UMID Applications in FIMS

Yoshi Shibata
metaFrontier.jp, LLC
Outline

• Introduction to FIMS
• Introduction to UMID
• UMID Applications in FIMS
• Conclusions
Introduction to FIMS

(Framework for Interoperable Media Services)

NAB 2012
Traditional Systems

• Functions are Tightly Coupled.
  – Optimized to the specific application
  – Good cost/performance ratio
  – High efficiency

But …
Problems of Traditional Systems

- Difficult to replace or update parts of system
  - Change parts of system requires knowledge of the entire system.
- Difficult to transplant parts of system to other system
  - Take comparable amount of time and money for building a new system or making significant modifications.

SOA approach can solve these problems.
In order to maximize the potential of SOA, standardization of the Industry common interfaces is essential.
What is the FIMS Activity?

- Define interoperable media service interfaces between
  - Media Orchestration Systems
  - Media Services
FIMS is the Solution for Media

• FIMS is a SOA framework applied to Media
• FIMS works more at the business or workflow level
• FIMS specifies the interfaces to services
• FIMS has support from across the industry (Users, Vendors, SI)
• FIMS understands media
  • High-bandwidth, large file media
  • Long running processes
  • Format (Codec, Container) independent
  • Metadata
FIMS 1.0: FIMS Technical Board

- FIMS Base Framework
- Three Services
  - Capture
  - Transfer
  - Transform
- SOAP / RESTful agnostic
- Next Steps
  - Completion of AMWA & EBU Technical Review for Formal Release
  - Additional Service Interfaces

FIMS 1.0 Download link
FIMS Business Board

• A group of users
  – Ad-Id, AMWA, BBC, Bloomberg, CBC, EBU, HBO, ITV, MLB, MTV, NBC, NFB, RAI, RedBee Media, Turner, Viacom

• Scope
  – Identify business needs
  – Prioritise FIMS work

• Second RfP (Request for Proposal) for FIMS Phase 2
  – Respondents
    • BBC, Bloomberg, Hessische Rundfunk, IRT, NBCU, RAI, RedBee Media, Sony, Tosca-MP, TBS, Wells Fargo
  – Proposals
    • resource estimation/reservation, IP stream capture, forensic marking, media asset registration / discovery / update service, proxy browsing, editing distribution, metadata enrichment, customisation
  – Set as priorities
    • MAM/repository Services
    • Quality Control Services
FIMS – NAB 2012

**DEMO SPONSORS**

- Bloomberg
- CUBE-TEC International
- IBM
- SONY
- Triskel

**FIMS SUPPORTERS**

- DVS
- CINEGY
- EMC® ISILON
- FLYING EYE
- harmonic
- HARRIS
- Mesclado
- Radiant
- GRID
- Rai
- TIXEL
- VSN

wiki.amwa.tv/ebu
Demonstrations on the FIMS booth

**Bloomberg powered by IBM and Triskel**
- FIMS Real World Implementation at Bloomberg (framework, dashboard)
- FIMS Compliance Best Practices (transcoding, data mover, orchestration)

**Cube-Tec**
- One step into FIMS future: Quality Control Services for Media Factories
- Workflow engine, framework for multiple QC-Engines, BPMN 2.0

**Sony**
- Multi-Vendor Interoperability Demonstration Video
  - Orchestration (Sony Media Backbone Conductor) with Services (Cinegy, Cube-Tech, Avid, RadiantGrid, Sony)
Where else can you find FIMS at NAB?

- IBM    Booth N5223
- SONY   Booth C11001
- VSN    Booth N708 and N408
- Harris Booth N2502
FIMS is an Opportunity

• Service Vendor
  – Service Re-Use
  – Fast Introduction to the Market

• System Integrators (SI):
  – Maximize SOA Advantage: Agility
  – Easier Update and Maintenance
  – Flexible Selection of Media Services

• End Users:
  – Not Dependent on Specific Vendors
  – Risk Reduction
Introduction to UMID

(Unique Material IDentifier)
What is the UMID?

- Unique Material IDentifier
  - Specified in SMPTE ST 330 & RP 205
    - Originally standardized in 2000
  - Composed of four parts
    - Universal Label (UL): identifying as UMID (Key)
    - Length (L): Length in byte that follows, Fixed to 13h (Length)
    - Instance Number (Inst.#): indicating “instance”
    - Material Number (Mat.#): Globally unique value

```
  UL  L  Inst.#  Mat.#
12 bytes 1 byte 3 bytes 16 bytes
```

Key    Length    Value
What is the UMID For?

- To link an AV material to its metadata

  <Metadata xmlns="...">
  <TargetMaterial umidRef="UA"/>
  <Title>Major League Baseball</Title>
  </Metadata>
UMID based AV Material Search

- Because of huge difference in their data sizes ...

- It is "UMID='UA'" AV material.
- Which AV material captures "Ichiro Homerun"?
- Where is "UMID='UA'" AV material?
- I have it at "http://..."!

Uniform management of metadata associated with AV materials via UMID
UMID based AV Material Search

- Because of huge difference in their data sizes …

It is "UMID='UA'" AV material.

Which AV material captures “Ichiro Homerun”?

Uniform management of metadata associated with AV materials via UMID

I have it at “http://…”!

Where is “UMID='UA'” AV material?

Needs

Common UMID Resolution Protocol
To Make it Happen in Practice

• UMID Resolution Protocol needs to be industry standardized
  – Where is “UMID=‘UA’” AV material?
  – Do you have “UMID=‘UA’” AV material?

• UMID Applications Principles need to be explicitly provided
  – Fundamental rules on the UMID based AV materials managements

Demanded a New Project in SMPTE!
UMID Applications in FIMS
When Generalized…
When Generalized…
When Generalized…
When Generalized…

(Workflow) Application Layer

Orchestration System
- Media Service

Framework for Interoperable Media Services

Dynamic links via UMID

Media (Manipulation) Layer

Ingest Server

Material Server

Archive

Playout Server
Who’s Problem?

• Thanks to “anyURI”, FIMS has already addressed it!
  – Today (URL style)
    
    
    <bms:bmContent xmlns:bms="http://base.fims.tv" ... >
    
    <bms:file>http://www.foo.com/bar/media/myClip.mxf</bms:file>
    
    </bms:bmContent>
  
  – Tomorrow (URN style)
    
    <bms:bmContent xmlns:bms="http://base.fims.tv" ... >
    
    <bms:file>urn:smpte:umid:060a2b34.01010105.01 ... </bms:file>
    
    </bms:bmContent>

Next, SMPTE’s turn!
Progress Report: 2012-04-10 Project approved by ST

Ready to go!
Conclusions

• FIMS as SOA Framework for M&E Industry
  – The FIMS 1.0 Specifications are almost ready!
  – MAMs and QC will be tackled for FIMS Phase 2

• UMID enhances FIMS
  – "Flexible Linking" between Application and Media layers
  – Further work needed in SMPTE

which will begin shortly!
JOIN US!

WIKI.AMWA.TV/EBU
LINKEDIN FIMS SOA USER GROUP