Access to the AXMEDIS Framework

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

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

AXMEDIS Framework is open:
- You can customize AXMEDIS players for PC, PDA, mobiles and STB.
- AXMEDIS offers a wide range of plug-ins developed by AXMEDIS Affiliated Partners.
- AXMEDIS technology is public.
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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 (CMS) with distribution systems by automating the repurposing, communication and maintenance of context and information;
  - managing content gathering and ingestion processes from local/revenue CMSs as well as the systems;
- managing workflow processes at content-factor level and between content-factors with the support of OpenFlow and B2B;
- processing and adaptation 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 by:
  - different channels such as satellite data broadcast, Internet, cellular/mobile network wireless and traditional media support such as CDs and DVDs;
  - different communication technologies, typically with controlled Peer-to-Peer (P2P) for both B2B (business-to-business) and B2C (business-to-consumer) levels;
  - different devices such as PC, PDA, interactive TV (iTV), set-top box (STB), mobiles, etc.;
  - with different transaction modules on the same channel and for the same kind of content (pay per movie subcription, with a large set of conditions, etc.);
- using new methods and tools for flexible and 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 and their evolution;
- integrating different DRM models such as MPEG-21 REL and ODS, 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 content within one object, definition of relationships with other resources, metadata integration and repurposing, protecting production and workflow, harmonising B2B and B2C areas for DRM, bringing DRM models into the B2B area, supporting encryption and protection models across the whole value chain, integration B2B, DRM and content management and distribution with P2P at both business and consumer levels.

AXMEDIS Content Model

AXMEDIS content models are designed to support all types of cross-media content from single media files such as videos, audio signals, images, etc. to cross-media groups such as SMIL and HTML. For example, both SMIL, video, documents, text, pictures, static, dynamic, arrangement, orientation to the management of protected content for government, healthcare, education, etc. The AXMEDIS model allows on a high level of flexibility into your content by offering an XML based with scripting languages with LPC. AXMEDIS content and players may work with the full set of content formats and with the full set of content processing capabilities.

AXMEDIS is open source framework of integrating any kind of metadata from the native Dublin Core to other custom metadata for classification, categorisation, tracking, authentication, enrolments, and protection aspects. The AXMEDIS format allows the combination of content components and their 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 (mainly, but not only, based on MPEG-21 and OMA, with both binary and XML formats). AXMEDIS is open to all DRM models and solutions.

Key Components

- AXMEDIS Content Production tools, AXCP, for automatically producing and repurposing any content and cross media content (specifically: SMIL, programming and scheduling the production processes in extended AXMEDIS JS language, processing metadata, composing and formatting content, producing licenses to harmonise the production with workflow applications in the factory and among geographically distributed factories, etc. The AXMEDIS Factory is scalable and can satisfy the needs of small and large content producers, integrators, and distributors. The factory is fully supported for the content production as well as performing manual adding;
- AXMEDIS P2P and distribution tools, AXPP, for integrating the content publication and acquisition in the business area allowing the interconnection of AXMEDIS Factories by means of the secure and legal P2P tools, AXP2P, based on BitTorrent technology and AXMEDIS. The tools in this area also allow sharing of content distribution and replication towards multiple channels and P2P;
- AXMEDIS Players for different platforms - PDA, mobiles, Mozilla Plug-in to insert into WEB pages, Active X to insert in IE web pages and other tools, STL, P2P, HVR, for P2P, DVB-T, DVB-S. They can be customized in terms of GUI and look and feel for distributing and sharing AXMEDIS content among final users with the support of DRM and P2P. Players include the capabilities of playing more than 200 formats of video, audio, images, documents and SMIL, HTML, FLASH, MPEG-4. They can also include repurposing capabilities.

Content Processing

AXMEDIS framework and the AXMEDIS Content Processing (AXCP) based on Grid technology offer automated features and functionalities, supporting convenient scripting interface and integrated development tools to automate integrated activities of:
- Content Ingestion and Gathering;
- Content Storage and Retrieval;
- Content Processing: repurposing, adaptation, transcoding for text, docs, images, audio, video, multimedia, XML, SMIL, HTML, style, W3M, h264, MPEG-4, etc.

AXMEDIS architecture and AXMEDIS Content Processing (AXCP) are based on Grid that offer automated tasks on the content distribution. They supports for user and tools registration, certification, authentication and accessing, attack detection, monitoring all the activities performed on the AXMEDIS content on AXMEDIS players and tools, processing license, managing black lists, and collecting and reporting the information about content usage and rights exploitation, etc., for business purposes and for statistical reasons.

- Metadata repurposing, adaptation, transcoding;
- Content compression, formatting, layout, styling;
- Communication with databases, P2P and distribution servers via several protocols;
- Content packaging: MPEG-21, MP3, OMA, handheld, ATOM, ZIP, etc.;
- Content Protection via several algorithms;
- Content DRM with MPEG-21 and OMA, with tracking and repurposing rights exploitation;
- Content Licensing;
- Content Publication and Distribution through multiple channels;
- Workflow management integration with BizTalk and OpenFlow.