regulations regarding the pricing and billing for CableCARDS and other cable equipment.<sup>56</sup> As Comcast and other commenters noted, Section 623 limits the scope of the Commission's authority in this area to rate-regulated cable systems, and further mandates that the Commission permit cable operators to use equipment averaging.<sup>57</sup> The proposals by CEA/CERC and others would plainly exceed the Commission's authority, and are well beyond the narrow CableCARD "fixes" contemplated in this rulemaking.<sup>58</sup> They also would raise significant competitive concerns since our DBS and telco competitors are not subject to rate regulation.

In any event, with respect to the pricing proposals raised by these commenters, Comcast notes that its pricing policies are non-discriminatory as between customers who lease or buy

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<sup>56</sup> See CEA/CERC Comments at 10-12; Public Knowledge Comments at 10-12; TiVo Comments at 16-18.

<sup>57</sup> See Comcast Comments at 25-26; *see also* NCTA Comments at 18-19; Charter Comments at 2-3; Verizon Comments at 6-7.

<sup>58</sup> See NCTA Comments at 18 ("While Section 629 provides the Commission with some authority with respect to navigation devices, that authority is not unbounded particularly with respect to charges for operator equipment. Since at least the 1984 Cable Act, Congress has been explicit in limiting the Commission's rate regulation authority to the terms of Section 623."); *see also* 47 U.S.C. § 549(f) (stating that nothing in Section 629 shall be construed as expanding the Commission's prior authority).

equipment. Comcast provides CableCARDS to our customers at no additional charge, whether the customer owns a UDCP or leases a set-top box.<sup>59</sup> The one exception is UDCP customers with legacy devices that require two CableCARDS. In such cases, the second CableCARD is provided at a low monthly charge, and the CableCARD charge is separately stated on the customer's bill.<sup>60</sup> In addition, with the exception of the second CableCARD charge, we do not apply any monthly recurring charge on a CableCARD device that we do not also apply to a leased device.

With respect to our monthly bills, we have invested substantial resources in making billing statements clear, brief, and easy-to-understand.<sup>61</sup> We welcome further suggestions on how the statements can be improved, but urge the Commission to reject proposals that would have the effect of confusing customers or overwhelming customers with information they neither want nor need. Public Knowledge's proposals provide a case-in-point. Among other things, Public Knowledge proposes that cable operators must inform customers on their monthly bills that they can buy equipment at retail.<sup>62</sup> Comcast believes that such a requirement would likely confuse customers since there are so few CableCARD-enabled devices sold at retail. More generally, Comcast urges that operators should have flexibility in how they communicate pricing information to customers. The robust marketplace for multichannel video and other services

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<sup>59</sup> See Comcast Comments at 8.

<sup>60</sup> See *id.*; see also *id.* at 25 (noting that Comcast includes CableCARD pricing information on its website and in its annual rate card).

<sup>61</sup> See Comcast Comments, CG Dkt. No. 09-158, CC Dkt. No. 98-170, WC Dkt. No. 04-36, at 12-15 (Oct. 13, 2009). We note that the Commission has launched a separate proceeding to consider consumer and information and disclosure issues across the communications marketplace. See *In re Consumer Information and Disclosure; Truth-in-Billing and Billing Format; IP-Enabled Services*, Notice of Inquiry, 24 FCC Rcd. 11380 (2009).

<sup>62</sup> See Public Knowledge Comments at 12.

demands that Comcast provide our customers with timely, accurate, and complete information, and we provide pricing information via monthly bills, annual notices, our website, and other methods. We believe our current disclosure practices are pro-consumer.

**VI. NUMEROUS COMMENTERS AGREE THAT THE COMMISSION SHOULD NOT IMPOSE SDV-RELATED REQUIREMENTS.**

As Comcast explained in its comments, cable operators' use of SDV leads to numerous pro-consumer benefits.<sup>63</sup> Many commenters agree that SDV deployments have been instrumental in allowing operators to reclaim bandwidth to launch more HD channels, deploy faster broadband speeds, add more niche and ethnic channels to their cable systems, and provide other advanced services that consumers demand.<sup>64</sup> Cox notes that SDV "provides a cost-effective alternative to expanding system capacity . . . without the disruption to consumers and communities associated with digging up streets."<sup>65</sup> Cox further explains that the benefits of SDV are "readily apparent" on its systems, with capacity gains resulting in additional channels and increased broadband speeds.<sup>66</sup> And as NCTA points out, SDV has enabled operators like

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<sup>63</sup> See Comcast Comments at 17.

<sup>64</sup> See, e.g., Cisco Comments at 2 ("SDV is a valuable technique through which cable operators can more efficiently use the bandwidth in their systems, freeing capacity for deployment of additional content and services, including more [HD] services and broadband Internet access."); TWC Comments at 7 ("SDV frees up capacity and thereby provides important benefits to consumers, including increased broadband capabilities and expanded programming offerings."); Motorola Comments at 18 ("SDV is an essential tool for making cable bandwidth available to deliver the next generation of world-class high-speed Internet services to cable consumers, which is a key priority for the Commission."); NCTA Comments at 38-39.

<sup>65</sup> Cox Comments at 5.

<sup>66</sup> See *id.* at 6. In Northern Virginia, for example, Cox was able to add 37 SD channels and 63 HD channels. *Id.*

Cablevision and Time Warner Cable (“TWC”) to launch Internet speeds in excess of 100 Mbps, helping to meet the National Broadband Plan’s goal of 100 Mbps broadband service.<sup>67</sup>

Likewise, many commenters agree that the Tuning Adapter (“TA”) is a proven and effective way for UDCP customers to access SDV channels.<sup>68</sup> For example, ARRIS, the manufacturer of the Moxi DVR, notes that TAs “work in providing Moxi customers with access to SDV channels and give them the experience and functionality they expect from the UDCP.”<sup>69</sup> Cox likewise states that “adapters work well with minimal service disruptions,”<sup>70</sup> and that its customers’ positive experiences with TAs demonstrate their effectiveness.<sup>71</sup> Cisco adds that the TA is “already in place and working, and to the extent that additional issues arise, the parties involved have demonstrated a clear desire and ability to solve such issues.”<sup>72</sup>

CEA/CERC and TiVo nonetheless urge the Commission to mandate the use of an “IP backchannel” to deliver SDV channels to UDCPs. Commenters raise a host of technical and

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<sup>67</sup> See NCTA Comments at 39 (noting that Cablevision used spectrum reclaimed through SDV to launch a 101 Mbps DOCSIS 3.0 service, and Time Warner Cable’s reclaimed spectrum is being used for DOCSIS 3.0 with demonstrated speed of up to 280 Mbps downstream and 80 Mbps upstream).

<sup>68</sup> See, e.g., U.S. Chamber of Commerce Comments at 4 (“The Chamber urges the Commission to take no further action on this issue because there is already a solution in the marketplace.”); see also ARRIS Comments at 4-5; Cisco Comments at 2-3; Cox Comments at 8-9; Motorola Comments at 19-20; NCTA Comments at 39-42; TWC Comments at 6-9.

<sup>69</sup> ARRIS Comments at 4.

<sup>70</sup> See Cox Comments at 8.

<sup>71</sup> See *id.* at 9.

<sup>72</sup> Cisco Comments at 4. Beyond the TA, Panasonic points out that tru2way devices also can access SDV channels, noting that “tru2way has been thoroughly tested and is now being widely deployed in [cable] systems by key cable operators . . .” Panasonic Comments at 5. Comcast noted in its initial comments that it has deployed tru2way in almost 90% of its cable headends. See Comcast Comments at 9.

other concerns with this proposal,<sup>73</sup> and further underscore that dedicating significant resources toward developing an IP backchannel solution is particularly unwarranted given the limited number of UDCP customers,<sup>74</sup> the substantial investment in TAs,<sup>75</sup> and the Commission's goal of phasing out CableCARD. As ARRIS aptly states in its comments, "[we do] not believe that the Tuning Adapter issue is serious enough to distract from the more important task of developing next-generation gateway solutions from the home. . . . [H]ome gateway solutions hold real promise for consumers and for the Commission's navigation device goals, and industry efforts should be focused there."<sup>76</sup>

CEA/CERC also propose that "any costs of the IP backchannel solution should be borne by the cable operators, as a cost of obtaining additional bandwidth at the expense of subscribers

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<sup>73</sup> See Cisco Comments at 5-8 (detailing technical issues associated with developing a standardized IP backchannel solution and noting that standardization work could take several years to complete); see also Cox Comments at 10-11 (detailing issues with IP backchannel concept); NCTA Comments at 45 ("TiVo's proposed blanket mandate would not work for every combination of headends, SDV servers, and other components, which vary greatly among cable operators.").

<sup>74</sup> See NCTA at 41 ("One key advantage of the Tuning Adapter is that it is scaled precisely to its purpose: it is deployed primarily to those customers who use TiVo and Moxi DVRs and who wish to receive SDV channels. This is important given that only 31,600 out of 62 million cable customers are using Tuning Adapters in cable systems across the country.").

<sup>75</sup> See TWC Comments at 7 (noting that TWC has devoted substantial resources to the TA initiative, despite the fact that customers with TiVo devices and other compatible UDCPs represent only a small fraction of its subscriber base); see also Cox Comments at 8 (noting that Cox provides TAs for free, thus assuming the cost of ensuring that affected subscribers have access to SDV programming).

<sup>76</sup> See ARRIS Comments at 5; see also NCTA Comments at 46 ("the reengineering of cable networks to accommodate TiVo's latest proposal would require the expenditure of enormous time, effort, and resources at a time when the Commission views CableCARD as a technological dead end and when such resources would be more productively invested in delivering next-generation solutions."); Cisco Comments at 14 ("Implementing the TiVo proposal would only serve to distract the Commission and the cable and [CE] industries from the true goal of the National Broadband Plan video device recommendations: to establish an adequate replacement to the CableCARD regime."); Motorola Comments at 20 (noting that there is no value in "investing more resources in developing an entirely new approach, particularly given the very limited number of UDCP customers in the marketplace today").

who use competitive devices.”<sup>77</sup> This proposal is off the mark. Comcast and other cable operators are using SDV for the *benefit* of the overwhelming majority of their customers. More than 80% of our customers have equipment necessary to access new SDV channels; likewise, customers with TA-compatible UDCPs, who represent about 1% of our customer base, have a “no-cost” way to access those channels. In Comcast’s case, SDV will result in the addition of at least 50 new HD channels and other programming services.<sup>78</sup> This also will *benefit* CEA and CERC members by encouraging the sale of more HD-enabled devices at retail.

Moreover, by CEA/CERC’s logic, any innovation that is incompatible with a UDCP is discriminatory, regardless of its benefits to consumers. That sentiment is plainly contrary to the pro-innovation goals of Section 629 and the Commission’s implementing rules.<sup>79</sup> It also is contrary to CEA’s frequent statements regarding the perils of government-imposed technology mandates.<sup>80</sup>

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<sup>77</sup> CEA/CERC Comments at 18.

<sup>78</sup> *See* Comcast Comments at 18-19.

<sup>79</sup> *See, e.g., In re Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Second Report and Order, 20 FCC Rcd 6794, 6809 ¶ 30 (2005) (“It 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.”).

<sup>80</sup> *See, e.g., Gary Shapiro, Washington’s Fear of Failure Threatens To Foster Bad Economic Policy*, Op. Ed., CBS News, July 23, 2009, at <http://www.cbsnews.com/stories/2009/07/22/opinion/main5180932.shtml> (“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.”); Erica Ogg, *Reflecting on the DTV Transition*, CNET News, Aug. 4, 2009, at [http://news.cnet.com/8301-1001\\_3-10303225-92.html](http://news.cnet.com/8301-1001_3-10303225-92.html) (quoting Gary Shapiro as saying that “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”).

## VII. CONCLUSION

Comcast urges the Commission to adopt the recommendations set forth in these reply comments and Comcast's initial comments in this proceeding.

Respectfully submitted,

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