



**Request approved specs  
& other documents here.**

**If your company is not an  
ISMA member, here is what  
you're missing:**

- Creating important technical specifications that support AVC video and HE-AAC audio coding
- Advancing DRM issues
- Addressing Enterprise Solutions
- Establishing High Performance Protocols
- Contributing to and advancing the only industry Conformance Program addressing interoperability
- and more...

**Learn  
More**

**Request  
Application**

## ISMA Fall 2006 Newsletter

[Sign-up  
for ISMA  
Newsletter](#)

### IPTV News from ISMA

#### **In this Issue:**

IPTV News Briefs: [AT&T Struggles with Packet Loss](#), [OpenPmP supports ISMA](#), [other ISMA News](#)

Guest Editorial: [The Challenge of IPTV Standards](#) by Bob Larribeau, MRG, Inc.

From the Chair: [Driving the Integration of Multimedia IPTV Standards](#)

New Members: [ZTE and Intel Join Standards Efforts](#)

Technical Committee Report: [ISMACryp: True End-to-End Content Protection](#)

Liaison Committee Report: [Mutually Cooperative Efforts](#)

Upcoming Events: [Dates to Note](#)

#### • [Driving the Integration of Multimedia IPTV Standards](#)

Trade associations are interesting organizations: they allow companies to collaborate in order that they may compete more effectively. This seems like a contradiction, doesn't it? But looking deeper, we find that it works very well.

In any developing industry, there are always pioneers who do the early exploration. They tend to do this in an ad-hoc, proprietary fashion - for flexibility, if nothing else. But once the viability of a business area is established, or looks likely, it's often beneficial for everyone if the way that the problem decomposes - the interfaces between the various elements - is established in an open fashion. This is particularly true when either the problem is large, or communications is involved. Streaming multimedia in general, and IPTV in specific, are both of these.

Trade associations tend to focus on these vertical areas. Core technology standards bodies develop basic, often specialized, techniques. MPEG (part of ISO) and the ITU are good examples, having strong programs in media compression. In contrast, trade associations tend to adopt core technology standards, and develop technology specifications only when there is a gap. ISMA is a perfect example; we adopt technologies from MPEG and the IETF, and fill-in the remainder.

In addition, trade associations undertake other activities: interoperability testing and conformance, promotion and awareness, and sometimes, regulatory or government awareness. ISMA does all these except (currently) the last.

The MRG study we commissioned showed that IPTV urgently needed a body that is international, vertically focused on IPTV, and willing to do market awareness and interoperability. The other organizations in the field are either technology-focused (e.g. MPEG) or geographically focused.

By working together on IPTV integration, ISMA will be the central clearing house for developing multi-vendor integration specifications, promoting open, multi-vendor solutions, and developing interoperability and conformance programs to give greater assurance that the products work together and will continue to do so in future. This gives customers an assurance of choice of vendor, longer-term viability of their architecture and purchases, and the ability to contribute to, and gain value from, an international market. Suppliers likewise broaden their markets and reach, and companies can focus on their core competencies and not be required to provide complete solutions, and this promotes the entry of more companies into the market. And they can share the work of promoting the open eco-system in which they all operate.

Which is how the customers and suppliers can compete more effectively, because there is a larger, vibrant, growing market. And

ISMA is here making it happen.

David Singer, Ph.D.  
ISMA Chairman of the Board  
Apple Computer/QuickTime

---

Top of page

---

- **IPTV News You Can Use**

**AT&T still struggles with packet loss**

According to a report in *Light Reading* citing industry sources, AT&T is still struggling with video packet loss issues, even though the carrier is set to launch its U-verse IPTV service soon. Sources say the U-verse network loses about two packets of data per minute, which equates to more than 2,800 bytes of information and about a second of video. The viewer must deal with screen pixelation or jitter, and in some cases, full screen freezes. Microsoft is reportedly working hard to fix the problem, since it supplies the carrier's IPTV middleware, using a software algorithm called Resilient UDP. It's rumored that Microsoft has already built in a 10 to 15 second delay for live broadcasts to enable the algorithm to command the set-top box to ask for a resend of lost packets from server. Other sources say AT&T is also giving forward error correction (FEC) a try at one leg of its network. For more on AT&T's network issues see the report from [Light Reading](#).

**New Open Source DRM Release Supports ISMACryp**

An open source DRM (digital rights management) software project that supports embedded Linux has achieved its second major release. OpenIPMP v2 adds support for additional open DRM standards, along with structural and development improvements aimed at making the software easier to port, build, and integrate.

**Driving the Integration of IPTV Standards at the ISMA Summit in Amsterdam**

Following on the success of our North American forum in June, the room will be filled with over 60 IPTV executives registered to attend the European-based ISMA International IPTV Summit on September 12 in Amsterdam near the RAI Center. The Summit will include presentations on the state of standards in the IPTV industry from research firm MRG, Inc., updates on ISMA work and provide an opportunity to discuss how the industry can work together to move toward improved scalability, interoperability and end-to-end system integration. A few spaces are still available. To register or for more information, contact Michael LoBue, ISMA Executive Director, at [LoBue@ISMA.tv](mailto:LoBue@ISMA.tv), +1.415.561.6276.

**ISMA 22<sup>nd</sup> Forum and Plugfest in September**

Addressing the technology behind France Telecom's MaLigne TV service which bundles thirty channels provided as MPEG-4 streams to broadband subscribers, Julien Gloaguen of France Telecom's Orange will be the featured speaker at the ISMA member Forum on September 14-15. According to industry reports, the new service launched in December 2003 now has over 200,000 subscribers, an increase of over 80,000 in six months. The ISMA Forum also will provide an opportunity for face-to-face discussion on ISMA technical work. The ISMA Plugfest on September 13 creates a confidential setting for product conformity testing. Both are open to members only or pre-approved auditors. Contact Michael LoBue, ISMA Executive Director, at [LoBue@ISMA.tv](mailto:LoBue@ISMA.tv), +1.415.561.6276 for more information.

**Service Provisioning - Triple & Quad Play**

While IPTV holds tremendous promise for the industry, there is no central driving force for standardization and uniformity in the marketplace. In terms of IMS and service provisioning, the integration of IPTV and IMS is likely to take place over some time. A recently updated ISMA white paper outlining the state of end-to-end IPTV system interoperability and the role of ISMA in driving integration includes new information outlining the possible evolutionary steps of incorporating IMS into IPTV. The updated white paper, "[Planning the Future of IPTV with ISMA](#)," is now available to the public from the ISMA Web site.

---

Top of page

---

## • ZTE and Intel Join ISMA to Develop IPTV Standards

If you took all the commercial movies made since the early days of the industry, Intel Corp. notes that it would take over a 100 years to play the titles back to back. With many of these movies now being digitized for easy downloading, there should be no shortage of content to attract an audience for the growing IPTV market.



But as ISMA looks over this content-rich horizon, it poses a more fundamental question: How will the industry develop the interoperability and scalability to meet increasingly competitive pressures as the market moves beyond the early adopter stages? Open standards are essential to a successful ramp up of the industry.

China's largest telecommunications supplier ZTE Corp. and global giant Intel agree, and both are now members of ISMA. As the IPTV market grows, ZTE, a proven innovator in both the Chinese and world market, will be working with Intel and other ISMA IPTV Working Group members to establish the necessary standards for end-to-end system interoperability.

ZTE is a major enterprise in the China Torch Program and is a high-tech achievement transfer base for China's 863 Program. As such, the company has undertaken several important projects including 3G, a high-performance Ipv6 routing platform and 3Tnet. ZTE is China's largest telecommunications manufacturer and offers wireless, network and terminal equipment.

Can Shen, an engineer in ZTE's Multimedia Services Department in the company's central R&D organization, is looking to ISMA as an equitable environment to work with other companies on issues relating to architecture, QoS, video and audio translation and other areas. "We are developing several systems, such as IPTV, mobile streaming, and so on," Mr. Shen explained. "Since our products will be offered in the international market, standards are important for us," he said.

At Intel, Fai Yeung said, "ISMA and other IPTV enabling technologies are making it possible to bring media content into the home and we are interested in seeing that such media content works seamlessly throughout the digital home environment." Dr. Yeung is part of the Industry Standards and Initiatives organization for Intel's Digital Home Architecture in the company's Digital Home Group and is representing Intel in the technical work ahead with ISMA. His group's efforts focus around Intel's vision of developing interoperable devices capable of sharing digital media across a home network.

As with most technology companies, standards play an important role in Intel's product development plans. Intel Chairman of the Board, Craig R. Barrett gave the following example: "As borders become transparent, whether you are running your railroad line or your broadband connection across the border, you need to have some degree of commonality, and that's what standards ensure. Increasingly, we're not talking about physical goods crossing borders but about goods flowing through the ether. You have to have standards so that the movie made in China or India plays in the equipment delivered in the United States, or the Web site supporting Intel in the United States plays on the computer in China."

ISMA and the IPTV Working Group welcome both ZTE and Intel in the work ahead to improve the delivery of IPTV through the ether.

---

[Top of page](#)

---

## • ISMACryp: True End-to-End Content Protection

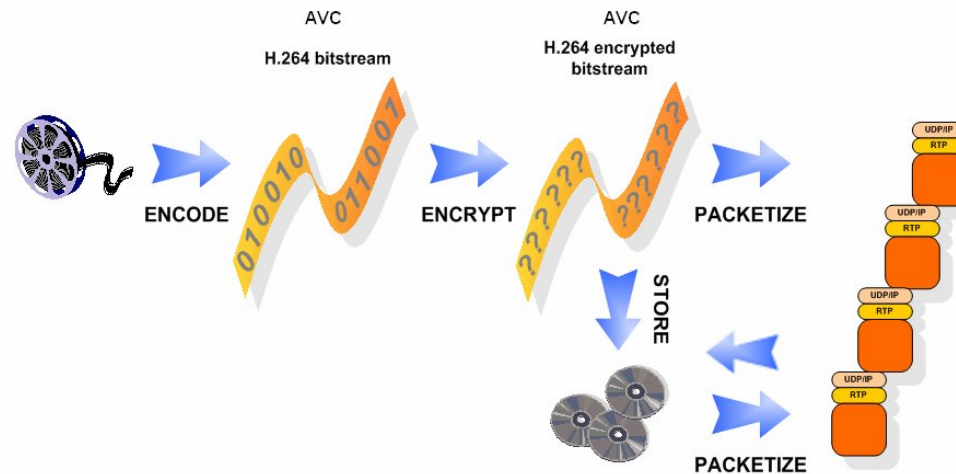
What would you do if you owned something very valuable that everybody wanted? You would probably make sure that it is well protected and be very careful when lending it to others.

This is exactly how content owners are feeling today. No matter if it is a music download, mobile-TV clip or an IPTV broadcast, all these multimedia applications depend on one crucial resource: content. Before content owners allow access to their valuable content, they want to be sure that it will be protected from piracy at every point along the delivery chain — from where it originates to where it is finally consumed. With ISMACryp, the technology for true end-to-end protection is finally available and will make it easier for content owners to provide the music, TV and video that everybody wants.

ISMA developed this standards-based encryption specification based on the obvious industry need and has just updated it to ISMACryp Version 1.1 to cope with AVC video and improve the consistency of the solution. Its approach is "encrypt and then packetize," providing end-to-end content protection as opposed to the traditional scrambling solutions previously in use.

Thus, with ISMACryp, the content is encrypted at the source and can be stored as is and streamed later; it can also be used on any network and any device. This approach allows more flexibility along the entire value chain. Moreover, as the encryption scheme is independent from the key management system (KMS), it can be integrated with any KMS.

Other protection technologies like SRTP or DTCP-IP are limited to link protection. With these other schemes, the content is protected only while being transmitted on the link but is "in the clear" before and after transmission. If several transmission links are involved in the overall delivery chain then each intermediate node imposes additional risk. On the other hand, traditional Conditional Access systems can achieve protection by reproducing the techniques used for unidirectional links on IP networks, but these techniques may not be the most efficient and flexible for use on a bidirectional IP-network.



**Encrypting then packetizing allows content to be stored on servers in an encrypted state. With this end-to-end encryption, content owners do not have to distribute unencrypted content.**

Based on the technical advantages and the resulting demand from content owners, ISMACryp has been adopted by DVB-H for streaming content on mobile networks. Furthermore, it is the basis for the DRM content format (PDCF) as specified in the Open Mobile Alliance (OMA). In the future, other applications and standards will make use of ISMACryp and benefit from true end-to-end encryption.

Nikolaus Farber, Ph.D., ISMA Technical Chair  
Fraunhofer Institut Integrierte Schaltungen

---

**Top of page**

---

#### • Mutually Cooperative Efforts

In our work at ISMA we believe that to invent is good but to adopt is also good. Our charter is to develop and promote open standards for multimedia streaming that will result in end-to-end IPTV system integration. Whenever possible in this pursuit, we look

to capitalize on existing and promising technologies and to coordinate with other organizations and consortia.

As with many trade associations, ISMA maintains cooperative relationships with relevant technical organizations in the industry for the purpose of sharing specific information that will support the development of our specifications and open standards. Our goal is both to incorporate the best work of other bodies into our specifications as we look to solve a particular problem and to promote the adoption of ISMA specifications when suitable.

For example, ISMA has built its work around existing MPEG-4 AVC and AAC codecs rather than developing a new solution. In a like manner, the DVB-H standard has adopted our ISMACryp as part of a recommended security solution for streaming content to handheld devices.

The term "liaison" describes an established formal exchange between ISMA and other technical organizations. ISMA typically "opens" a liaison when a request is brought to the floor at one of our quarterly member Forums. Liaisons are useful when the other organization has already done work in a particular area or is currently working on a specific project relating to ISMA work. A formal liaison relationship is a legal and organizational vehicle that allows ISMA to seek input from other bodies or ask for guidance on a particular methodology. This often leads to ISMA incorporating an existing approach into one of its implementation as part of an ISMA interoperable solution.

The main motivation for ISMA to establish liaisons with other organizations is to avoid the duplication of work that is already a proven and accepted solution. ISMA liaisons are an important organizational tool to ensure that implementation specifications adopted by ISMA for open, integrated solutions take advantage of the excellent work done by other significant trade organizations.

Yuval Fisher, Ph.D.  
ISMA Secretary and Liaison Officer  
Envivio, Inc.

---

**Top of page**

---

- **The Challenge of IPTV Standards**

By Bob Larribeau, Program Director, IPTV, MRG, Inc.  
[bobl@mrgco.com](mailto:bobl@mrgco.com)

IPTV has become a global phenomenon. MRG has identified over 450 service providers globally that have some level of IPTV activity. Many are still performing technical or marketing trials, but an ever increasing number are now offering commercial IPTV services. We have identified 11 IPTV services, each with more than 100 thousand IPTV subscribers; and another 49, each with more than 10 thousand IPTV subscribers.

IPTV has caught fire for a simple reason. Mobile services are killing wireline telephone services globally. The major wireline carriers are losing telephone customers at a rate of five to ten percent per year. These companies realize that they have to become broadband companies rather than telephone companies. They have to push their subscribers up to services that require speeds of 20 Mbps or higher or they will lose them to wireless for good.

TV services and especially High Definition (HD) TV services are the answer. AT&T in the U.S. believes it needs broadband links of 25 Mbps to support multiple HD and SD TVs, Voice over IP (VoIP) services, and high speed data services into the home. Verizon in the U.S. expects that the demand for bandwidth in the home will grow to 50 Mbps or higher in the next few years.

While IPTV is accepted as the answer to this dilemma, there is an important question about whether or not this technology is sufficiently mature to support this interest. There have been a number of specific standards that have enabled IPTV. These standards have addressed specific issues required for an IPTV service:



MULTIMEDIA RESEARCH GROUP, Inc.

Standards Body	Standard	Application
MPEG Group	MPEG-2	Video compression
	MPEG-4	Video compression
IETF	IGMP	Multicast control
	RTSP	Control on demand video streams
	RTP	Video transport

Standards groups are just starting to address comprehensive system wide IPTV standards. ATIS formed the IPTV Interoperability Forum (IIF) in 2005. The ITU formed a Focus Group on IPTV (IPTV FG) in 2006. Both of these groups are working at a systems level and are developing overarching IPTV architectures and identifying and filling gaps in IPTV standards.

There are important areas that still need work. Defining standardized middleware interfaces will be an important challenge. Integrating middleware with the supported hardware and networking systems and the back office systems can be a formidable process. The standardized integration of IPTV networks with IMS (IP Multimedia Subsystems) networks is another important task that will enable the development of services that span IPTV and IMS networks.

There are also areas of work that fit well with ISMA's charter. RTP has some significant advantages for the transport of IPTV traffic. However, it may need some enhancement to fit the requirements of IPTV networks better and its advantages need to be better understood by the industry. In addition, a lot of work needs to be completed to define standardized approaches to encrypting video content for digital rights management systems in order to protect films and other on demand and broadcast programming. ISMAcrypt could well become the basis for a standardized approach for IPTV services.

Working to insure the interoperability of the various components of IPTV networks is another activity that ISMA can support. Interoperability will happen only if there is an extensive amount of testing. This will take careful organization and planning, but the results will be worthwhile.

The size and complexity of IPTV networks means that producing the standards and testing required for a truly interoperable system will require all of the resources that can be applied. This creates a significant opportunity for ISMA to contribute to this effort.

MRG, Inc provides IPTV market analysis, and is publisher of many reports on the Global IPTV industry. More information is available at [www.mrgco.com](http://www.mrgco.com).

---

**Top of page**

---

- **Dates to Note**



**ISMA International IPTV Summit**  
Sept. 12, 8:30 a.m. - 2:00 p.m.

Amsterdam, The Netherlands  
Includes networking breakfast and lunch  
RSVP to Michael LoBue, ISMA Executive Director at [LoBue@ISMA.tv](mailto:LoBue@ISMA.tv)  
+1.415.561.6276  
Holiday Inn Amsterdam, Bianna van Dijk, De Boelelaan 2

**ISMA Plugfest**

September 13, Paris, France  
France Telecom R&M  
38-40 rue de General Leclerc  
92 Issy les Moulineaux  
Members only or approved auditors  
RSVP to Michael LoBue, ISMA Executive Director, at [LoBue@ISMA.tv](mailto:LoBue@ISMA.tv)  
+1.415.561.6276

**ISMA 22nd Forum**

September 14-15, Paris, France  
France Telecom Group Facilities  
Auditorium Saint-Nicolas  
6 rue Vaundetard, 92 Issy les Moulineaux  
Paris, France  
Members only or approved auditors  
RSVP to Michael LoBue, ISMA Executive Director, at [LoBue@ISMA.tv](mailto:LoBue@ISMA.tv)  
+1.415.561.6276

**Connections Europe**

November 14-16, Berlin, Germany  
ISMA sponsored event



---

[Top of page](#)

---

[Privacy Policy](#) | [Refunds Policy](#)  
© 2004 - 2006 ISMA. All Rights Reserved.