

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
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The Downloadable Security Technical Advisory)	
Committee Report)	MB Docket No. 15-64
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COMMENTS OF THE DIGITAL LIVING NETWORK ALLIANCE

I. Introduction

The Digital Living Network Alliance (“DLNA”) is a technology standards organization driven to build industry consensus to advance the interoperability of products in consumers’ connected homes. Founded in 2003 with a current membership of more than 200 companies, this unique multi-industry collaboration continues to implement an innovative set of guidelines utilized by service providers, electronics manufacturers, and software developers to provide consistent performance in a connected home environment. Consumers can share and enjoy personal content on DLNA Certified devices and subscription TV content on VidiPath Certified devices, including mobile devices, PCs, set top boxes, AV receivers, game consoles, TVs and more, regardless of manufacturer. DLNA has also created a robust certification program which tests and verifies the interoperability of products built to its standards, bringing confidence to consumers that devices branded with the DLNA Certified and VidiPath Certified marks will successfully connect and exchange content. DLNA's leading member companies include ARRIS Group, Awox, Broadcom, CableLabs, Comcast New Media Development, Inc., Dolby Laboratories, Inc., Intel, LG Electronics, Panasonic, Samsung Electronics Co., Ltd., Sony Corporation, Time Warner Cable, and

Verizon. Today, more than 25,000 product models have received DLNA Certification, and there have been more than 3,000,000,000 devices sold to date.

Together, through active collaboration, the DLNA membership has developed the DLNA Interoperability Guidelines and most recently the VidiPath (aka CVP-2) Guidelines, both of which continue to be refined to meet the ever changing landscape of consumer and industry needs. The DLNA process and the VidiPath Guidelines meet the Commission's goals for defining interoperable digital interfaces via an open standards process and the requirements set forth in Section 76.640(b)(4)(iii).¹ In the complex area of home networking interfaces, DLNA has a proven track record of offering agile and adaptive solutions to meet consumer, industry and technology needs.

VidiPath enables a much broader, much more robust competitive marketplace for delivery of high value entertainment in a home network to consumer audiovisual endpoints, including protection of the media as required by content owners, than earlier DLNA Guidelines. In prior versions, the DLNA Guidelines described mechanisms for carrying entertainment content throughout the home; VidiPath also enables the delivery of high value entertainment content over IP networking technologies from service provider equipment ("in the cloud") through an internet broadband connection, bridged generically to a home network, and ultimately to certified VidiPath receivers (such as televisions and set-top boxes). The VidiPath Guidelines were published publicly in March 2014², and the VidiPath certification program has been in operations since September 2014. Several interoperability plug-fests have been held to help assure the compliance for any interested party's solutions.

VidiPath stands to broadly increase the availability of valued entertainment content available to consumer receivers, including devices sold at retail, as well as devices leased by MVPD operators.

¹ We note that the Media Bureau has previously concluded that DLNA satisfies the elements of an "open industry standard". *In the Matter of TiVo Inc.'s Request for Clarification and Waiver of the Audiovisual Output Requirement of Section 76.640(b)(4)(iii)*, Memorandum Opinion and Order, DA 12-1910 (Rel. Nov. 28, 2012) at 8.

² See Letter from Donna Moore, Executive Director, Digital Living Network Alliance to Marlene H. Dortch, Secretary, Federal Communications Commission, May 30, 2014 (transmitting the DLNA press release dated March 18, 2014, announcing the availability of the CVP-2 Guidelines).

Furthermore, use of open industry standard technology will enable portability of consumer-owned devices throughout the country, and particularly between different MVPD operators' networks.

A. The DSTAC Report Identifies Two Major Approaches

The DSTAC Report suggests two main approaches as to how the Commission could ensure availability of competitive navigation devices: one which builds upon an "Application-Based Service," where the MVPD provides applications that are capable of accessing MVPD services; and a "Virtual Headend" where retail, competitive devices access MVPD services via a defined set of network protocols.

B. "Application Based Service" Includes Proprietary Applications and Open Applications

Of particular note, the "Application Based Service" approach includes two sorts of applications: native applications, developed specifically for a particular platform using native development tools (e.g., iOS, Android); and HTML5-based applications, which run on a HTML5 platform on platforms that implement an HTML5 browser environment.

VidiPath is specifically called out in the DSTAC Report as one form of the HTML5-based applications for accessing MVPD services.

II. VidiPath

A. VidiPath Was Designed to Meet the Requirements of All Stakeholders (Including the FCC)

VidiPath was designed using a multi-industry, market-driven approach, over many years with input and engineering contributions from a very large number of participants, which include MVPDs, consumer electronics manufacturers, chip manufacturers, content producers and others. This inclusive process was designed to develop guidelines which represent consensus and compromise to meet the requirements of all of the participants.

B. Development of VidiPath Required Extensive Development

VidiPath is the culmination of a decade's work, and tens of thousands of man-hours. Over the course of the development of VidiPath, more than 6000 participants representing over 250 companies, met telephonically and at in-person meetings around the world.

This investment of time, resources, and product development experience has been extensive, and VidiPath is the direct result of this process. VidiPath is the most comprehensive system for networked audiovisual content in the home ever developed. This included significant expense by DLNA in building and rolling out a comprehensive VidiPath testing and certification program, as well as significant investment by manufacturers and MVPDs developing, building and testing VidiPath-compliant devices.

C. VidiPath is Flexible, Cloud- or Local-Based

DLNA recognized during the development of the DLNA guidelines, and VidiPath in particular, that there are varying delivery network and home network architectures, which require correspondingly varying service delivery. To that end, VidiPath was designed and developed to include both the capability to deliver services across the home network from both local (e.g., in-home) servers, and from remote servers (e.g., "in the cloud"). This combination of capabilities enables flexibility in several ways: MVPDs may deploy in a way that is conducive to their delivery network, and client devices may connect to both local and remote services – including services delivered by different service providers.

III. Recommendations

In a dynamic, competitive and fast moving technology space, as a general principle, we do not advocate for a technology mandate, because any technology mandate is likely to be rigid and not evolve over time to incorporate new technologies and approaches.

As described above, developing a system that meets the needs of varying businesses (including consumer electronics manufacturer and service providers), and varying network environments (including local and "in the cloud" servers) is a monumental task. The Commission

should not (and need not) create a new system from scratch. VidiPath is an existing solution that is proven and being deployed to market by a number of MVPDs.

Any rules adopted as a result of the DSTAC Report should be based on existing, tested, and flexible system(s). Furthermore, any rules the Commission adopts should include provisions to follow changes in the systems without Commission action – home networking and content delivery to home are still new, and still rapidly-developing technologies, and the Commission should recognize and make accommodations for this.

DLNA recognizes that its Guidelines are not perfect, and may not accommodate all marketplace needs. It is DLNA's goal to continue to develop Guidelines which meet the needs of all stakeholders in the industry. DLNA is an open organization, and all stakeholders are able to join and participate in the evolution of VidiPath.

Should the FCC adopt rules, VidiPath does provide a common mechanism for tightly integrated consumer electronics apparatus to use a well-documented, tested and verified architecture for cross-MVPD content reception in home IP networks, without the need for frequent upgrades or multiple software stacks.

Development of VidiPath took extensive discussion, consensus, and compromise in order to achieve its current level of maturity. It references up-to-date industry proven standards, (such as HTML5), and VidiPath development was open to all who wished to contribute. It already meets a majority of the requirements mandated to meet the intent of Section 629 of the Telecommunications Act of 1998, and can, via the existing DLNA standards open process continue to evolve in order to meet additional requirements such as; cloud to device content delivery, pure IP networks and gateway virtualization.

VidiPath already provides a solid foundation that can be both deployed today and extended for the future. With VidiPath, consumer electronics manufacturers can deploy products capable to play high value content, independent of geography, service provider or Conditional Access System.

Service Providers can continue to deploy services and content using existing back-end equipment with minimal additional investment.

In summary, the Commission should avoid forcing the industry to create wholly new technologies. VidiPath provides a solid foundation and a starting point for the industry. As recognized by the FCC, DLNA is a multi-industry forum that satisfies the elements of an open industry standard, which can be utilized to evolve VidiPath to meet the needs of various industry stakeholders.

Respectfully submitted,

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