

Before the

Federal Communications Commission  
Washington, D.C. 20554

In the Matter of	)	
	)	
TiVo Inc.	)	
Petition for Clarification or Waiver of	)	
47 C.F.R. 76.640(b)(4)(iii)	)	MB Docket No. 14-146
	)	
Implementation of Section 304 of the	)	CS Docket No. 97-80
Telecommunications Act of 1996;	)	
Commercial Availability of Navigation	)	
Devices	)	

**MEMORANDUM OPINION AND ORDER**

**Adopted: May 21, 2015**

**Released: May 21, 2015**

By the Chief, Media Bureau:

**I. INTRODUCTION**

1. In this Order, we grant, in part, the request by TiVo Inc. (“TiVo”) for waiver of 47 C.F.R. 76.640(b)(4)(iii) of our rules requiring that set-top boxes provided by cable operators include a recordable, Internet Protocol (“IP”)-based output.<sup>1</sup> We grant this waiver pursuant to Sections 1.3 and 76.7 of the Commission’s rules until June 1, 2017. As discussed below, we decline to waive this rule on an industry-wide basis, as requested by Verizon and the National Cable & Telecommunications Association (“NCTA”).

**II. BACKGROUND**

2. In 2003, the Commission adopted Section 76.640 of its rules. Section 76.640 has two purposes: (1) to “facilitate[e] the direct connection of unidirectional digital cable televisions and products to cable systems nationwide,”<sup>2</sup> and (2) to “set a baseline of connectivity ensuring that cable subscribers are able to fully enjoy the range of services offered by their cable provider in a secure, digital format.”<sup>3</sup> TiVo is seeking a waiver of the home-networking component of Section 76.640, which is related to this second purpose.

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<sup>1</sup> 47 C.F.R. § 76.640(b)(4)(iii) (cable operators shall “ensure that the cable-operator-provided high definition set-top boxes ... shall comply with an open industry standard that provides for audiovisual communications including service discovery, video transport, and remote control command pass-through standards for home networking”).

<sup>2</sup> *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Second Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 20885, 20894, ¶ 17 (2003) (“2003 CableCARD Order”), vacated by *EchoStar Satellite LLC v. FCC*, 704 F.3d 992 (D.C. Cir 2013).

<sup>3</sup> *2003 CableCARD Order*, 18 FCC Rcd at 20897, ¶ 24.

3. The regulation adopted in 2003 required cable operators to include an IEEE-1394 interface<sup>4</sup> and to comply with standards that would allow subscribers to control their set-top boxes through their television remotes via that interface.<sup>5</sup> In 2010, the Commission realized that consumer interest in the IEEE-1394 interface had waned and that consumers were using interfaces other than IEEE-1394 to network their consumer electronics devices.<sup>6</sup> Therefore, the Commission modified Section 76.640(b)(4)(iii) of its rules to replace the IEEE-1394 requirement with one that requires cable operators to “ensure that the cable-operator-provided high definition set-top boxes, except unidirectional set-top boxes without recording functionality, shall comply with an open industry standard that provides for audiovisual communications including service discovery,<sup>7</sup> video transport,<sup>8</sup> and remote control command pass-through<sup>9</sup> standards for home networking.”<sup>10</sup> This rule was intended to ensure that cable subscribers could attach retail devices that they own to their cable boxes and access their subscription services through those devices using an open standard widely used in home communications protocols.<sup>11</sup> Although the rule was originally set to go into effect on December 1, 2012, the Media Bureau twice granted extensions to TiVo and cable operators that lease set-top boxes to subscribers, allowing them until June 1, 2015 (or September 1, 2015 for smaller cable operators) to comply with the rule.<sup>12</sup>

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<sup>4</sup> IEEE 1394, also known as Firewire, is an external serial data connection that allows for audio and video data transfers. *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices*, Third Report and Order and Order on Reconsideration, 25 FCC Rcd 14657, 14677, ¶ 39 (2010) (“*2010 CableCARD Order*”).

<sup>5</sup> *2003 CableCARD Order*, 18 FCC Rcd at 20934, App. B (adopting new rule 47 C.F.R. § 76.640(b)(4)).

<sup>6</sup> *2010 CableCARD Order*, 25 FCC Rcd at 14678, ¶ 43 (“We conclude that the best step we can take . . . is to modify our interface rule to require cable operators to include an IP-based interface . . . without specifying a physical interface.”).

<sup>7</sup> Service discovery refers to the protocols that a retail device would use to seamlessly recognize a leased set-top box and the services (e.g., video programming) available on a home network. *See Video Device Competition; Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, Notice of Inquiry, 25 FCC Rcd 4275, 4285-6, ¶ 30, n.53 (2010) (“*2010 CableCARD NOI*”).

<sup>8</sup> Video transport refers to the protocols that a leased set-top box and a retail device would use to transfer digitally encoded video from the leased set-top box to the retail device. *See Internet Engineering Task Force, Audio/Video Transport*, <http://datatracker.ietf.org/wg/avt/charter/> (last visited April 24, 2015).

<sup>9</sup> Remote control command pass-through refers to the ability of a television to pass remote control commands entered with the television remote control through to the set-top box (rather than having to use the set-top box remote control). *2010 CableCARD Order*, 25 FCC Rcd at 14677-9, ¶¶ 40, 44.

<sup>10</sup> *TiVo Inc.’s Request for Clarification and Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*, 27 FCC Rcd 14875, 14875-6, ¶ 2 (MB 2012) (footnotes in original) (“*2012 IP-Output Waiver Order*”); 47 C.F.R. § 76.640(b)(4)(iii); *2010 CableCARD Order*, 25 FCC Rcd at 14677-9, ¶¶ 39-44. Pursuant to section 76.640(b)(4)(ii), this output must also be “capable of delivering recordable high definition video and closed captioning data in an industry standard format.” 47 C.F.R. § 76.640(b)(4)(ii).

<sup>11</sup> *2010 CableCARD Order*, 25 FCC Rcd at 14677-9, ¶¶ 39-44; *2010 CableCARD NOI*, 25 FCC Rcd at 4283, ¶ 22.

<sup>12</sup> *2012 IP-Output Waiver Order*, 27 FCC Rcd at 14882-5, ¶¶ 14-18; *TiVo Inc.’s Request for Clarification or Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*, Memorandum Opinion and Order, 29 FCC Rcd 3674, ¶ 1 (MB 2014) (“*2014 TiVo Waiver Order*”). The Bureau granted operators that serve 400,000 or fewer subscribers until September 1, 2015 to comply with the rule. *2014 TiVo Waiver Order*, 29 FCC Rcd at 3676, ¶ 5.

4. On August 29, 2014, TiVo filed a petition for waiver or clarification of the rule for its products and services that it supplies to cable operators.<sup>13</sup> In its waiver request, TiVo explains that all of its products, including those that it sells at retail and those that it sells wholesale to cable operators, already contain technology that “provides the home networking functionality outlined in Section 76.640(b)(4)(iii) . . . but does not use an ‘open industry standard’” as required by the rule. TiVo explains that it could not anticipate the timing or specifications of the ‘open industry standard’ that the Digital Living Network Alliance (“DLNA”) developed.<sup>14</sup> Instead, “in order to maintain its role in providing innovative solutions to retail customers,” TiVo says that it developed and released equipment with home networking capabilities, giving consumers the benefits intended by the rule, except that it does not use an “open industry standard” as the rule requires.<sup>15</sup> TiVo claims that its home networking capabilities, which have been available to consumers since 2011, provide more features and functionality than the baseline DLNA specification, and that having to “back up” to the DLNA solution would hinder its ability to compete both at a retail and wholesale level.<sup>16</sup>

5. The Media Bureau sought comment on TiVo’s petition via a Public Notice released on September 5, 2014.<sup>17</sup> NCTA and Verizon did not oppose the grant of a waiver and urged the Commission to waive the rule on an industry-wide basis.<sup>18</sup> Only the Digital Living Network Alliance (“DLNA”) opposed grant of the waiver as to TiVo and on an industry-wide basis.

### III. DISCUSSION

6. In light of the specific facts surrounding TiVo’s implementation of its network interoperable solution, we conclude that there is good cause to issue a waiver of Section 76.640(b)(4)(iii) to TiVo until June 1, 2017, temporarily deferring TiVo’s implementation of the DLNA standard. Although TiVo does not use an “open industry standard” as required by the rule, we find that its network interoperability solution enables subscribers to set up a home network and, given TiVo’s market share, we do not believe

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<sup>13</sup> TiVo Petition at 2 (filed August 29, 2014). TiVo states that its request for waiver is “premised on the assumption that Section 76.640(b)(4)(iii) remains an active regulation because its text was released in the Commission’s *Third R&O* rather than in the vacated *Second R&O*.” TiVo Petition at 14. TiVo notes that, if the Commission were to “determine that this regulation is no longer operative based on *EchoStar Satellite L.L.C. v. FCC*,” its Petition “may be treated as one for clarification.” TiVo Petition at 3, n.6, 14. TiVo is not, however, seeking a clarification that the rules have been vacated, and states that it has opposed such clarification in a prior proceeding. TiVo Petition at 14. NCTA and Verizon, on the other hand, argue that Section 76.640(b)(4)(iii) is no longer effective after the *Echostar* decision. NCTA Reply Comments at 2-3; Verizon Comments at 7-8. As TiVo notes, the Commission has not yet taken a position on whether the rule is effective after the D.C. Circuit’s decision in the *Echostar* case. TiVo Petition at 14. Given this, we continue to assume, for purposes of this waiver request, that the rule is still in effect.

<sup>14</sup> TiVo Petition at 5. DLNA is a technology standards organization that, with its member companies, developed the DLNA Interoperability Guidelines. Consumer products that conform to these standards allow consumers to share content across devices in a connected home environment. See DLNA Reply Comments at 1-2.

<sup>15</sup> TiVo Petition at 4-5, 8.

<sup>16</sup> TiVo Petition at 7.

<sup>17</sup> Public Notice, *Media Bureau Seeks Comment on TiVo’s Request for Waiver or Clarification of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*, MB Docket No. 14-146, Sept. 5, 2014.

<sup>18</sup> Verizon Comments at 2; NCTA Reply Comments at 2. Both parties also asked the Commission to state that the rule is no longer in effect. For reasons explained in note 13, above, this Order does not decide this issue. Verizon Comments at 7-8; NCTA Reply Comments at 2-3.

that a temporary waiver will undermine the goals of Section 76.640(b)(4)(iii).<sup>19</sup> Based on the evidence before us, we find that TiVo has shown good cause, and that waiving this rule with respect to TiVo's set-top boxes will serve the public interest, as required by Sections 1.3 and 76.7 of the Commission's rules, respectively.<sup>20</sup>

7. The evidence in the record supports granting a limited waiver to TiVo and the cable operators that lease TiVo set-top boxes to their subscribers because TiVo has shown that its set-top boxes fulfill the objective of the rule, despite not using an open industry standard,<sup>21</sup> and that strict compliance with the rule would be unduly burdensome.<sup>22</sup> We find that TiVo has shown that "any benefits achieved by its proposal are in the public interest and that a limited waiver will not compromise the fundamental policies served by the rule."<sup>23</sup>

8. TiVo is a retail-based competitor, selling home DVRs at retail that rely on CableCARD to interface with owners' subscription services. TiVo also sells its boxes at wholesale to certain cable operators, who in turn lease those boxes to subscribers. TiVo has offered products with home networking capability for many years. In June 2011, TiVo began offering (through its cable operator partners) devices capable of multi-room streaming that allowed recordings to be shared among TVs in the home.<sup>24</sup> Other products and services have since allowed TiVo customers to stream programs to iPads and iPhones, send live and recorded video, operator VOD, and broadband-delivered content to other televisions in the home, and view content on home computers, mobile devices, and tablets.<sup>25</sup> As the Commission has explained, the purpose of Section 76.640(b)(4)(iii) is to "enable connectivity with the multitude of IP devices in consumers' homes."<sup>26</sup> We find that TiVo's solution advances that purpose and has furthered the goal of allowing cable subscribers to take advantage of all of the features their subscription service has to offer.

9. In its discretion, the Commission may waive a rule where the "particular facts would make strict compliance inconsistent with the public interest."<sup>27</sup> We find that requiring TiVo to add support for an open industry standard to its boxes would unfairly disadvantage TiVo after its early innovation in

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<sup>19</sup> As TiVo described in its Petition, its "domestic base is less than two percent of all cable subscribers." TiVo Petition at 12.

<sup>20</sup> 47 C.F.R. §§ 1.3, 76.7.

<sup>21</sup> TiVo Petition at 8. This waiver serves to assure TiVo's wholesale customers that they will not risk running afoul of Section 76.640(b)(4)(iii) by continuing to offer TiVo's boxes without the DLNA standard during the waiver period.

<sup>22</sup> TiVo Petition at 11-12.

<sup>23</sup> *Midwest Communications, Inc.*, 7 FCC Rcd 159, 160, ¶ 5 (1991).

<sup>24</sup> TiVo Petition at 4.

<sup>25</sup> *Id.*

<sup>26</sup> *2012 IP-Output Waiver Order*, 27 FCC Rcd at 14876, ¶ 2 (citing *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices: Compatibility Between Cable Systems and Consumer Electronics Equipment*, Notice of Proposed Rulemaking, 25 FCC Rcd 20885, 20902, ¶ 20 (2010)). See also *2010 CableCARD Order*, 25 FCC Rcd at 14679, ¶ 44 (stating that the rule was "necessary to provide a foundation for a retail market of navigation devices that are connected to leased set-top boxes with limited capabilities.").

<sup>27</sup> *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990) (citing *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969)).

home networking.<sup>28</sup> As the process of implementing Section 76.640(b)(4)(iii) has unfolded, TiVo repeatedly emphasized that it “must continue to develop and market competitive products rather than wait” for the DLNA process to progress, in order to remain competitive.<sup>29</sup> TiVo has now developed and rolled out products and services that deliver much of what the rule intended to accomplish. We find it particularly persuasive that TiVo began deploying a home networking solution even before the original deadline of the rule and ahead of any other set-top box provider.<sup>30</sup> Although TiVo’s solution does not utilize an open industry standard, we nevertheless conclude that its investment in an alternative solution justifies an extension of the deadline for its equipment. We note that TiVo’s home networking solution is proprietary, and as such its equipment does not communicate with other DLNA-enabled devices. We continue to believe in the benefits of an interoperable, open industry standard that allows “industries to build devices and services that work together without consultation.”<sup>31</sup> Because device interoperability remains a Commission goal, we are granting TiVo this waiver on an interim basis, as opposed to indefinitely, because the use of an open industry standard remains an important part of our home networking rule.

10. The Digital Living Network Alliance urges the Commission to deny TiVo’s request for waiver. It argues that TiVo’s solution does not conform to the goals of Section 76.640(b)(4)(iii) because it relies on a proprietary solution instead of an open industry standard, that the DLNA guidelines have been available long enough to enable implementation, and that the public should not have to wait for DLNA-enabled equipment to become available.<sup>32</sup> While we agree that the public will benefit from the availability of DLNA-compatible home networking equipment, we do not believe that, given its relatively small subscriber base, lack of DLNA support on TiVo’s devices will undermine the development of DLNA-compatible home networking equipment. Further, we disagree with DLNA that TiVo’s solution does not, as an interim matter, advance the goals of Section 76.640(b)(4)(iii). As discussed above, TiVo’s solution offers its subscribers multi-room and multi-platform features to access content throughout their homes, satisfying some of the goals of Section 76.640(b)(4)(iii). Further, because TiVo’s solution is proprietary and we continue to believe that interoperability of consumer electronics equipment would

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<sup>28</sup> In an analogous context, the Bureau recognized Cablevision’s prior investment in and deployment of its SmartCard security system by granting a limited waiver of the integration ban rules. *Cablevision Systems Corporation’s Request for Waiver of Section 76.1204(a)(1) of the Commission’s Rules*, 22 FCC Rcd 220, ¶ 1, (2007). The Bureau found that Cablevision acted ahead of other cable operators on this issue, began implementing its security solution prior to Commission clarification of the rule, and had fully deployed a solution that effectively furthered the goals of the integration ban, although not in full compliance of Section 76.1204(a)(1), and that a two-year waiver was justified. *Id.* at ¶ 20. As described above, TiVo similarly developed its own home-networking solution prior to other players in the market, prior to the publication of the DLNA standard, and in furtherance of the goals of Section 76.640(b)(4)(iii).

<sup>29</sup> TiVo Petition at 5.

<sup>30</sup> TiVo Petition at 4-5 (dating its devices with home-networking capabilities back to June 2011, a year before the initial deadline for compliance).

<sup>31</sup> *2012 IP-Output Waiver Order*, 27 FCC Rcd at 14878, ¶ 9 (“When the Commission revised Section 76.640(b)(4)(iii) in the *2010 CableCARD Order*, it had interoperability between video programming services and devices in mind.”).

<sup>32</sup> DLNA Comments at 4.

benefit the public, we have only allowed for a temporary waiver of the rule.<sup>33</sup> For these reasons, we disagree with DLNA that a limited waiver is not warranted in this case.

11. NCTA and Verizon urge the Commission to waive the rule on an industry-wide basis if the rule is waived for TiVo.<sup>34</sup> We decline to waive this rule on an industry-wide basis. We rely in this decision on TiVo's showing that it has implemented a home networking solution well ahead of the compliance deadline that achieves one of the purposes of the rule. Neither NCTA nor Verizon made any such showing regarding any solution they are testing, developing, or implementing, and thus they lack good cause for a waiver.<sup>35</sup> Should they demonstrate good cause for a waiver, we will consider it at that time.

#### IV. CONCLUSION

12. For the reasons stated herein, we conclude that TiVo has shown good cause for a temporary waiver until June 1, 2017 of 47 C.F.R 76.640(b)(4)(iii) of the Commission's rules for TiVo's boxes provided at wholesale to cable operators.

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<sup>33</sup> As DLNA described, proprietary solutions "make the implementers beholden to the proprietor," whereas the goal of interoperability "is to free consumer electronics manufacturers from dependence on non-uniform and varying systems and protocols . . . ." DLNA Comments at 4.

<sup>34</sup> NCTA Reply Comments at 2; Verizon Comments at 2.

<sup>35</sup> For the reasons stated above and given that only TiVo filed a petition specifying a particularized basis for waiver of the rule, we are waiving the rule only as to TiVo and the cable operators that supply TiVo set-top boxes. We note that DLNA has certified more than 25,000 product models, and that more than three billion of those devices have been sold, all ahead of the rule's June 1, 2015 implementation deadline. DLNA Reply Comments at 2.

**V. ORDERING CLAUSES**

13. Accordingly, **IT IS ORDERED**, pursuant to Sections 1.3 and 76.7 of the Commission's rules, 47 C.F.R. §§ 1.3 and 76.7, that TiVo Inc.'s request for waiver of Section 76.640(b)(4)(iii) **IS GRANTED** to the extent described above until June 1, 2017.

14. This action is taken pursuant to authority delegated by Section 0.283 of the Commission's rules, 47 C.F.R. § 0.283.

FEDERAL COMMUNICATIONS COMMISSION

William Lake  
Chief, Media Bureau