

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Media Bureau Seeks Comment on)	MB Docket No. 15-64
DSTAC Report)	

COMMENTS OF ARRIS GROUP, INC.

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ARRIS Group, Inc. (“ARRIS”) hereby submits comments in response to the Media Bureau’s *Public Notice* seeking comment on the Report of the Downloadable Security Technical Advisory Committee (“DSTAC”) submitted to the Commission on August 28, 2015.¹ ARRIS participated in DSTAC, and appreciates the tremendous effort that went into the drafting of the Report. As detailed below, ARRIS supports the apps-based proposal included in the Report, which leverages existing industry initiatives related to the standardization of security technologies. The marketplace is already delivering a wide and growing array of video device choices to consumers, in fulfillment of Congress’s and the Commission’s navigation device goals. In light of these developments, and the significant risks associated with new technology mandates in this highly dynamic area, ARRIS would advise the Commission to refrain from considering any such mandates.

¹ *Media Bureau Seeks Comment on DSTAC Report*, Public Notice, MB Docket No. 15-64, DA 15-982 (Aug. 31, 2015); *see also* Downloadable Security Technical Advisory Committee, Summary Report (Aug. 28, 2015), <https://transition.fcc.gov/dstac/dstac-report-final-08282015.pdf> (“DSTAC Report” or “Report”).

I. THE DSTAC REPORT COMES AGAINST A BACKDROP OF UNPRECEDENTED CHANGES IN THE VIDEO MARKETPLACE.

Just five years ago, multichannel video programming distributor (“MVPD”) service was delivered almost entirely through a set-top box leased from the MVPD; Netflix did not yet offer a streaming-only service; and the first iPad tablet had just been released. Fast forward to today and the video marketplace has been transformed with the explosive growth in online video. Netflix now has more customers in the U.S. (over 40 million) than any traditional pay TV provider; connected devices for accessing video are ubiquitous; and new online video services are announced on almost a weekly basis.

Consumers can subscribe to video services from traditional facilities-based MVPDs, including, in most markets, a cable operator, a satellite provider, and a telco video provider like Verizon or AT&T. MVPDs take a significant risk by investing in the construction of their networks, and offer a variety of services to manage a profitable long term business. Consumers now also have the option of subscribing to a wide and growing array of online video distributors (“OVDs”). These include well-established OVDs, such as Netflix, Hulu, and Amazon, but also companies like Sony and Dish’s Sling TV that sell packages that include linear channels, and programmers that offer their content on a standalone basis like HBO, Showtime, and CBS. These and other companies are experimenting with different business models, and traditional pay TV providers are responding to this changing competitive environment with innovations of their own.

The model whereby a consumer acquires all of their TV entertainment from an operator-provided set-top box has evolved to a new reality where video is widely available via downloadable apps on tablets, smartphones, smart TVs, game consoles, PCs, and other customer-owned devices. This apps-based model has been used successfully by OVDs like

Netflix and Amazon, and consumers are also embracing apps for accessing their MVPD service. As the DSTAC Report noted, there have been over 56 million downloads of MVPD apps; well over 400 million connected devices support one or more MVPD apps; and, on average, there are four retail devices with available MVPD apps in consumer homes, well exceeding the 2.4 MVPD set-top boxes per home.²

These developments in the marketplace underscore that consumers already have a variety of ways to access MVPD and other video services, and those options continue to expand as MVPDs and OVDs develop new apps for additional device platforms. In short, the navigation device goals of Section 629 and the Commission's implementing rules are being achieved. In fact, the apps-based approach that is helping to drive these marketplace developments is occurring entirely outside of the Commission's existing CableCARD regime and in response to consumer demand. There is simply no marketplace failure that warrants further Commission action on devices.

II. THE APPS-BASED MODEL HAS BEEN WIDELY ADOPTED IN THE VIDEO MARKETPLACE AND IS A KEY DRIVER OF INNOVATION AND COMPETITION.

The DSTAC Report recognizes these profound changes in the video marketplace, and the emergence of apps as a critical driver of innovation and expanding consumer choice for video services and devices.³ ARRIS is helping to drive this apps revolution forward in a variety of ways. ARRIS's Whole Home Solution, which is deployed by a number of small- to mid-sized MVPDs, enables MVPD customers to access their service on customer-owned devices via the home network. The consumer downloads an ARRIS or MVPD-branded app from the Apple or

² See DSTAC Report, Working Group 4 Report at 127; *see also* NCTA Comments, MB Docket No. 15-158, at 16-18 (Aug. 21, 2015).

³ See DSTAC Report, Summary Report 4-5; Working Group 2 Report at 12-17; Working Group 4 Report at 127-43.

Google Store to their iOS or Android device, which adds enhanced interactivity and features to the MVPD service. MVPDs such as Comporium, New Wave, Service Electric, TDS Telecom, and Wide Open West have deployed this solution for several years.

Likewise, ARRIS has been an active participant in the development of VidiPath through the Digital Living Network Alliance (“DLNA”). Using protocols normalized by DLNA, VidiPath enables the delivery of MVPD service to VidiPath-certified retail devices. Under this model, the retail device on the home network receives an HTML5 Web app, and MVPD service can then be streamed to the device from an operator-supplied gateway device.⁴ ARRIS supports this VidiPath capability in gateway devices it sells to MVPDs today.

ARRIS is also pioneering efforts that enable MVPD customers to access third-party video and other apps on their set-top boxes. In this regard, ARRIS has launched ARRIS Market, an open platform for cable operators that combines over-the-top content with traditional pay TV programming.⁵ The platform is standards-based and features an HTML5 interface that integrates over-the-top content choices into a single, seamless experience, and lets MVPDs give their customers the ability to select and discover traditional and over-the-top content from one remote control.

The DSTAC Report underscores the many advantages of the apps-based model beyond the fact that it has been widely adopted in the marketplace today and is enormously popular with

⁴ See DSTAC Report, Working Group 2 Report at 14-15; Working Group 4 Report at 78-95.

⁵ See Press Release, ARRIS, ARRIS Whole Home Solution Introduces OTT Service, (July 21, 2014), <http://phx.corporate-ir.net/phoenix.zhtml?c=87823&p=irol-newsArticle&ID=1949187>. ARRIS Market supports content from a wide variety of sources. For example, ARRIS announced last December that ARRIS Market will include Portico TV, which offers more than a dozen free, ad-supported over-the-top on-demand channels on sports, cooking, news and entertainment, and other content categories. See Press Release, ARRIS, Net2TV Portico TV Streaming Comes to ARRIS Set-Tops (Dec. 11, 2014), <http://ir.arrisi.com/mobile.view?c=87823&v=203&d=1&id=1996832>.

consumers.⁶ ARRIS highlights two of those advantages here. First, the apps-based model accommodates the wide variety in network architectures deployed by MVPDs today. ARRIS is a supplier of network and customer premises equipment to cable operators and telco video providers, and can attest to the diversity and complexity of these providers' access network technologies and devices. The DSTAC Report thoroughly catalogues these variations.⁷ As the Report notes, the apps-based model abstracts these differences while accommodating rapid change and innovation by both service providers and consumer electronics manufacturers.⁸ ARRIS's experience with its own apps-based approach proves out these benefits, as it can readily add new features through downloads to its apps without the need for the consumer to swap out equipment.

Second, the apps-based model enables robust content security across the video ecosystem. As noted in the DSTAC Report, each video provider's app uses a downloadable software-based Digital Rights Management ("DRM") for content security. The DRM can be packaged with the device or included in the app download, and can be used in combination with a hardware root of trust included in the device. This security framework ensures that video is secured against unauthorized use and piracy, and is presented in a way that respects usage rights and other content license restrictions negotiated between the distributor and content suppliers.⁹ A key advantage of this model is that there are a variety of DRMs deployed in the marketplace today. ARRIS's SecureMedia is one such solution, but there are others, including Adobe

⁶ See DSTAC Report, Working Group 4 Report at 127-43, 166-76.

⁷ See DSTAC Report, Working Group 2 Report at 3-5; Working Group 4 Report at 6-65.

⁸ See DSTAC Report, Working Group 2 Report at 12; Working Group 4 Report at 129-30.

⁹ See DSTAC Report, Working Group 2 Report at 13; Working Group 3 Report at 5-6; Working Group 4 Report at 129.

Access, Microsoft PlayReady, Google Widevine, Cisco VideoGuard, and Apple FairPlay. This marketplace diversity drives competition and innovation; lowers cost; supports different compliance and robustness requirements to address different market opportunities; and mitigates security risks since there is not one point of attack for hackers in the video ecosystem.¹⁰

III. AN ALLVID-TYPE APPROACH WOULD THREATEN INVESTMENT AND INNOVATION IN THE VIDEO MARKETPLACE WHILE IMPOSING SUBSTANTIAL COSTS ON CONSUMERS.

While DSTAC did not report a consensus recommendation, it did reach agreement on several key points. It recognized the wide diversity in network architectures, content security systems, and other technological choices by MVPDs, and further acknowledged that “it should not be necessary to disturb” these network technology choices and that “it is not reasonable to expect that all MVPDs will re-architect their networks in order to converge on a common solution.”¹¹ Unfortunately, that is precisely what the “Competitive Navigation” proposal would entail. This proposal tracks in many respects the AllVid proposal considered, but never adopted, by the Commission in 2010. Like its predecessor, the proposal envisions the disassembly of MVPD service so that parts of the service can be accessed by a retail device and presented using the device’s own user interface, rather than the MVPD’s interface.

The DSTAC Report details the many shortcomings of this AllVid-type approach.¹² In contrast to the apps-based model, which has been widely embraced in the marketplace, the AllVid-type approach is just a theoretical concept. It has never been deployed in the marketplace, and would require significant development and engineering work to implement.

¹⁰ See DSTAC Report, Working Group 3 Report at 18.

¹¹ DSTAC Report, Summary Report at 2-3.

¹² DSTAC Report, Working Group 4 Report at 144-65.

MVPDs would have to develop a parallel network to support AllVid devices; develop an in-home server device to deliver content to AllVid-compatible devices; and develop a raft of protocols and standards to enable access to disaggregated elements of the MVPD service.¹³

These requirements – like the CableCARD requirements before them – would impose a clear drag on innovation as well as substantial costs on MVPDs and their customers.¹⁴ It is important to underscore that these costs will be particularly burdensome for smaller operators, who can face significant budget constraints in meeting new government mandates.¹⁵

A further shortcoming with an AllVid-type approach is that it would create new security risks for MVPDs. As noted, there are numerous content security systems being used in the marketplace today, which has the effect of limiting exposure to a potential hacker attack. In contrast, the AllVid-type model set forth in the DSTAC Report would require that MVPD-supplied in-home server devices use the same link protection security (DTCP-IP), presenting a single point of failure for hackers to exploit.¹⁶ Section 629 of the Communications Act specifically bars the Commission from promulgating regulations “which would jeopardize security of multichannel video programming and other services offered over multichannel video programming systems[.]”¹⁷ The AllVid-type approach presents that very risk.

¹³ See *id.* at 157-58.

¹⁴ The Satellite Television Extension and Localism Reauthorization Act of 2014, which authorized the work of DSTAC, specifically directed DSTAC to make recommendations on downloadable security that are not “unduly burdensome.” Pub. L. No. 113-200, 128 Stat. 2059 § 106(d) (2014). The AllVid approach fails this directive in at least two respects – first, it does not relate to the downloadable security mandate set by Congress, and second, it contemplates a solution that would clearly impose significant burdens on MVPDs, particularly smaller MVPDs.

¹⁵ The Commission has previously exempted smaller operators from certain mandates, *see, e.g., Basic Service Tier Encryption*, Report and Order, 27 FCC Rcd. 12786 ¶ 21 (2012), or given such operators more time to comply, *see, e.g., Accessibility of User Interfaces, and Video Programming Guides and Menus*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd. 17330 ¶ 114 (2013).

¹⁶ See DSTAC Report, Working Group 4 Report at 159.

¹⁷ 47 U.S.C. § 549(b).

The Commission also needs to be mindful of the costs and risks associated with government-imposed technology mandates. The Commission’s experience with CableCARD provides a cautionary tale in this regard. CableCARD technology works, but consumer interest in retail CableCARD devices has been very limited. There are approximately 617,000 retail CableCARD devices in use today.¹⁸ Meanwhile, connected devices, which do not rely on CableCARD, have been enormously popular with consumers.

Technology standards are entirely appropriate in certain cases. However, *forced* standardization can be harmful to innovation and, ultimately, consumers. This is particularly true in the video ecosystem, where the risk of “getting it wrong” in choosing the best or good enough standard is extremely high given the rapid pace of technological change.¹⁹ And in the case of AllVid, the government would be picking standards and protocols that do not even exist yet for a technical solution that has never been deployed. Given the current marketplace dynamics, new technology mandates would almost certainly miss the mark (much as CableCARD did) at substantial cost to MVPDs and their customers.²⁰

¹⁸ See Letter from Neal M. Goldberg, General Counsel, National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, FCC, CS Docket No. 97-80, at 1 (July 31, 2015).

¹⁹ See Stanley M. Besen & Leland L. Johnson, *Compatibility Standards, Competition and Innovation in the Broadcasting Industry* 135 (1986) (“[T]he government should refrain from attempting to mandate or evaluate standards when the technologies themselves are subject to rapid change.”); see also Stacy Baird, *The Government at the Standards Bazaar*, 18 *Stan. L. & Pol’y Rev.* 35, 62 (2007) (“Standards development in the area of information technology requires eloquence in incorporating flexibility into a standard to accommodate technical advances and changes in the marketplace.”).

²⁰ It is also far from clear that the Commission has the authority to adopt any of these requirements. Section 629 is focused on the competitive availability of retail *equipment* used to access *MVPD service*, not some derivative service created by the retail device. See 47 U.S.C. § 549(a); see also *Gemstar International Group, Ltd. and Gemstar Development Corp.; Petition for Special Relief*, Memorandum Opinion and Order, 16 FCC Rcd. 21531 ¶ 31 (2001) (“Section 629 is intended to assure the competitive availability of *equipment*, including ‘*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.’ The Commission has not found that the right to attach consumer electronics equipment to a cable system can be expanded to include the obligation by cable operators to carry any service that is used by such equipment, nor is the legislative history supportive of such a requirement.” (emphasis in original)).

IV. CONCLUSION

As detailed in the DSTAC Report, the apps-based approach is built on a track record of marketplace success in enabling consumer access to a widening array of connected devices. In contrast, an AllVid-type approach would be unduly burdensome on MVPDs and their customers and should be avoided.

Sincerely,

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