

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Commercial Availability of Navigation Devices)	CS Docket No. 97-80
)	
Downloadable Security Technical Advisory Committee (DSTAC))	DSTAC Docket No. 15-64
)	

RVU Alliance Progress Report

The RVU Alliance¹ (www.rvualliance.org) submits this progress report to the FCC, as a number of its members are participating in the FCC's currently active Downloadable Security Technical Advisory Committee (DSTAC)².

Product deployments

Products compliant with the RVU 1.0 specification, which was adopted by the RVU Alliance in 2010, have been available since 2012.

¹ *The RVU Alliance is an Oregon-based non-profit mutual benefit corporation initially founded by Broadcom, Cisco, DIRECTV, Samsung and Verizon. The RVU Alliance facilitates the adoption of an open standard technology that allows service providers to expand their unique UI and user experience onto standard consumer devices without the need for proprietary equipment. The RVU Alliance maintains the specification, test tools and test specifications for the use of its 28 member companies.*

² www.fcc.gov/dstac: *DSTAC members that are also RVU Alliance members include Samsung, Sony and Arris.*

Today there are more than 8 million RVU servers deployed into consumers' homes in the US, all using the RVU technology on a daily basis for viewing of high value television services. In addition there are tens of millions of RVU clients in consumers' homes in the US, including certified televisions and "thin client" set-top boxes from Samsung, Sony, LG, Toshiba, Pace, Humax and Technicolor. A current listing of the dozens of approved RVU client models is found at www.rvualliance.org/products.

As US deployments continue to grow, RVU product deployments have also begun in Latin America. Sky Mexico has been rolling out an RVU server since 2013, while both Sky Brasil and DIRECTV PanAmericana (which serves other major Latin American countries) are in the process of launching RVU this year.

An important growth driver for RVU deployments in 2015 and beyond will be Ultra HD services, as explained below.

Recent Developments

The RVU guidelines and certification program were enhanced in 2014 to support 4K content delivery, with Samsung being the first TV manufacturer to introduce compliant RVU TV client solutions as a software update to their 2014 4K Ultra High Definition TV range. This RVU technology enhancement enabled the launch in October 2014 of the CES[®] 2015 Innovation Award³ winning DIRECTV 4K Ultra HD Video On Demand service, provided via the DIRECTV Genie HD DVR. RVU allows direct decoding of the 4K video and User Interface on compliant TVs,

³ www.cesweb.org/innovations *The CES Innovation Awards is an annual competition honoring outstanding design and engineering in consumer technology products.*

removing the need for a separate 4K set-top box. DTCP-IP link protection is used to protect all 4K Ultra HD VOD content.

Also, RVU recently released its 2.0 specification which enables immersive and engaging User Interfaces by leveraging the advanced capabilities of the Canvas 2D API. LG Electronics' webOS smart TV platform was the first to receive RVU 2.0 certification, which is now required for all new certifications.

RVU's Value Proposition

At the heart of the RVU industry standard is its Remote User Interface (RUI) technology. The use of RUI in consumer electronics such as televisions and DVRs was simply not a practicality more than a dozen years ago when the CableCARD regime was established under the FCC. Since then, however, both LAN technologies and graphics processing capabilities have improved to where RUI can be integrated with just about any CE device.

With RVU capability, a TV that is connected to the home network can discover and play/record content from any compatible source of entertainment content on that network. These sources can be Pay-TV set-top boxes (such as DIRECTV Genie), Blu-Ray Disc Players, game consoles, TiVo DVRs, Roku, A/V receivers...basically any CE device that can output audio or video. RVU, and RUI in general, optimally separates service delivery and service display functions: without having to implement the source device's menus whatsoever, a client can control that source device and deliver the services requested by the consumer for display. After the consumer is finished using the source device, he is returned to the client CE device's user experience.

Keys to Continued Success

The RVU Alliance's chances of succeeding in its mission of encouraging the rapid, broad and open industry adoption of RVU hinges on the RUI technology being marketable, simple and adaptable:

- **Marketability:** The features enabled by the technology must be appealing to consumers, driving product purchases and customer satisfaction. In the case of RVU, the consumer proposition of having a simple way to navigate to and enjoy one's content throughout the home, including 4K UHD content, is a powerful one.
- **Simplicity:** Device manufacturers are more likely to adopt technologies that are simpler to integrate into their products. This simplicity results in higher product reliability and fewer product interoperability issues, minimizing support costs. The RVU XML formatted graphics commands, which utilize minimal client resources, is an example of this simplicity.
- **Adaptability:** Within the RVU Alliance, Working Groups meet weekly to define market requirements, design technical protocols and develop the requisite certification capabilities. A large and sustained commitment from all parties involved, from CE device manufacturers and technology providers to content distributors, is required to perform this vital work of improving an industry standard to meet evolving market needs.

The RVU Alliance is less likely to be able to bring the advantages of the RVU RUI technology to consumers if that technology becomes a target of regulation, as each of the aforementioned keys to success is likely to be affected negatively. For example, RVU will be harmed if regulatory compliance requires the addition of features (e.g. security and non-security

APIs) that degrade its marketability and result in the technology being more complex and expensive to implement. Furthermore, regulatory mandates lacking market support could result in half-hearted, bug-filled and minimally effective implementations being deployed that will frustrate consumer adoption and acceptance of RVU. Even the Alliance's long term viability could be put at risk, since a regulatory mandate could also freeze innovation if the government's participation or approval were needed whenever changes were considered.

The RVU Alliance appreciates this opportunity to submit this update to the FCC.

Respectfully submitted,

RVU ALLIANCE

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May 28, 2015