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SOURCE   : TIA

TITLE   : TIA Input to TSB Director's Consultation Meeting on IPTV

AGENDA ITEM   : JOINT 5.1

DOCUMENT FOR   :

Decision	
Discussion	
Information	**X**

1   DECISION/ACTION REQUESTED

N/A

2   REFERENCES

3   RATIONALE

For information and external consideration.

4   CONSEQUENCES AND IMPLICATIONS

5   ISSUES FOR DISCUSSION

TSB DIRECTOR'S CONSULTATION MEETING ON IPTV STANDARDIZATION

Geneva, 4-5 April 2006

DOCUMENT xxx

Source:	**Telecommunications Industry Association (TIA)**
Title:	**TIA Reply to TSB Circular 71 and related Invitation to Participate in the TSB Director's Consultation Meeting on IPTV**

The TIA thanks the TSB Director for the kind invitation and encouragement to provide contribution to the TSB Director's Consultation Meeting on IPTV, as indicated in TSB Circular 71.

The TIA, which is qualified under ITU-T Recommendations A.5/A.6, has an extensive and productive relationship with ITU-T and we look forward to continuing that coordination with regard to IPTV-related standardization activities.

As the Information and Communication Technology (ICT) industry works to define and deploy next-generation services and technologies, standardization for emerging multimedia multicasting and other interactive capabilities has become an increasingly important topic. It can also be noted that such services and solutions can be applicable to Telecommunication for Disaster relief (TDR), Emergency Telecommunication Service (ETS), and Public Protection/Disaster Relief (PPDR) (ITU-R), with regard to appropriate emergency information and warning delivery capabilities.

The TIA, as a leading external SDO for the ICT industry, supports the efforts of ITU-T Study Group Chairmen to coordinate ITU-T IPTV-related activities within the ITU and with other SDOs (Standardization Developing Organizations) and forums that are currently working on similar issues. As such, we look forward to the opportunity for coordination with the ITU-T and ITU-R (radio delivery aspects), in regards to IPTV and related multimedia multicasting/broadcasting work; including supporting infrastructure, *etc*.

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TSB Circular 71 requests views and input involving five items (a through e). Please find TIA gathered comments below for consideration:

a) **The situation and challenges of IPTV service at the national level**

See responses below for information relating to service at national level. The use of the term "TV" can cause national issues related to regulation and public-interest requirements, thus is seen as potentially problematic for technical activities. Other responses below deal with the definition IPTV.

b) **The situation and challenges of IPTV service at the regional/global levels**

One area that TIA can highlight as an issue is IPR/digital rights management and access security across national and international boundaries.

There is also a need to enhance collaborative efforts at the international level to make most efficient use of resources and enable a timely and focused approach in the regional and global deployment of systems and solutions. As such, TIA encourages ongoing cooperation and collaboration among the ITU and national, regional and international activities that relate to IPTV-oriented work.

It can be recognized that offering end-to-end IPTV/multimedia services, including mobility support, could require interconnection across different implementations or jurisdictions capable of supporting varying degrees of connectivity, security and end-to-end Quality of Service (QoS).

c) **The actions and development of IPTV-related service by SDOs, … that are actively developing and coordinating standards on IPTV and related services**

The TIA is actively involved with supporting member interests in IPTV-related technology solutions and service capabilities[1] and supports coordination with the ITU on this subject. Please find a listing of TIA activities offered below, in addition to other activities and references relevant to IPTV discussions and that may also be useful. Note that there are other TIA Engineering Committees not listed that are active (nationally and internationally) in developing standards for physical infrastructure and other architectural layers that support IPTV and similar technology convergences.

- **TIA Engineering Committee TR-47, Terrestrial Mobile Multimedia Multicast (TM3):** Responsible for development and maintenance of downlink standards for terrestrial mobile multimedia multicast[2] systems. These standards are intended to be employed by users and suppliers to promote compatible and interoperable systems supporting multicast audio, video, and data requirements for a wide range of commercial and public services. The committee works with other national and international standards development organizations in promoting standards harmonization. Work items are encouraged that are not duplicative of wireless data services architecture, interface and protocol development, such as done in the ITU, 3GPP, 3GPP2 and OMA, among others. The Engineering Committee's focus is on standards for: radio interfaces; testing methodologies; performance and reliability standards; and equipment design guides as they relate to terrestrial mobile multimedia multicast. Such work could also involve a supporting infrastructure role within an overall operational environment. Current TR-47 technologies

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[1] URL for TIA Engineering Committees: http://www.tiaonline.org/standards/committees/

[2] An audio or video communication made to a select group of multiple destinations simultaneously, or two-way communication such as videoconferencing, teleconferencing, or e-mail.

applicable to IPTV-related services and capabilities include FLO, DVB-H and potentially DMB involvement as warranted by members. The TR-47 Engineering Committee is neutral on the question of transport technology -- as evidenced by the different approaches found within its own subcommittees TR-47.1 and TR-47.2.

TR-47.1, Terrestrial Mobile Multimedia Multicast based on Forward Link Only Technology: Responsible for the development and maintenance of downlink standards for a subclass of terrestrial mobile multimedia multicast (TM3) systems that involves Forward Link Only (FLO) technology, and optimizes performance by customizing the transport method to the service requirement: for video-streaming. For example, the video-streaming transport is not inherently IP-based; however, for other services, IP-based transport is a supported option. This technology can be considered IPTV as it provides the functionality associated with known IPTV-related capabilities.

TR-47.2, Terrestrial Mobile Multimedia Multicast based on Digital Video Broadcasting for Handheld Devices Technology: Responsible for the development and maintenance of downlink standards for this subclass of TM3 systems based on existing Digital Video Broadcasting for Handheld devices technology or DVB-H. TR-47.2 technical output would encompass, but not be limited to, the following:

Transmission system for DVB-H devices.

Implementation guides for DVB-H devices.

Validation of transmission systems for DVB-H devices.

Appropriate ETSI documents related to DVB-H devices.

- **TIA Engineering Committee TR-45, Mobile and Personal Communications Systems Standards:** Responsible for standards pertaining to, but not restricted to, service information, wireless terminal equipment, wireless base station equipment, wireless switching office equipment, ancillary apparatus, auxiliary applications, inter-network and inter-system operations and interfaces. The TR-45 Committee has developed standards for multiple 2G and 3G air interfaces since its inception and continues to encourage coordination with appropriate national and international standards entities such as the ITU, for the purpose of consistency and to promote efficient and timely development of standards.

The TR-45 work that relates to this IPTV subject, includes BCMCS (Broadcast-Multicast Service) standards (born out of 3GPP2 specifications) that allows for optimization for the use of the cdma2000® (TIA-U.S.A.) radio interface for delivery of BCMCS content streams to terminals in an operator's network. The operator can control each BCMCS content stream with regard to accounting aspects and regions of the network where the BCMCS content streams are available to various users. The content is encrypted to protect multicast IP flows against unauthorized reception. IETF protocols are widely employed whenever possible to minimize the number of new protocols required and to maximize the utilization of well accepted standards. Published documents and projects include:

TIA-1053, Broadcast/Multicast Security Framework (2005).

TIA-1006, CDMA2000® High-Rate Broadcast-Multicast Packet Data Air Interface Specification (2004). Other Addendums also available.

Project Number 3-0175 – (create a new standard) – TIA-2006, Interoperability Specification (IOS) for Broadcast Multicast Services (MCMCS).

- Additionally, multiple Global Standards Collaboration meeting (GSC) Resolutions may also apply to this IPTV topic and should be consulted given the GSC membership (including the ITU and external organizations from all regions) and the coordinated agreements reached by participating standards organizations. Specific Resolutions to consider may include:

   Resolution GSC-10/12 (GTSC) Next-Generation Networks (NGN).

   Resolution GSC-10/03: (Joint) Broadband Services in Rural and Remote Areas.

   Resolution GSC-10/04: (Joint) Open Standards.

   Resolution GSC-10/02: (Joint) Emergency Communications.

- Finally, in the spirit of coordination, please see **Annex 1** for information on U.S. based IPTV activities involving the Consumer Electronics Association (CEA), an ANSI-accredited standards body within the U.S. consumer technology industry.

d) The technical and regulatory-related challenges

The TIA would first note that the current challenge to define what "IPTV" means can indicate an unknown impact on standards and especially policy positioning. To complicate the issue, it seems there are new competitive video/multimedia offerings too — both wireline and wireless — that do not utilize IP, or maybe use it in part, however, they still provide services that could be considered IPTV. At this time, TIA has taken no effort to get ahead of industry in defining IPTV and looks to our members and to ITU Members for greater clarification and scope with regard to IPTV. However, this contribution does include basic constructs and a regional insight example to consider within overall discussions.

TIA has long supported the rights of broadband Internet access service consumers to connect to and utilize their choice of legal content, applications and devices, while also recognizing the needs of broadband Internet access service providers in a competitive market to manage the security and functionality of their networks. Given that IPTV involves high-speed or broadband connectivity, TIA believes that applicable broadband Internet access and or managed service providers should remain free to innovate in the deployment of managed services, such as video and multimedia programming, via applicable technologies and networks which may or may not utilize the public telecommunications networks but, in either case, are distinct from public Internet access services.

A competitive broadband Internet access market also gives facilities-based broadband Internet access service providers competitive incentives to undertake risky, new investments, while precluding anticompetitive behavior against unaffiliated businesses. In particular, these providers should remain free to engage in pro-competitive network management techniques to alleviate congestion, ameliorate capacity constraints, and enable new services, consistent with the technical characteristics and requirements of the particular broadband platform. IPTV may involve wireline, wireless, or some combination of end-to-end techniques, including underlying or supporting infrastructure and a coordinated approach that facilitate its development.

Generally speaking, in the U.S., we are focused on competitive video delivery as a source of new competition to existing providers and the "triple play" deployment potential, as part of the incentive for network providers to invest in next-generation

broadband networks. On the wireline side, the major issue has been the local franchise process, in which in excess of 30,000 franchise authorities must authorize terrestrial competitive video programming distributors before they can serve their communities. The time it takes to get these franchises and the often onerous requirements included in them present real roadblocks to timely deployment of the video and multimedia services, as well as deployment of the broadband infrastructure. There are efforts to change the law to nationwide licensing (or at least statewide licensing in the case of state legislatures), and to encourage the U.S. Federal Communications Commission (FCC) to utilize every source of its authority to try to prevent local authorities from acting unreasonably in the existing process. We are supportive and active on both of these fronts. Now, there also are arguments being made that "true" IPTV services (*again, the definition issue*), including those offered by the facilities owner, are not akin to traditional cable TV services and should not even be subject to the same rules. Other policy issues certainly exist, including competitive access to programming; particularly as in the U.S. there is plenty of vertical integration between cable operators and the non-broadcast networks.

As was already indicated, these concepts are U.S.-centric policy issues and their applicability in a global context is currently unknown. For that reason, we offer high-level points along these lines: encourage competitive entry and investment in broadband networks capable of delivering high-quality video; avoid roadblocks or regulatory disincentives to offering new video services, including reflexively imposing legacy rules established during different market and technology conditions; ensure adequate spectrum and licensing rules flexible enough to enable mobile broadband video and multimedia services.

From TIA's perspective, no significant evidence of a regulatory problem exists at this time and TIA would suggest that it is not now necessary for regulators to consider promulgating detailed rules in this area. Rather, to prevent the stifling of this burgeoning area of opportunity, regulators should address any such problems on a case-by-case basis in the event they arise.

e) The ITU's role and expected actions in IPTV standardization

The TIA believes the ITU (T and R Sectors) should play a key role in the development of IPTV-related "working" definitions and technical output that may facilitate global operations and connectivity. The challenge of creating a more comprehensive definition of IPTV or even the use of another term (based on broader service capabilities) that fully includes multicasting, broadcasting and other interactive or multimedia applications is important to facilitate coordinated understanding and technical progress. The terms "IP" and "TV" have specific connotations, especially TV, and it can be seen that the services and capabilities intended for this topic could be diluted by a term that is limited with regards to the potential technologies and applications involved overall.

As was previously mentioned, it can be supported that one of the ITU's key roles involving this subject is to facilitate development and promotion of globally consistent standards through cooperation and collaboration among ITU members and global, regional and national SDOs or fora on issues that have mutual impacts on IPTV-related technologies and services; including the referencing of current technical solutions and activity being undertaken by External Organizations, within the ITU's work program. As such, one can see the importance of IPTV being seen from a holistic point of view--

asking "What is it and what are the relationships?" from a wired, wireless, satellite, public Internet, private IP network, broadcast, multicasting and cable perspective.

Generally speaking, IPTV could involve a broadband connection, a capable viewing device and an applicable service platform that could provide both real-time multimedia broadcast/multicasting, including delayed transmission, and pre-recorded material delivered as a scheduled program (effectively live in one sense to a consumer audience), as well as certain stored video or other interactive applications; including point-to-point distribution that allows each viewer to receive individualized programming. The viewing or playback of IPTV programming could require a personal computer, a "set-top box" connected to a TV or even a mobile or fixed terminal device, depending on platform and other variables. Even though an IP-based transmission (or at least some aspect) is implied, TIA supports technology neutrality and does not believe that IPTV-type services (or parts thereof) necessarily have to use only IP if other managed solutions can also provide a required service or capability. For instance, the network may not utilize IP in transport or involve the public Internet; instead it can be engineered for performance across a managed network. Additionally, it is believed that services could support either IPv4 or v6, depending on network evolution and service offerings. It is believed IPTV supports the option for broadcast, multicast, or even interactive delivery capabilities as well as point-to-point, and it should be able to operate in real time (or near real time), rather than only delayed or stored streaming. A network deployment of IPTV services and the solutions or architecture utilized involve delivery over capable platforms and is a subjective decision of owners and operators, depending on their particular circumstance. How the programming is finally delivered to the end user may differ based on variables such as physical or air interface transport and delivery mechanisms, the access interface (wired, wireless), *others*.

This TIA contribution has been submitted to the appropriate electronic mail address and a copy to the designated TSB contacts (Mssrs. Reinhard Scholl and Young-Han Choe) for the IPTV consultation meeting. We look forward to any after-meeting liaison that details conclusions, next steps and avenues for further coordination and cooperation.

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Annex 1:

Information Regarding CEA IPTV OCC and its IPTV Roadmap Development

The Consumer Electronics Association (CEA) ia an ANSI-accredited standards body within the U.S. consumer technology industry; including more than 70 committees, subcommittees and working groups. Please find the following information as input for consideration by the TSB Director's Consultation Meeting on IPTV and related ITU-T Study Group activities.

Activity: CEA's **IPTV Oversight & Coordination Committee (IPTV OCC)**, including the development of an IPTV consumer electronics roadmap.

There are two public documents posted at the URL below that describes the project and provides contact information.

Website: http://www.ce.org/Standards/CommitteeDetails.aspx?Id=000011030337

Chairpersons:

Mr. Paul Thomsen, Hitachi America Ltd., Home Electronic Division

Mr. Paul Whitehead, AT&T Advanced Access Technologies

Committee Scope:

1. Identify needed standards enabling interoperability of Consumer Electronic devices in the home with IPTV networks using a national standardized interface.

2. Coordinate development of those standards by creating work requests to standards formulating committees / groups within CEA and external to CEA.

3. Monitor development of those standards including:

    - provide technical advice & guidance to formulating committee(s)

    - review draft standard to ensure it meets original work request intent

    - ensure timely development of necessary standards

4. Communicate with outside organizations to ensure necessary information exchange.

Expected work product:

A roadmap of existing and needed standards to support home network functionality and connectivity to IPTV services.

Expected completion: May 2006

Other Activities and Reports:

IPTV Interface Discovery Group
URL: http://www.ce.org/events/event_info/downloads.asp?eventID=IPTV05

CEA IPTV DG - Report and Recommendation
URL: http://www.ce.org/events/event_info/downloads/IPTV_DG_Report.pdf

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