

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

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
	)	

**PANASONIC CORPORATION OF NORTH AMERICA  
REPLY COMMENTS ON  
THIRD FURTHER NOTICE OF PROPOSED RULEMAKING**

I. Summary

Panasonic Corporation of North America (“Panasonic”) respectfully submits these reply comments in response to the June 27, 2007, Third Further Notice of Proposed Rulemaking (“FNPRM”)<sup>1</sup> in this docket. Panasonic filed comments in this proceeding urging the Commission to establish a regulatory framework for “common reliance” —by both cable operators and their equipment suppliers, and competitive retail equipment manufacturers alike-- on the OpenCable Platform (“OCAP”) as a platform for delivery of interactive cable content in order to speed the benefits of digital television to cable consumers. Based on the expectations that such common reliance permits, Panasonic affirmed its plans to introduce interactive digital cable-ready products based on OCAP before the February 17, 2009, DTV

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<sup>1</sup> *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, PP Docket No. 00-67, Third Further Notice of Proposed Rulemaking (rel. June 29, 2007) (“FNPRM”).

transition date . Therefore, we requested the Commission’s support to bring these new products to market in 2008, by ensuring cable operators’ timely deployment of OCAP in their local cable systems.

In these reply comments, Panasonic desires to show that widespread and growing support for OCAP in both consumer electronics and information technology products for retail, as well as its use in traditional cable set-top boxes for lease directly from cable operators, provides the Commission with an opportunity to establish a common reliance regime for bidirectional cable products. We also desire to rebut the claims of various parties that OCAP cannot be reliably implemented, or is not sufficiently specified for use, in consumer electronics products. Finally, we wish to comment on recommendations of various parties on the use of home networking technologies and the possible future development of an all-MVPD solution to comply with the requirements of Section 629.<sup>2</sup>

## II. Common Reliance on OCAP is the only viable solution for digital cable compatibility

Comments filed in this proceeding found there is a growing consensus that OCAP-enabled products present the only real, near-term solution to ensure the rapid introduction of interactive digital cable-ready products that can access the same suite of interactive digital cable services as cable operators’ leased set-top boxes provide. In addition to the investment and accomplishments that Panasonic highlighted – developing its own OCAP middleware, related developers’ kits, testing tools, and reference units; licensing this software to Comcast; and demonstrating OCAP-enabled products – other industry participants also indicated their support

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<sup>2</sup> Section 629 of the Act directs the Commission to: “adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.” See: 47 U.S.C. § 549(a).

for OCAP and highlighted related accomplishments. Samsung noted that OCAP is the “furthest developed standard for CE device compatibility with interactive digital cable services and the only one that has already begun to be deployed by cable operators.”<sup>3</sup> Further, Samsung supported to the establishment of a common reliance regime based on OCAP by calling for a “timetable for OCAP deployment in cable systems nationwide” as part of a “CE-cable compatibility framework adopted by the Commission.”<sup>4</sup>

Intel also indicated its support for OCAP as “*the* common technology element in both the CEA and NCTA proposals”[emphasis in original] and noted that Intel had “recently announced it would support OCAP in future consumer electronics (CE) system-on-a-chip (SoC) products.”<sup>5</sup> In addition, Intel characterized the need for “common reliance on the same technology and security standards by both retail manufacturers and cable providers” as “fundamental” and encouraged the Commission to make “common reliance standards a part of any regulations adopted by the Commission.”<sup>6</sup>

CEA’s comments, which reflect the diversity of views across a wide spectrum of CE and IT interests, also explicitly support OCAP deployment with “a national sufficient scope, scale, and *common reliance* as to justify the investment and risk inherent in relying on it at the core of a consumer television display or receiver”[emphasis added]. CEA’s proposed draft amendments to FCC regulations recommend a common reliance regime for OCAP-enabled cable systems and products, and seek assurances in regulation that cable operators adequately support competitive retail products by ensuring successor versions of OCAP continue to “fully support and remain

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<sup>3</sup> Samsung Comments at 2.

<sup>4</sup> Samsung Comments at 3.

<sup>5</sup> Intel Comments at 5.

<sup>6</sup> Intel Comments at 9.

compatible with interactive devices that were initially approved and deployed in compliance with any earlier version.”<sup>7</sup>

Not surprisingly, NCTA’s comments also characterize OCAP as the only path for retail products with “any prospect of bringing consumers bidirectional retail options by the year-end 2008 holiday season.”<sup>8</sup> NCTA also reiterates its support for their 2005 regulatory proposal which would have required cable operators to support OCAP on their systems by July 1, 2009<sup>9</sup> and goes on to describe the significant trials and deployments of OCAP in cable systems nationwide. It is these significant investments that ensure OCAP can be relied on to support the commercial, retail availability of interactive digital cable-ready products.

It is Panasonic’s strong belief that an industry-wide agreement based on OCAP common reliance would provide significant benefits to consumers. Panasonic urges the Commission to use its considerable influence to encourage the parties to reach such an agreement quickly or to impose the Commission’s own compromise requirements should agreement not be reached.

### III. Alternative proposals should not be permitted to delay the deployment of OCAP

Panasonic also desires to address the concerns expressed by some parties that OCAP cannot be reliably implemented, or is not sufficiently specified for use, in consumer electronics products. Panasonic fully recognizes that a solution that is less technologically complex than OCAP is desired by some CE manufacturers – for example, the “Digital Cable Ready-Plus” (“DCR-Plus” or “DCR+”) proposal described in CEA’s comments — which outlined a range of options to enable interactive digital cable-ready devices in a putatively technologically and regulatory neutral way, although no clear proof is provided that this approach is less

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<sup>7</sup> CEA Comments Appendix A at 13.

<sup>8</sup> NCTA Comments at 5.

<sup>9</sup> NCTA Comments at 27.

technologically complex than OCAP.<sup>10</sup> The comments of Sony Electronics (“Sony”) sought to bolster the case for DCR-Plus by suggesting its views why OCAP could not be an acceptable solution in the marketplace. In response, Panasonic feels the need to correct the record with respect to the concerns Sony expressed about OCAP.

First, Sony’s claim that the “OCAP solution advanced by NCTA is not a viable solution because it cannot be accomplished in time for the DTV transition”<sup>11</sup> is patently false. As delineated in the NCTA’s comments, cable operators have begun to roll out OCAP in cable headends and have begun deployments of OCAP-enabled set-top boxes.<sup>12</sup> For example, Comcast indicated it has “committed to have the OpenCable Platform widely deployed in its cable systems by the fourth quarter of 2008”<sup>13</sup> and is “planning to include OpenCable Platform capabilities in its next-generation set-top boxes.”<sup>14</sup> Panasonic is diligently working on OCAP and related products because we expect it will provide the only solution ready for widespread deployment and support by cable operators in the 2008/2009 timeframe. The reason for Panasonic’s faith in OCAP compared to any other solution is the simple logic of common reliance — OCAP is the only solution currently being deployed and supported by cable operators in their own devices.<sup>15</sup>

OCAP has received active cable investment because OCAP also supports cable operators’ business and operational objectives, such as providing a “standardized platform for

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<sup>10</sup> CEA Comments at 6.

<sup>11</sup> Sony Comments at iii

<sup>12</sup> NCTA Comments at 28

<sup>13</sup> Comcast Comments at 9

<sup>14</sup> Comcast Comments at 10

<sup>15</sup>“Cable TV’s New Aim: Free Us From Tangle Of Boxes and Remotes,” Wall Street. Journal, Feb. 21, 2007, noting that “a few of the largest cable operators are moving quickly to deploy OCAP, hoping to head off growing competition from phone competition from phone companies, satellite TV and the Internet.”

interactive television” (enabling economies of scale)<sup>16</sup> or providing “Internet-ad-like capabilities with better measurements for advertisers.”<sup>17</sup> NCTA’s comments emphasize that “it is in the *business interest* of the cable industry to roll out the OpenCable Platform technology rapidly to leased and retail products because that technology streamlines and improves the cable business and because it provides applications developers and consumers with an interactive platform that will be fully competitive with IPTV and other video services” [emphasis added].<sup>18</sup> Any solution that does not support the business objectives of all parties violates the principles of common reliance, and can only be forced by heavy-handed regulation, something contrary to the Commission’s goals for Section 629.<sup>19</sup>

Second, Panasonic disagrees with Sony’s claim that OCAP is “not readily implementable because CableLabs has not yet completed the standardization process for OCAP in a manner that permits deployment of the technology in integrated CE devices.”<sup>20</sup> Panasonic’s comments in this instant proceeding and in response to the Commission’s Video Competition Notice of Inquiry<sup>21</sup> both emphasized the maturity of the OCAP standard. OCAP is a Java™-based software platform for digital television that is largely based on the European Multimedia Home Platform (MHP) middleware specification created by the Digital Video Broadcasting (DVB) organization. OCAP

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<sup>16</sup> “*Programmers: Make OCAP Happen*”, Multichannel News, May 7, 2007, at <http://www.multichannel.com/article/CA6439910.html> (visited Sept. 10, 2007).

<sup>17</sup> “*Building the Business Case for OCAP*”, Communications Technology, May 11, 2007, at: <http://www.cable360.net/ct/strategy/emergingtech/23439.html> (visited Sept. 10, 2007).

<sup>18</sup> NCTA Comments at 28

<sup>19</sup> See: *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775, 14808, ¶ 14 (1998) (“*First Report & Order*”) noting: “This Report and Order is premised on the assumption that commercial interests, fueled by consumer demand, will agree on specifications for digital navigation devices to be submitted to standard-setting organizations, or that common interfaces will emerge that become widely accepted.”

<sup>20</sup> Sony Comments at iii

<sup>21</sup> See: Panasonic Comments, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, MB Docket No. 06-189 (November 29, 2006).

and MHP<sup>22</sup> are based on the “Globally Executable MHP” (“GEM”) standard<sup>23</sup> which has been standardized by DVB, and adopted by ETSI<sup>24</sup>, the ITU<sup>25</sup>, CableLabs, ARIB<sup>26</sup>, ACAP<sup>27</sup>, and the Blu-ray Disc Association.<sup>28</sup> OCAP has also been standardized by the Society of Cable Telecommunications Engineers (SCTE) in SCTE 90-1 2004, which itself has also already achieved American National Standards Institute (ANSI) approval.<sup>29</sup>

The compelling value of OCAP is simple. OCAP enables independent manufacturers to develop interactive digital cable-ready products because it defines a set of common application interfaces, data formats, service libraries, and protocols for interactive cable systems and devices. As such, OCAP allows cable operators, content providers, and consumer electronics manufacturers to develop and support a variety of applications and services, potentially including those provided by independent application developers and providers, that will run on

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<sup>22</sup> MHP, or the Multimedia Home Platform, is the collective name for a compatible set of middleware specifications developed by the DVB Project. See: <http://www.mhp.org/DVB-MHP%20Fact%20Sheet.0807.pdf> noting that the “MHP specification is fully standardised and published. Fundamentally the MHP core middleware is now stable. Any more work on this specification will come explicitly from interoperability requests from market implementers and collaboration with other standards bodies or organisations using GEM. (e.g. Blu-ray Disc Association or CableLabs).”

<sup>23</sup> See: [http://www.mhp.org/mhp\\_technology/gem/](http://www.mhp.org/mhp_technology/gem/) (visited Sept. 6, 2007) noting that “GEM was created to enable organisations (e.g. US CableLabs) to define specifications based on MHP together with DVB.”

<sup>24</sup> ETSI published GEM 1.0.1 - ETSI TS 102 819 V1.2.1 and incorporates CableLabs (OCAP) as a GEM partner. GEM 1.2 has been submitted to ETSI for publication as a formal standard (Draft ETSI TS 102 543 V1.1.1). GEM-IPTV is the IPTV profile of GEM that is formally a subset of the MHP 1.2 specification which includes IPTV support. See: “GEM-IPTV White Paper” at [http://www.mhp.org/mhp\\_technology/gem/tm3749.mug180.GEM-IPTV\\_white\\_paper.pdf](http://www.mhp.org/mhp_technology/gem/tm3749.mug180.GEM-IPTV_white_paper.pdf) (visited Sept. 6, 2007) noting that the “differences between MHP and OCAP essentially come down to the support necessary for the differences in network signaling between the DVB world, and the US cable world.”

<sup>25</sup> See: “ITU Opens Up World for Interactive TV Providers” at [http://www.itu.int/newsarchive/press\\_releases/2003/12.html](http://www.itu.int/newsarchive/press_releases/2003/12.html) (visited Sept. 6, 2007)

<sup>26</sup> GEM is implemented in the Japanese ARIB B.23 standard. See: “ARIB approves GEM based Execution Engine” (Press released dated June 5, 2003) at [http://www.mhp.org/news\\_and\\_events/news/archive/arib\\_approves\\_gem\\_based\\_e/](http://www.mhp.org/news_and_events/news/archive/arib_approves_gem_based_e/) (visited Sept. 6, 2007)

<sup>27</sup> The Advanced Common Application Platform (ACAP), standardized in ATSC document A/101, enables interactive television applications to run uniformly on platforms in multiple environments. Like OCAP, ACAP is a “middleware” specification designed to support interactive services for terrestrial broadcasting. See: [http://www.atsc.org/faq/faq\\_acap.html](http://www.atsc.org/faq/faq_acap.html) (visited Sept. 6, 2007)

<sup>28</sup> See: <http://www.blu-raydisc.com>. For example, with GEM at the core of Blu-Ray's BD-J specification, interactive features and extras for a movie title originally written for an optical disc can be easily ported to a VOD network via Cable or Broadband.

<sup>29</sup> See: CableLabs Press Release “SCTE Standard on CableLabs® OCAP™ Specification Achieves ANSI Approval” (Dated July 1, 2004) at: [http://www.cablelabs.com/news/pr/2004/04\\_pr\\_ocap\\_ansi\\_070104.html](http://www.cablelabs.com/news/pr/2004/04_pr_ocap_ansi_070104.html)

*all* OCAP compliant devices. This is essentially the same functionality that the CEA DCR-Plus proposal seeks to support, but with one critical difference – in OCAP the applications that provide access to cable services (e.g. EPG, IPPV, VOD, etc.) can be downloaded from the cable operator’s headend, while in DCR-Plus each manufacturer must develop its own applications to handle and process the cable operator’s business transactions. A DCR Plus framework, which guarantees such applications will not disrupt the consumer’s operation of these transactions in unexpected ways, has not yet been demonstrated. Under OCAP, by relying on a common set of OCAP application interfaces, data formats, service libraries, protocols, etc., the implementation of robust testing procedures, which are required to minimize the potential for such undesirable interactions between features of different applications, can be simplified.

Panasonic concurs with Sony that “further marketplace agreements between the CE and cable industries” would be helpful.<sup>30</sup> Indeed, for this reason, Panasonic urges the Commission to encourage the parties to focus their negotiations on hammering out business agreements on OCAP licensing, product certification, application testing, and after-sale support. These are all valid business concerns that must be addressed to provide CE manufacturers with confidence that the products they market to consumers will work properly and continue to work properly when attached to cable systems nationwide, and more importantly that these products will satisfy the expectations of consumers. But, these are primarily business issues not directly related to the OCAP technology itself.

Finally, Panasonic disagrees with Sony that DCR-Plus is a “superior solution” to OCAP because “relevant parties can implement it with relative ease and can do so in time for the DTV transition.”<sup>31</sup> Any technical solution for compatibility between cable systems and CE and IT

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<sup>30</sup> Sony Comments at iii

<sup>31</sup> Sony Comments at 9.

devices requires thorough and complete technical development, lab testing and real-world field trials before being deployed. There simply is not enough time to conduct such technical development and testing to reliably implement this proposal in CE and IT products before the DTV transition. Moreover, Panasonic is very concerned, should the Commission require cable operators to support this proposal before the DTV transition, that such a new requirement would oblige a massive shift in resources of time, manpower, engineering and management by cable operators such that current MSO commitments to and ongoing deployment of OCAP and OCAP-enabled products would be severely and negatively impacted.

Panasonic respectfully reminds the Commission that, prior to the adoption of an interface standard in the 2003 Plug-and-Play Order, and subsequent deployment of CableCARD-compatible devices at retail, there were years of technical development and testing conducted by Panasonic, CableLabs and other CE manufacturers. Indeed, in 1999, Panasonic was the first to demonstrate, to the Commission and others, products with a working (then-called) “Point of Deployment Module” (“POD”) security interface. Prior to introducing the first CableCARD-compatible televisions in the market in 2003<sup>32</sup>, Panasonic worked closely with CableLabs, many cable operators, and other industry participants to resolve outstanding technical and business issues, including frequent participation in CableLabs’ interoperability testing and engineering change request (“ECR”) processes, demonstrations at cable industry trade shows, and joint testing with individual CableCARD and cable head-end manufacturers.

Absent similar and likely more challenging, altogether new joint technical development efforts, it would be foolish to rely on the DCR-Plus proposal as a viable solution for CE-cable compatibility in the near term. It would also be foolish for CE manufacturers to rely solely on a

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<sup>32</sup> See: CableLabs Press Release “*Panasonic Notches Digital Milestone: Four Models Of Integrated Digital Television Sets Achieve CableLabs® OpenCable™ Certified Status*” (dated August 14, 2003) at [http://cablelabs.org/news/pr/2003/03\\_pr\\_oc\\_certified\\_081403.html](http://cablelabs.org/news/pr/2003/03_pr_oc_certified_081403.html) (visited Sept. 6, 2007).

technical proposal that cable operators oppose employing in their own leased set-top boxes. Therefore, Panasonic does not recommend the Commission mandate support for DCR-Plus, or any other alternative approach unless (1) the principle of common reliance is followed -- cable operators nationwide support and use the technology in their own devices; (2) the CE and cable industries robustly test, demonstrate and prove that such technology can support mutual business objectives and real-world technical requirements; and (3) it can be convincingly demonstrated that deployment of an alternative approach will not create further delays in making fully interactive OCAP-enabled digital cable ready products available to consumers.

#### IV. Home networking technologies have significant promise to expand consumer choice

Panasonic did not address home networking technologies in our initial comments, but we have substantial interests in bringing to consumers the features that home networking enables. Panasonic was one of the original founding members of the Digital Living Network Alliance (“DLNA”), a unique, international, cross-industry collaboration of leading consumer electronics, computing industry and mobile device companies, including over 220 member companies. DLNA does not develop standards, but defines interoperability guidelines based on existing technologies and standards that are relevant to the home network. DLNA member companies include participation from cable (*e.g.* CableLabs, Comcast and Time Warner Cable) as well as other MVPDs (*e.g.* EchoStar, DirecTV, AT&T and Verizon).

Panasonic is also one of five founding members of the Digital Transmission Licensing Administrator, LLC. (“DTLA”).<sup>33</sup> DTLA licenses the Digital Transmission Content Protection (“DTCP”) technology that is used to protect content output over a variety of networking link

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<sup>33</sup> DTLA was created in 1998 by five companies – Intel Corporation, Hitachi, Ltd., Matsushita Electric Industrial Co., Ltd. (Panasonic), Sony Corporation, and Toshiba Corporation.

technologies to prevent unauthorized copying or retransmission of commercial audio-video content through a combination of content encryption and device authentication. For example, DTCP is used to protect the IEEE 1394 connections in cable set-top boxes that the Commission, since July 1, 2005, has required on all high definition set-top boxes acquired by a cable operator for distribution to customers.<sup>34</sup>

Panasonic commends CableLabs for its recent approval of the DTCP-IP technology for protection of cable content using Internet Protocol (“IP”) for unidirectional and bidirectional digital cable products and we thank the efforts of the cable industry and movie studios for their cooperation and respective efforts in this matter. In its press release, CableLabs noted that this action “permits CableLabs licensees under DFAST, CHILA, and DCAS to protect pay-per-view and video-on-demand transmissions against unauthorized copying and unauthorized internet retransmission, while assuring consumers’ ability to record broadcast and subscription programming, in digital formats, for personal use.”<sup>35</sup>

The approval of DTCP-IP by CableLabs is an important milestone for the evolution of the home network, which is using IP-based networking technologies. For this reason, Panasonic agrees with Intel that “Internet Protocol will be the home networking transport of choice for most consumers”, and that the Commission should permit cable operators to replace “the current IEEE 1394 set top box output requirement with an IP interface protected by DTCP.” We also agree with Intel that DLNA specifications and guidelines can be used to define the protocols required for interoperability in a home network.<sup>36</sup>

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<sup>34</sup> 47 C.F.R. § 76.640

<sup>35</sup> See: CableLabs Press Released (Aug. 23, 2007) “*CableLabs® Approves DTCP-IP Content Protection for Digital Cable Products*” at [http://www.cablelabs.com/news/pr/2007/07\\_pr\\_dtla\\_082307.html](http://www.cablelabs.com/news/pr/2007/07_pr_dtla_082307.html) (visited Sept. 6, 2007).

<sup>36</sup> Intel Comments at 8.

Panasonic does not recommend, however, that the Commission establish mandatory requirements for specific network protocols, such as advocated by in the Joint Comments of the Home Networking Proponents (“Home Networking Proponents”).<sup>37</sup> Panasonic believes that DLNA has enough momentum and critical mass to ensure that interoperability will become the requirement of the market. We do not feel it is wise to freeze networking technologies in regulations as this would not allow the technology to evolve in response to new user needs and could hinder CE, cable and IT companies from developing new innovative features and services. Recent history of the failure of mandatory protocols for IEEE 1394 which the Commission, at the joint request of the CE and cable industries, established (and thus froze) in the 2003 Plug & Play Order should be instructive. The Commission should demure from such singular mandates.

Panasonic does share the desires of the Home Networking Proponents that cable and other MVPD content be made available on home networks through the use of DLNA gateway devices.<sup>38</sup> DLNA is an organization open to all interested parties and it is developing its specifications based on open industry standards. The Commission’s 1998 Navigation Device Order relied on CableLabs “to develop key interface specifications to foster interoperability among digital navigation devices manufactured by multiple vendors” even though “not all of the cable television industry is involved in the OpenCable process and [at that time] no entities outside of the cable industry are currently participating.”<sup>39</sup> In a similar manner, Panasonic encourages the Commission to rely on DLNA to define home networking protocols necessary for interoperability.

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<sup>37</sup> See Joint Comments of Hitachi, Ltd., Mitsubishi Digital Electronics America, Inc., Philips Electronics North America Corporation, Pioneer Electronics (USA), Inc., Sony Electronics Inc., and TTE Corporation (collectively, “Home Networking Proponents”) at 3.

<sup>38</sup> Home Networking Proponents at 5.

<sup>39</sup> See: *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775, 14808, ¶ 14 (1998)

Panasonic disagrees with the assertions of the 1394 Trade Association (“1394TA”) that “the Commission stipulate the continued use of 1394 in Set-Top Boxes.”<sup>40</sup> Panasonic is a member of the 1394TA but was not provided with an opportunity to review the Comments before they were filed. The market reality is that the overwhelming purpose for which IEEE 1394 is used is to connect consumer electronics video products, such as camcorders, to recorders and personal computers for simple video transfer. It is not widely used to connect with cable set-top boxes with TVs and other consumer electronics products. While 1394TA cites significant and growing use of 1394TA, their figures do not demonstrate that these IEEE 1394 interfaces include support for the protocols stipulated in FCC regulations for compatibility with cable set-top boxes.

Panasonic also disagrees with the 1394TA’s assertion that “Home networks based on other technologies cannot provide the user experience a reasonable consumer should expect”, saying that “DLNA is based on Ethernet and [is therefore] not suitable for multiple streams of HD content.”<sup>41</sup> DNLA’s current guidelines, based on IP networking and UPnP<sup>TM</sup><sup>42</sup>, provide the tools to ensure a high quality-video experience for transferring multiple high-definition media streams in the digital home, even in the presence of best-effort traffic.<sup>43</sup> Panasonic expects that

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<sup>40</sup> 1394 Trade Association Comments at 2.

<sup>41</sup> 1394 Trade Association Comments at 3

<sup>42</sup> UPnP<sup>TM</sup> UPnP<sup>TM</sup> and the UPnP<sup>TM</sup> logo are certification marks owned by the UPnP Implementers Corporation. See: <http://www.upnp.org>. The UPnP Forum is a group of companies and individuals across multiple industries that play a leading role in the authoring of specifications for UPnP devices and services. The UPnP<sup>TM</sup> Forum is an unincorporated entity of more than 836 leading companies in computing, printing and networking; consumer electronics; home appliances, automation, control and security; and mobile products.

<sup>43</sup> See: UPnP Forum press released, dated July 12, 2006 at [http://www.upnp.org/news/documents/AV2\\_PR20060712.pdf](http://www.upnp.org/news/documents/AV2_PR20060712.pdf), noting that “The UPnP<sup>TM</sup> Forum announced the release of version 2 of the UPnP Audio Video specifications (UPnP AV v2), which enable the next progression of the AV-oriented home network. The UPnP AV specifications use the UPnP Device Architecture specifications – the core interoperability technology for all UPnP enabled devices – allowing different companies to build home network products that automatically locate and identify each other without any end-user configuration. See: UPnP Implementers Corporation white paper “UPnP<sup>TM</sup> Technology – The Simple, Seamless Home Network” at [http://www.upnp-ic.org/resources/06150r00UIC\\_Marketing-UPnP\\_Business\\_Whitepaper\\_electronic\\_version\\_.pdf](http://www.upnp-ic.org/resources/06150r00UIC_Marketing-UPnP_Business_Whitepaper_electronic_version_.pdf)

DLNA guidelines will continue to evolve in the future in a fully backward compatible way. Indeed, work continues presently in cooperation with content service providers and distributors to meet their Quality of Service (“QoS”) requirements for high-definition media streams along with other simultaneous data traffic in the digital home.

But home network interoperability requires more than just such QoS (“Quality of Service”) for video streaming. Interoperability also requires transparent connectivity between devices inside the digital home; a unified approach for device discovery, configuration and control; interoperable media formats and streaming protocols; interoperable media management and control; and compatible authentication and authorization mechanisms for users and devices. Under DLNA’s leadership, a wide range of technology developers, content distributors and device manufacturers have cooperated in the development of workable guidelines for product design that define such required interoperable building blocks for devices and software infrastructure. DLNA’s guidelines also cover physical media, network transports, media formats, streaming protocols and digital rights management mechanisms. In comparison, 1394TA covers much less in its specifications. DNLA’s membership is also much broader and includes contributing members from MVPDs and their vendors, which 1394TA’s membership does not. For these reasons, Panasonic recommends that the Commission rely on DLNA to define interoperability in the home network.

V. An all-MVDP solution is a reasonable long-term goal

Panasonic is willing to cooperate in the development and deployment of a two-way solution that can work across multiple MVPD systems so long as this solution is based on open

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noting that “The end user can use their network to simultaneously watch high-definition (HD) video, stream digital audio, make Voice over IP (VoIP) calls, and surf the Internet. (visited Sept. 10, 2007)

standards that enable competition, does not undermine the principle of common reliance, and ensures that consumers have choice in product from non-MVPD related manufacturers.

As we have described above, the core of OCAP and MHP is GEM<sup>44</sup>, which also has an IPTV profile that is a subset of the MHP 1.2 specification. Pure GEM applications do not use any MHP or OCAP-specific APIs (“application program interfaces”), and thus could be used with a variety of MVPD systems independent of their transport. For example, GEM applications for IPTV can support EPG (“electronic program guides”), VOD (“video on demand”), and network DVRs (“digital video recorders”), – all the standard IPTV services. The benefit of GEM is that it could enable a common application environment that would support all MVPDs services. For example, GEM-IPTV is formally a subset of the MHP 1.2 specification, and if GEM-IPTV is adopted by CableLabs for OCAP, then GEM-IPTV applications should be binary compatible with the new version of OCAP, once it exists. Additionally, program-related applications (*i.e.* “bound” applications) created by a broadcast network in GEM-IPTV would not have to be ported to a different application environment when retransmitted by an MVPD, resulting in tremendous cost savings and economies of scale to content providers.

The role of the network interface device in such a scenario would be two fold. First, it would support two-way communication between a headend using an RF transport (*i.e.* QAM) or an IPTV server using IP-based transport (*e.g.* IP-over-Ethernet) and the consumer’s navigation device. Second, it would provide the conditional access software to decrypt and protect the content from theft of service. DTCP-IP could be utilized to protect the link between the network interface device and the consumer’s navigation device. Essentially, the network interface device would act like a DLNA gateway device, transporting the content and associated applications to the consumer’s navigation device, which in turn would then run the MVPD-delivered application.

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<sup>44</sup> “Globally Executable MHP”

Such a system would meet all of the five criteria outlined by Verizon<sup>45</sup> with the exception of their fifth requirement to ‘eliminate dependency on “middleware”.’ But Panasonic believes that Verizon has underestimated the potential benefits of open middleware, and is mistaken in its belief that the use of any middleware, such as a modified OCAP, would enable their destiny to be controlled by competitors. Panasonic believes that middleware -- based on an open GEM standard -- would provide the kind of autonomy desired by Verizon and other MVPDs and allow their services to work with competitively provided navigation devices. We believe that a proper role for the Commission in this case, is to ensure that any license terms or technical requirements do not preclude manufacturers from enabling this kind of capability in products which are designed also to support a cable operator’s interactive services.

## V. Conclusion

Panasonic thanks the Commission for its focus on two-way digital cable-ready products to accelerate the DTV transition. The issues raised in this Third FNPRM and the choices the Commission makes in the coming months will have substantial impact on consumers and our Nation’s communications infrastructure. As the United States moves from one-way broadcasting to interactive content and services, the principles of common reliance dictate that OCAP is the only viable solution for cable compatibility available in the near term. In the long term, home networking technologies hold significant promise for ways to allow consumers to view, record, and share content in the electronic home, but such technologies should be allowed to evolve in response to consumer needs and innovation in services. An “all-MVPD-ready” solution is also a

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<sup>45</sup> Verizon Comments at 3-5. Verizon notes that “to be technology-, and platform-neutral, any standard must have five basic characteristics” – (1) “transport agnostic”; (2) “based a common standard developed by an open industry group”; (3) “forward-looking and allow for a new technological advancements and services”; (4) “utilize industry-accepted physical interface and return path” and (5) “eliminate dependency on “middleware” such as the OpenCable Platform.”

reasonable long-term goal, but one that should not be pursued unless it enables competition and does not undermine the principle of common reliance.

For these reasons, Panasonic respectfully recommends that the Commission (1) adopt rules to establish common reliance on OCAP for cable in cable systems and in cable-provided consumer equipment; (2) rely on the work of DLNA to establish consensus on interoperability specifications for connections of MVPD gateway devices to consumer-owned products via IP-based home networks; and (3) encourage competitive MVPDs to discuss how to define a common middleware platform. By taking these actions the Commission will encourage consumer acceptance of digital cable ready products in time for the DTV transition, enable competition in the marketplace to benefit consumers, and create a firm foundation for a bright future of interactive digital communications.

Respectfully submitted,

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September 10, 2007