Contenuti Digitali
Le sfide delle nuove tecnologie

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version 1.0

Partners
Innovations

- New models, methods and tools for:
  - i3-Content, i-cube-content
    - interactive: from multimedia to cross media
    - intelligent: active and proactive with users
    - interoperable: devices, DRMs, and formats

- Automated Content Management, cost reduction
  - production, protection and MULTI CHANNEL distribution
    - VOD, Prod. on Demand, profiling..
    - scalable processing
    - one language for all the value chain
  - Integration of B2B and B2C activities
    - Enforcing flexibility in business and transaction models
    - Interoperable DRM
    - Integrated DRM for B2B and B2C
  - Secure/Legal P2P content distribution
    - for both B2B and B2C

- Create the AXMEDIS Framework for all

AXMEDIS B2B Distribution and Sharing

- Content Providers
- Internet Distributor
- Mobile Distributor
- Media Distributor
- Broadcasters
- Kiosks distribution
- AXMEDIS Portal
- AXMEDIS P2P monitoring
- AXMEDIS DRM
- Collecting Societies
- Content Integrators
**Factory and integration**

AXMEDIS Automated and Manual Factory Tools

- AXCP Quick Start
- Your tools commands
- Workflow systems

**Monitoring & Reporting**

- AXMEDIS DRM

**WEB Server**

- Internet, WEB, VOD, POD

**Playout Server**

- P2P distrib & monitor

**Web+Strm Server**

- Social Networks

**FTP, WS, etc.**

**DB**

**CMS**

**Convergence, the Interoperable Content**

**Internet Distributor**

**Mobile Distributor**

- Broadcasters, DVB-H

**Media Distributor**

- Broadcasters, DVB-T

**IPTV distribution**

**Kiosks distribution**

- Broadcasters, DVB-S

**Broadcasters, DVB-S**

- Broadcasters, DVB-T

- Media Distributor

- Internet Distributor

- Mobile Distributor

- IPTV distribution

- Kiosks distribution
Summary

- AXMEDIS Model
  - AXMEDIS Editor and Players
- Content Management
  - Manual and Automated
  - AXMEDIS P2P
  - AXMEDIS DRM
- Multichannel Distribution
  - interoperability
- AXMEDIS Framework

An example to wrap it all up

Music Album

- AxInfo
  - Rights Owner
  - Producer
  - Distributor
- DublinCore
  - Title
  - Genre
  - Authors
- Other Descriptions (e.g. MPEG7)

Backstage Video

- Rights Owner
- Producer
- Distributor
- Video
- Genre
- Authors
- Subtitles Languages
- Playing time
- Resolution

- Metadata will be always accessible for indexing and querying
AXMEDIS Cross Media Content

- Any content inside a package:
  - Mix of: HTML, SMIL, MPEG-4, video, audio, text, Documents, images, actions, games, animations, etc.
  - Additional content and interactivity for the end users
  - Compliant and extending MPEG-21

AXMEDIS Intelligent content allow user/producers to

- create content for other devices: ringtones, mobiles, ...
- support social activity: annotations, user generated content, personal collections
- internal query
- customized for culture and language

Interoperability among devices

- Interoperability among devices, e.g., getting
  - a video for the TV and reproducing it on mobiles, PC, etc.
  - an MP3 audio track and using as ringtone in the phone, reproducing it on the car stereo, or in the living room, passing to a friend.
  - a guide in a museum for his mobile/PDA, using there, and passing and playing it at home on the TV set and/or on the PC
  - Making annotations on a video and pass to a friend, ...
  - ...

- Buy once to use on all
  - According to the business model
  - Via different DRM models and tools
Interoperable Players

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# Production On Demand

- **AXCP GRID**
  - Activate Rule
- **Distributor Server**
- **Content Databases**
- **Personalized Content on Demand**
- **AXMEDIS DRM**
- **Social Networks**

Content: Search, Selection, Acquisition, Production, Adaptation, Transcoding, Formatting, Packaging, Protection, Publication and Licensing on Demand

Request or user generated content

# AXMEDIS Content Processing GRID

- **AXCP GRID**
  - Workflow manager
  - AXMEDIS Rule Editor
- **AXCP Scheduler**
- **AXCP nodes**
  - Front end servers, VOD, prod on demand
  - Quick Starter
- **Your CMSs**
  - AXMEDIS Database
  - Distribution Channels and servers
- **WS, FTP, etc.**

Any Plug-in for content processing
Enabling massive content production and processing

- AXMEDIS GRID language and tools for
  - Automated Content Ingestion and Gathering
  - Automated Content Query and Retrieval
  - Automated Content Load and Storage: databases and files
  - Automated Content and Metadata Processing, enrichment
  - Automated Content and Data processing
  - Automated Content Filtering and Repurposing
  - Automated Content Composition, Formatting
  - Automated Content Protection and Licensing
  - Automated Content Publication/Download on/from any channel
  - Automated Content Distribution via Multichannel
  - Automated Profiles management and processing
  - Automated Production of Content on Demand
  - ...

Secure and legal P2P

- P2P network set up for content distribution
  - CONSUMER content distribution and sharing
    - Allowing setting up large P2P networks at low costs, about 160,000 peers per server.
    - Automated B2B content distribution/publication via P2P, ready to download content on publication
      - Accelerated seeding
  - Protected content, legal P2P set up
  - Efficient control of P2P networks
  - BitTorrent Technology with Query and Catalogue
  - P2P Client Tools

- Content Sharing for B2B and/or B2C
Make easier the B2B market of digital content

PAR: Potentially Available Rights into AXMEDIS objects

- The PAR can be used to make queries
  - PARs based content trading, Customers may know directly which rights they could buy and by who
  - PARs may be used to harmonize and automate B2B and B2C

Audio tracks of Bocelli for Audio broadcasting for June 2008 in Germany?

DRM and Domain Management

- Users are strongly interested in acquiring a content to be used in their domain in which they have their
  - Home devices, cars, mobiles, etc.
- Media Centers and/or Home Servers are going to manage content and licenses for the whole domain
  - One license for all devices and people

ASDL

Domain Server
## Market solutions

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<td>Source code non</td>
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<td>Source Code Accessible</td>
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<td>accessible</td>
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<tr>
<td>Limited Metadata</td>
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<td>Any metadata, custom metadata, any ID, any Descriptor</td>
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<tr>
<td>Media content, simple</td>
<td></td>
<td>Any digital format, of any type: audio, video, image, games, doc, and Cross media: SMIL, HTML, MPEG-4,... INTELLIGENT content</td>
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<tr>
<td>content, not intelligent</td>
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## Summary

- **AXMEDIS Model**
  - AXMEDIS Editor and Players
- **Content Management**
  - Manual and Automated
  - AXMEDIS P2P
  - AXMEDIS DRM
- **Multichannel Distribution**
  - interoperability
- **AXMEDIS Framework**
AXMEDIS Multichannel Distribution

- PCs via Internet+P2P, AXMEDIS P2P and PC player: TISCALI Media Club, DSI
- PCs via Internet, AXMEDIS PC player:
  - ELION, VRS
- PCs via Satellite data broadcast, AXMEDIS PC player:
  - EUTELSAAT, UNIVLEEDS
- PDA via Kiosks, AXMEDIS PDA player:
  - ILABS + ANSC Kiosks, TISCALI, DSI
- STBs and PVRs:
  - AXMEDIS STB: IPTV, Internet VOD: TEO, VRS
  - AXMEDIS STB/PVRs via Satellite data broadcast: EUTELSAAT, MBI
- Mobiles:
  - AXMEDIS mobile player: ILABS, TISCALI, DSI
  - OMA player: Telecom Italia (TI), DSI
- PCs via Internet+P2P, AXMEDIS P2P and PC player:
  - free air DVB-T + home domains/media center
  - BBC, SDAE, ETRI, UPC

AXMEDIS and IPTV, VOD on STB/PC

Cross media
Content, from video, audio to complex content

Audio and Video

Video on Demand
Front End Server

Sale and CRM
service

AXMEDIS
DRM

Issue license

Accounting and reporting

www.AXMEDIS.org, Paolo Nesi, May 2008
AXMEDIS P2P for B2B: AXEPTool

Enhanced BitTorrent Technology with AXEPTool P2P B2B tool
Push Distribution and AXMEDIS Technology

- AXMEDIS DRM
- AXMEDIS Content Processing
- EUTELSAT
- AXEPTool
- Broadcast Server
- Sale Manager

Mobile & kiosk scenario as 2 channels, POD

- AXMEDIS DRM
- Content Factory
- Kiosk (1)
- Mobile Distribution
- Kiosk (n)
- GPRS, UMTS, EDGE,..

Content delivery to user
Content delivery to distributor
Content sharing via AXEPTool

Reporting about consumption, licensing
Grant

www.AXMEDIS.org, Paolo Nesi, May 2008
Content Production on the Consumer Side

Cross media Content, from video, audio to complex content

**BBC Broadcasting DVB-T**

- TV free on air
- Recording, added value Content
- Package on site production and domain management

**Added value content via ADSL**

**Free on air transmission**

**Accounting and reporting**

**AXMEDIS DRM**

Cross media Content, from video, audio to complex content

**AXMEDIS BBC AX4HOME recorder/player**

**Neighbours**

Just a moment...
Content Enrichment with final users

- Content Enrichment with AXMEDIS
- e-ContentPlus
- www.variazioni.org
- Content
  - enrichment, several forms
  - produced and reproduced on demand at each enrichment
  - production with DRM
  - distribution from VARIAZIONI portal and from AXMEDIS P2P

- > than 10 partners + communities
  - Partners from Spain, Lithuania, Belgium, Portugal, Italy, Finland, Portugal

Distribution of cultural content, AV guides

- At MUSA: instrument museum at Accademia Nazionale di Santa Cecilia, Roma
- Usable for AV guides, even with RFID
- Production of content for continuous formation, in medical area or for other interactive guides
- Monitoring of the user activities

AXMEDIS Grid

- AXCP Scheduler
- AXCP Node
- AXCP Editors
- AXCP Quick Start, Your tools commands, Workflow systems,…
- AXP2P Servers
- FTP, WS, etc.
- WEB Server
- AXCP GRID
- databases
Interoperability among channels

- Channels are the distribution methods for content:
  - streaming,
  - downloading, prog./download
- Channels are grounded on different communication standards,
  - MPEG, HTTP, SMIL, etc.
  - Content and devices are strongly related to the supported input channel
- AXMEDIS content is independent on the communication channel
  - Content can be automatically produced for multiple channels at the same time
  - Content received from one channel can be passed to a different one

A unique framework for all

- Cross Media Content and tools
- Backoffice Automation
- Standards
- Open platforms
- Interoperability on content
- Interoperability on devices/players
- Interoperability on DRM

The added value to your business!
Contact Information

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  Web: http://www.AXMEDIS.org

Please download AXMEDIS Tools

- AXMEDIS PC player: [link]
- AXMEDIS PC player with SKIN [link]
- AXMEDIS PC player, Active X and .Net [link]
- AXMEDIS PC player for EUTELSAT OPENSKY: [link]
- AXMEDIS Editor: [link]
- AXMEDIS content production tools (includes the above AXMEDIS Editor): [link]
- PDA player: [link]
- PDA content: [link]
- P2P Client tool AXEPTool: [link]
**Technical Notes**

- AXMEDIS for all
- AXMEDIS Object model
- AXMEDIS Automated Content processing
- AXMEDIS P2P
- AXMEDIS DRM
- AXDRM how to use on a portal
- Video on demand and STB, TEO show case
- Content on demand on Internet, ELION show case
- Content distribution via Satellite Data broadcast
  - EUTELSAT Case

**Click on these links to download the videos**

- editor-new5b.wmv
- play5-N.wmv
- play5-VIDEO-NESI.wmv
- new-xim-ansc-objects-with-audio.wmv
- pda-player-medium.wmv
- sat-dist-with-audio.wmv
- kiosk.wmv
- AXELTEO-TEO-STB-demo.wmv
- ELION-enduser-nesi.wmv
- bbc-user4.wmv
- siae-presentation-short-July2007-new-nov07.wmv