Access to the AXMEDIS Framework

The AXMEDIS Framework consists of a set of tools, libraries, manual, specification, test cases, server tools, report tools, technical notes and promotional material. All of these, along with their source code are available to Accredited Partners.

You can use it to setup and build simple as well as complete applications and services in the area of content re-purposing, production, protection and distribution. With the flexibility of AXMEDIS dynamic plug-in technology, you can customize your applications and processes to suit your needs. The same plug-in can be used on websites, production tools and plug-ins.

AXMEDIS Framework is open

- AXMEDIS focuses on interoperability and openness of content model and interoperability of DRM models, including multi-channel distribution;
- AXMEDIS specification is public and accessible from AXMEDIS portal. Its use is royalty free;
- source code of the AXMEDIS Framework is accessible via the AXMEDIS Affiliation programme. The affiliation fee is affordable for all. Alternatively affiliation can also be offered in return for contributions to improve and extend the AXMEDIS Framework;
- AXMEDIS plug-in technology is public. The specification and the source code for creating new plug-ins are public and accessible without the need to be affiliated. Any tool can be integrated into the AXMEDIS Content and Access Control Framework (CAAF) with this technology;
- AXMEDIS partners are open to your needs that may be useful to improve the capabilities of the AXMEDIS framework. To take advantage of the AXMEDIS frameworks and technologies, you are invited to apply for the AXMEDIS Affiliation. Affiliation is free of charge for non profit institutions.

AXMEDIS Affiliation

With the AXMEDIS Affiliation, industrial participants can access the AXMEDIS Framework which can be used to set up and enhance production, protection and distribution facilities/platforms in a simple and cheap manner;
- establish standard models (e.g. NIPES-2) for content and licences modelling and hence adding DRM in your current business;
- establish contacts with other business partners interested in exploiting similar technology;
- obtain greater control on the content usage;
- create customized AXMEDIS players for PC, PDA, mobiles and STB;
- exploit and sell innovative business models that can be enforced on a distribution channel with management of rights and obtain reports on exploited rights of the multimedia content distributed.

With the AXMEDIS Affiliation, research institutions can:
- access the AXMEDIS Framework to build different solutions and applications to cover the needs of the value chain actors and related (e.g. law firms);
- access AXMEDIS test cases and tools for content processing and modeling, and can be integrated into the framework;
- add new content models and new DRM models, make them interoperable with AXMEDIS, test and extend them already in place on the AXMEDIS Framework;
- test algorithms and tools with respect to the state of the art solutions, with ease;
- collaborate with other relevant research institutions and companies within the sector.

For latest information, developments, alerts and announcements, please visit the AXMEDIS web portal at http://www.axmedis.org

If you have any queries or comments, please email axmedisinfo@axmedis.org.

AXMEDIS Partners include:
- Accademia Nazionale di Santa Cecilia Foundation, Italy
- Advanced Concepts for Interactive Technology, Germany
- AFIT, Associazione per l’Interfaccia, Italy
- AIT, Associazione Italiana per la Tecnologia, Italy
- AIP, Associazione Italiana per la Tecnologia, Italy
- Akademia Foundation, Spain
- ART, Assosiation Product Telecom, Italy
- BBC, British Broadcasting Corporation, UK
- BCI, BigChannel, Italy
- DGI, Department of Systems and Informatics, University of Florence, Italy
- Dipartimento di Informatica, University of Florence, Italy
- DHFL, Ecole Polytechnique Federale de Lausanne, Switzerland
- DTL, Electronic and Telecommunications Research Institute, Korea
- Dixit Computing Ltd, UK
- Empolis S.A., France
- ETSi/EBD, S.A., Italy
- Façonnier, Ltd.
- FHI, Fraunhofer Institute for Computer Graphics, Germany
- GRUPO preview, S.A.
- Groupe Gamon, Ltd.
- HPC, Hewlett Packard Italy S.r.l., Italy
- Imagine, France
- Kansas University, Lihtsen
- MediaCity, Italy
- MCI, Italy
- Peking University, China
- Paris, PublAfrica, Italy
- Ripil Engineering, Italy
- SB/IS, Sonode and Informativa, France
- SIRAI, Satellite Digital Platform, Italy
- SIRAI, Satcom Marsei High Level/Cons/It, Italy
- Stratec, Austria
- Tiscali, Rome, Italy
- TISO, Lihtsen, Italy
- TISCALI, Toulouse, France
- UPCI, Universite Paul Sabatier, France
- University of Kent Knowledge Media Institute, UK
- University of Reading Information Resource Centre, UK
- University of Surrey, UK
- XIM Ltd., UK
- ZAG, UK

To get the full list, please visit the AXMEDIS portal.

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AXMEDIS Framework

The AXMEDIS Framework is an open solution which builds on technologies and tools to:

• reduce costs and increase efficiency for content repurposing, processing, management, production, protection, and distribution;
• offer effective automation for:
  - integrating Content Management Systems (CMSs) with distribution systems by automating the repurposing, communication and maintenance of content and information;
  - managing content gathering and ingestion processes from local / remote CMSs as well as the file systems;
  - managing workflow processes at content-factor level and between content-factors with the support of OpenFlow and BizTalk;
  - processing and adapting supporting parallel processing, GRID technology, and optimization techniques;
  - allowing content production on demand, VOD and IPTV;
• allow the convergence of several media and interoperability of content to enable multi-channel distribution. In more details the framework supports content distribution:
  - on different channels such as satellite data broadcast, Internet, cellular/mobile network services, and traditional media support such as DVB and DVD;
  - with different communication technologies, particularly with controlled Peer-to-Peer (P2P) for both B2B (Business-to-Business) and B2C (Business-to-Consumer) levels;
  - in different devices such as PC, PDA, interactive TV (i-TV), set-top box (STB), mobiles, etc.;
• with different transaction models on the same channel and for the same kind of content (per pay per download subscription, with a large set of functions, etc.);
• using new methods and tools for flexible yet interoperable Digital Rights Management (DRM) in order to facilitate a smooth transition from paper contracts to digital licenses;
• exploiting MPEG-21 REL (Rights Expression Language) with specific extensions and enhancements;
• supporting different business and transaction models such as:
  - integrating different DRM models such as MPEG-21 REL and OMA (Open Mobile Alliance);
  - support the whole value chain, including composition, repurposing, packaging, integration, aggregation, synchronization, formatting, adaptation, transcoding, and indexing. Additional features include the integration of both protected and non-protected components with an object, definition of relationships with other resources, metadata integration and management, non-intrusive protection, license production and revocation;
  - harmonise B2B and B2C areas for DRM, bringing DRM models into the B2B area, supported by protection and content protection across the whole value chain;
  - integrate B2B, DRM and content management and distribution with P2P at both business-to-consumer levels.

AXMEDIS Content Model

AXMEDIS content model is designed to support all types of cross-media content from simple media files such as video, audio, images in media players such as DVB and HTML, to complex groups such as SMIL and HTML presentations with images, video, documents, text, and HTML. AXMEDIS is open to all DRM models and integrates different DRM models such as MPEG-21 REL and OMA (Open Mobile Alliance). AXMEDIS is open to all DRM models and integrates different DRM models such stored in different ways and for different purposes and industries. The AXMEDIS framework allows for the combination of content components and the secure distribution in respect of intellectual property rights, supporting a large variety of DRM rules and models according to concepts of interoperability among DRM models (member, but not only, based on MPEG-21 and OMA, with both binary and XML formats). AXMEDIS is open to all DRM models and solutions for DRM models and allows for the combination of content components and the secure distribution in respect of intellectual property rights, supporting a large variety of DRM rules and models according to concepts of interoperability among DRM models (member, but not only, based on MPEG-21 and OMA, with both binary and XML formats).

AXMEDIS Architecture

Key Components

• AXMEDIS Content Production tools, AIXCP for automatically producing and repurposing any content and cross media content. AXMEDIS is designed to support the scheduling and production processes in distributed AXMEDIS JS language, processing metadata, categorizing and formatting content, producing licenses to harmonize the production with workflow applications in the factory and among geographically distributed factories, etc. The AXMEDIS factory is scalable and can handle needs of small and large content producers, integrators, and distributors. The factory is fully supported by AXMEDIS technology for automating the production process as well as performing manual editing;
• AXMEDIS P2P and distribution tools, AIXPP, for assembling the content publication and acquisition in the business area allowing the introduction of AXMEDIS models by means of the secure and legal tools, AIXTPool, based on BitTorrent technology and AXMEDIS. The AXMEDIS tools in this area also allow assembling of content distribution and protection towards multiple channels and P2P;
• AXMEDIS Players for several different platforms such as PDA, mobile, Mozilla Plug-in to insert into WEB pages, Active X to insert in IE web pages and other tools, STB, PVR, HDR, for VFD, (DVB-T, DVB-S). They can be customized in terms of GUI and look and feel for distribution and sharing AXMEDIS content among final users with the support of DRM and P2P tools. Players include the capabilities of playing more than 200 formats of video, audio, images, documents and XML, HTML, FLASH, MPEG-4. They can also include supporting capabilities.

Content Processing

AXMEDIS framework and the AXMEDIS Content Processing (AKCP) based on Grid technology offer automated features and functionalities, supporting convenient scraping interface and integrated development tools to automate integrated activities such as:

• Content Ingestion and Gathering;
• Content Storage and Retrieval;
• Content Processing: repurposing, adaptation, transcoding for text, doc, images, audio, video, multimedia, XML, SMIL, HTML, style, XMP, hssed, MPEG-4, etc.;
• Metadata repurposing, adaptation, transcoding; Content composition, formatting, layout, styling; Communication with databases, P2P and distribution servers via several protocols; Content packaging: MPEG-21, OMA, XML, reMalD, ATOM, ZIP, etc.;
• Content Protection via several algorithms; Content DRM with MPEG-21 and OMA, with tracking and making rights exploitable;
• Content Licensing;
• Content Publication and Distribution towards multiple channels;
• Workflow management integration with BizTalk and OpenFlow;