aXmedis

Automating Production of Cross Media Content for Multi-channel Distribution

www.AXMEDIS.org

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AXMEDIS technologies reduce the costs of digital content production, protection and distribution. AXMEDIS supports interoperable DRM considering multiple DRM models, open standard DRM MPEG-21 and OMA and integrated and expandable back office management.

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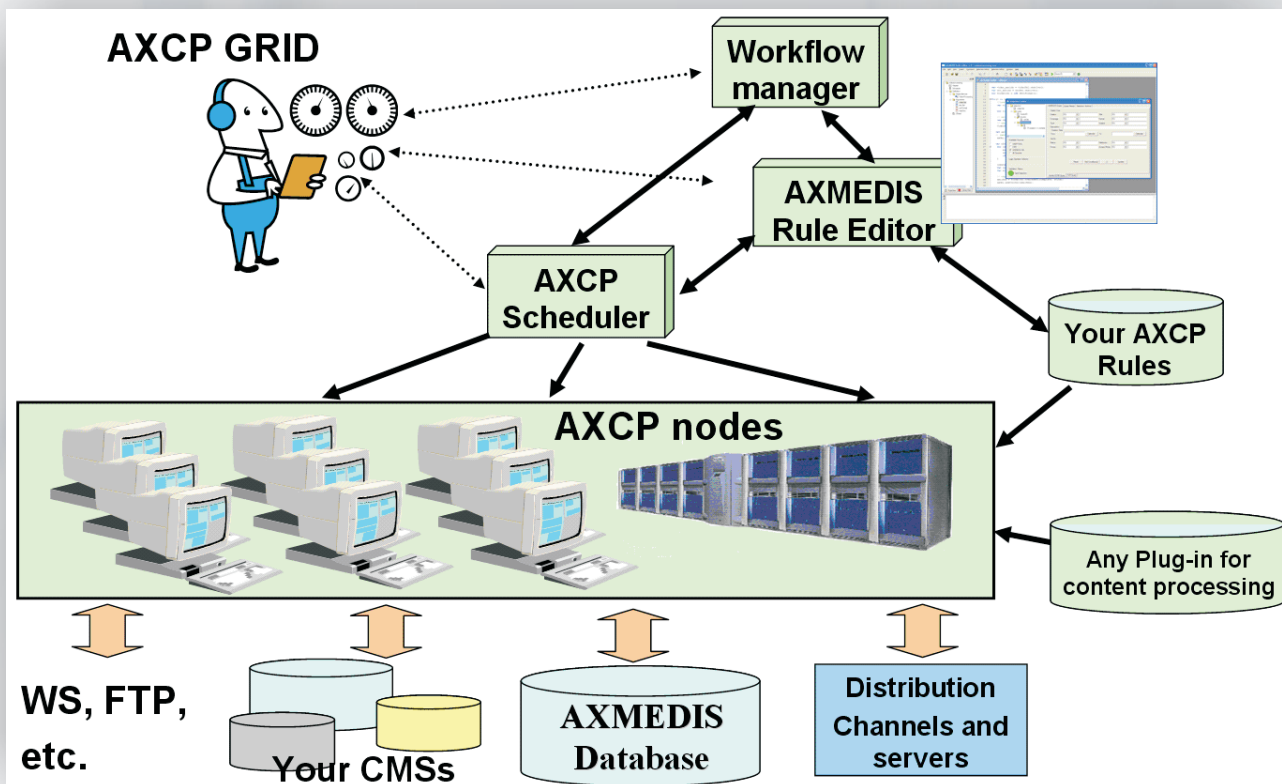
AXMEDIS Content Processing (AXCP)

Automate activities of

- **Content and metadata Ingestion and Gathering** CMS such as ORACLE, XML databases, Tamino, MySQL, MSSQL, HP DMP, ODBC, etc), file system, and protocols; via Web Services, FTP, HTTP, WebDAV, SMB, Gopher, NNTP, and other models.
- **Content Storage and Retrieval** from/to AXMEDIS database, MPEG-21 database, other AXMEDIS content Factories by means of the AXMEDIS P2P tools (AXEPTool), ODBC databases.
- **Content Processing** such as
  - digital resources **adaptation,** extraction of descriptors, **transcoding,** synchronization, estimation of **fingerprint,** watermarking, indexing, content summarization, etc.;
  - **metadata manipulation**, mapping and adaptation, Dublin Core, MPEG-7, XML;
  - resource d**escriptors recognition for monitoring distribution channels**.
- **Content Composition** for creation of content by combinations of raw assets such as text, images, audio, video, animation, metadata, descriptors, licenses, and other multimedia objects such as MPEG-4, HTML, SMIL, Macromedia tool file, games, etc.
- **Production Process workflow management** integration with OpenFlow and BizTalk Workflow Management systems.
- **Content Packaging** and DRM such as MPEG-21, with any digital resource inside, from other MPEG-21 to HTML, SMIL, groups of files and related resources; OMA, etc.
- **Content Presentation and Interactive models** such as: SMIL, HTML, MPEG-4, etc.
- **Content Formatting** structuring and styling content elements by means of SMIL based templates and applying style-sheets to define the usage interface (format, layout) of the whole collection of content elements and the interested content usage paradigms, Genetic Algorithms, best time fitting, etc.
- **Content Protection and DRM**
  - protecting digital resources and objects;
  - tracking exploited rights and reporting actions performed to the content owner, distributors, collecting societies, etc.
- **Content Licensing and DRM**
  - generating license from license model and additional information, storing licenses, and posting to license server automatically;
  - supporting transcoding/translating licenses (MPEG-21 REL, OMA ODLR).
- **Content Publication and Distribution**
  - supporting distribution towards multiple channels, for one or more: Internet, satellite, mobile, P2P distributions;
  - producing, monitoring and editing programmes and schedules;
  - controlling P2P network in download and publishing reducing the seeding time to zero;
  - connecting AXMEDIS Factories of content integrators, producers, and distributors.

AXMEDIS Content Processing: **a GRID solution** supported by tools:

- **AXMEDIS Rule Editor**: to produce, debug, test and validate executable AXCP Rules that can be:
  - written with an Extended Java Script for **content production**;
  - tested, debugged and validated on the AXMEDIS Rule Editor;
  - activated for content processing on any AXCP GRID Node or on a single computer;
  - used/parameterized for producing content on demand or to be integrated in your content factory;
  - activated from your Workflow Manager engine via web service;
  - activated by changes in remote objects and queries in the local database and on the P2P network;
  - created to specify the internal behavior of AXMEDIS Cross media content.
- **AXCP quick start**: to make queries and activate AXCP rules with a mouse click;
- **AXCP GRID**: a set of general purpose, office, industrial or specialized computers to execute AXCP Rules governed by the AXCP Scheduler;
- **AXCP Nodes**: a single general purpose, office, industrial or specialized computers of the AXCP GRID;
- **AXCP Scheduler to manage AXCP rules of GRID nodes**:
  - Scheduling rules according to the content production and processing needs in terms of time and resources. Allocating tasks on the basis of Deadline Monotonic solution and optimizing with taboo Search Solution;
  - Activating rules as sporadic and/or periodic tasks, controlled by other tools and/or web services;
  - Monitoring progress of production processes and their status, etc.

The processing capabilities and functionalities are accessible from AXCP Tools and Rules and can be simply **expanded/customized** by means of realizing and/or installing a set of additional plug-ins.
The AXMEDIS Plug-in technology is open.

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