

**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
)	
_____)	

**COMMENTS OF THE ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY
SOLUTIONS' INCUBATOR SOLUTIONS PROGRAM #5 – IP-BASED SEPARABLE
SECURITY INCUBATOR**

The Alliance for Telecommunications Industry Solutions (ATIS), on behalf of the ATIS Incubator Solutions Program #5 – IP-based Separable Security Incubator (AISP.5-ISSI or Incubator), submits these comments in response to the Federal Communications Commission's (Commission) *Third Further Notice of Proposed Rulemaking (NPRM)* released on June 29, 2007, in the above-referenced dockets.¹ ATIS is filing these comments to make the Commission aware of the work of AISP.5-ISSI in developing solutions for IP-based separable security in the emerging IPTV market consistent with the objectives set forth by the Commission in CS Docket No. 97-80. AISP.5-ISSI plans to share the technical solutions developed with other appropriate standards organizations to further standardization in the internet protocol television (IPTV) area, as well as other video-related standards projects reliant on IP connectivity.

¹ *In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, CS Docket No. 97-80, Third Further Notice of Proposed Rulemaking, FCC-07-120 (rel. June 29, 2007).*

I. Background

ATIS is a technical planning and standards development organization accredited by the American National Standards Institute (ANSI) and committed to rapidly developing and promoting technical and operational standards for communications and related information technologies worldwide using a pragmatic, flexible and open approach. The ATIS membership spans all segments of the industry, including local exchange carriers, interexchange carriers, wireless equipment manufacturers, competitive local exchange carriers, data local exchange carriers, wireless providers, providers of commercial mobile radio services, broadband providers, software developers, consumer electronics vendors, digital rights management companies, central authentication service companies and internet service providers. Industry professionals from more than 300 communications companies actively participate in ATIS' open industry committees and other forums.

The AISP.5-ISSI is a forum comprised of telecommunications industry professionals involved in various aspects of the IPTV market. The AISP.5-ISSI has the following membership:

Hitachi Telecom (USA), Inc.	Scientific Atlanta, a CISCO Company
LG Electronics MobileComm U.S.A., Inc.	Sony Electronics
Microsoft Corporation	Sun Microsystems
Nagravision	Verimatrix, Inc.
NDS, Ltd.	Verizon
Nortel Networks	Widevine Technologies
Samsung Telecommunications America	

AISP.5-ISSI was established by ATIS in June 2007 to fast-track the creation of two distinct solutions for IP-based separable security in the emerging IPTV market that will achieve the objectives set forth by the Commission in the above-referenced dockets. These two solutions, as described more fully below, are being developed using ATIS' open and consensus-

based approach. AISP.5-ISSI will liaise as appropriate with other standards organizations to assist the Incubator's work and to facilitate further standardization work within these organizations. As appropriate, AISP.5-ISSI will also submit its completed work to these organizations or other entities for consideration and for further standardization.

II. Discussion

A. Overview

In 1998, the Commission ordered cable operators to make available a security component separate from their navigation or host device.² Furthermore, the Commission established a deadline by which operators must themselves use the separable security component in navigational devices they supply customers. This “common reliance” or the “integration ban” requirement “is designed to enable unaffiliated manufacturers, retailers, and other vendors to commercially market host devices while allowing cable operators to retain control over their systems.”³ Nearly 10 years have passed, and a fully functional solution that supports both uni-directional and bi-directional applications still has not been adopted. Although the cable and consumer electronics industry did come to an agreement on how to achieve separation for uni-directional service using a standard⁴ issued by the Society of Cable Telecommunications Engineers (SCTE), the agreement only supported simple broadcast channel distribution. The Commission adopted the technical standards set forth in the industry agreement in its *Plug and*

² *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775, 14808 ¶ 80 (1998) (*First Report and Order*); 47 C.F.R. § 76.1204(a)(1).

³ *NPRM* at ¶ 3.

⁴ *HOST-POD Interface Standard*, ANSI/SCTE 28, Society of Cable Telecommunications Engineers (2004).

Play Order.⁵ However, devices developed under this standard do not support two-way features available on cable systems, such as electronic programming guides (EPG), video-on-demand (VOD), pay-per-view (PPV) and other interactive television (ITV) capabilities.⁶

AISP.5-ISSI was established to address these open issues by developing standards that support bi-directional, IP-based, open architectures and creating a common platform for downloadable security functionality.

B. Description of AISP.5-ISSI Solution Proposals

In the *NPRM*, the Commission seeks comment on any other proposals it should consider in order to permit the development of two-way digital cable-ready devices.⁷ As described briefly above, AISP.5-ISSI is seeking to create two solutions that will address the issues covered in the *NPRM*.

1. Enhanced Use of Existing Solution

AISP.5-ISSI seeks to enhance how the Host⁸ uses the existing CableCARDTM Multichannel specification⁹ to enable IP flows that are agnostic to the network technology of the service or network provider. Additionally, AISP.5-ISSI proposes that this solution will:

- Specify network attachment and service provider selection compliant to the ATIS IPTV Interoperability Forum (IIF) specification;¹⁰

⁵ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices; Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 20885, 20894, 19 (2003) (*Plug and Play Order*).

⁶ *NPRM* at ¶ 4.

⁷ *NPRM* at ¶ 12.

⁸ OpenCableTM Specifications, *OpenCable Host Device 2.0 Core Functional Requirements*, OC-SP-HOST2.0-CFR-I14-070615 (2007).

⁹ *CableCARDTM Interface 2.0 Specification*, OC-SP-CCIF2.0-I07-060803 (August 3, 2006).

- Ensure the solution is harmonized with and backwards compatible to the existing uni-directional CableCARD standard adopted in the *Plug and Play Order*;¹¹
- Provide support for at a minimum the Digital Video Broadcasting Common Scrambling Algorithm (DVB CSA) and ATIS' IIF IPTV Default Scrambling Algorithm (IDSA);
- Support the use of the decryption hardware (on the CableCARD) to implement the ATIS IIF Secure Download Component to either secure objects through the use of encryption or to be able to detect tampering or a combination of both;
- Support the host receiving and parsing System Information, Interactive Program Guide and Emergency Alert System data compliant to the ATIS IIF specification;
- Support the decrypting of video (multicast or unicast) delivered to the host via the IP connection;
- Support the execution of video-on-demand sessions over the IP connection;
- Support access to multicast (broadcast) channels over the IP connection (*i.e.*, implementation of ATIS IIF channel change and packet loss specifications); and
- Be a demonstrable physical prototype of the solution.

The AISP.5-ISSI has set a target completion date of July 2008 for this solution.

2. Downloadable Security Functionality

In the second solution, AISP.5-ISSI seeks to create an open standard for downloadable security functionality. AISP.5-ISSI believes this solution will be an alternative to the cable industry's proposal for a downloadable conditional access system (DCAS). Additionally, AISP.5-ISSI proposes that the downloadable security functionality solution shall:

- Leverage the ATIS IIF Secure Download Component and Application Program Interfaces;
- Support the ATIS IIF IPTV Default Scrambling Algorithm (IDSA);
- Support the Digital Video Broadcasting Common Scrambling Algorithm (DVB CSA); and
- Be a demonstrable physical prototype of the solution.

The AISP.5-ISSI has set a target date of December 2008 for completion of a feasibility study related to this solution.

¹⁰ The ATIS IIF is an open industry forum engaged in the development of standards that enable the interoperability, interconnection and implementation of IPTV systems and services, including video on demand and interactive TV services.

¹¹ See *supra* note 5.

C. Common Characteristics of Both AISP.5-ISSI Solution Proposals

In addition to the specific characteristics of each solution described above, AISP.5-ISSI has identified several common characteristics that shall be present in each solution. Those common characteristics are listed below.

- Both solutions shall provide consumers the freedom of choice with regard to what equipment they wish to lawfully attach to a network and service.
- Both solutions shall provide a competitive landscape to service providers regarding what equipment they choose to avail to their customers for lease regardless of the security solution.
- With regard to the support for IPTV services, both solutions must be agnostic to the layer 1 (physical) and layer 2 (datalink) characteristics of the network that delivers the service.
- The solutions shall be harmonized with and leverage to the extent possible the standards developed in the ATIS IIF.
- The solutions must support multiple secured video bearer streams.
- The solutions must support secure and unsecure two-way signaling between the terminal device and the service provider.
- All control and metadata structures¹² shall be delivered via an IP interface.
- The format of control and metadata structures shall be compliant to the IIF specifications.
- The interface for video bearer streams must support both raw Moving Picture Expert Group Transport Stream (MPEG-TS) (for example, delivered over a broadband network such as QAM) and MPEG-TS encapsulated in IP compliant to the IIF standards (for example, delivered over an Ethernet interface).
- The solutions shall not be based on a single embedded monolithic Conditional Access System solution.

III. Conclusion

AISP.5-ISSI supports, and is engaged in, the development of fast track solutions to carry out the directives of Section 629 of the Act,¹³ which requires cable operators to separate the security functions of their networks from the navigational devices. To that end, AISP.5-ISSI invites the Commission to consider its forthcoming solutions for IP-based separable security in

¹² Examples of control structures are channel map and emergency alert messages.

Examples of metadata are EPG databases.

¹³ 47 U.S.C. §549(a).

the emerging IPTV market (and potentially other video networks utilizing an IP path). These solutions will address many of the issues raised in the *NPRM* and will seek to achieve the goals set by the Commission to enhance the portability of equipment, facilitate low-cost production and empower new functionality and services.

Respectfully submitted,

ATIS on behalf of AISP.5-ISSI

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