OASIS CMIS, ICOM, DAM Discussion

16 Sept 2013

OASIS hosted an informal, open call in order to a) discuss the potential need for a Digital Asset Management (DAM) interoperability standard or profile, b) to review how the CMIS and ICOM standards may address the challenges of DAM, and c) to consider next steps if needed.

Attendees:

Arun Krishnaswamy, Vizrt
Brett Smith, PTFS
Carol Geyer, OASIS
Celso Rodriguez, ASG
Chet Ensign, OASIS
David Riecks, Controlled Vocabulary
David Choy, OASIS CMIS TC chair
Dee Schur, OASIS
Eric Chan, Oracle, OASIS ICOM TC co-chair
James Kelleher, Generis
John Yokley, PTFS
Ken Baclawski, Northeastern University, OASIS ICOM TC co-chair
Kevin Kramer, Fidelity
Mark Carlson, Oracle
Michael Steidl, IPTC
Mike Pollitt, Limeboy
Peter Yim, CIM3
Ralph Windsor, Daydream
Randy Dufault, Genus
Ray Gauss, Alfresco
Robin Cover, OASIS
Scott Malabarba, IBM
Todd Eckler, North Plains

Minutes

1. Introductions

2. Making the case for a DAM interoperability standard (Mike Pollitt)

Mike: Whether you're integrating a DAM system within a business or for external customers, you find yourself repeating the same actions. There's no doubt standards are needed for efficiency.

There are two classes of DAM use cases that map to CMIS nicely:

1) DAM libraries (repositories of records for any kind of media). The line between document management and DAM is blurry. My experience is mainly with video and images. At some point, the asset has to travel to a content distribution system (CDN) or something more complicated like a digital courier system to a customer. The issues: a) making the assets available to people in the content management system and b) promulgating the 'state of the asset' (e.g., pulling an asset from distribution when its usage rights have expired). This is a hub-and-spoke system with the ability to update the state.

2) Linear or cyclical work flows, where an asset travels through different systems in its lifetime. Sometimes, the question is which system has control of the asset at any given time. There's a need to get the systems to talk to one another and communicate the current state of the asset. This is more complex when multiple organizations are collaborating on the asset. Without a standard, you can get into a security nightmare—it can be unclear who has control, who has the latest version, etc. This is where an extension of CMIS might cover 70-80% of what's needed. I'm curious if ICOM can express in a business language what it means when one system hands off an asset to another system.

That's the problem space as I see it. If we can find a standard that covers these requirements without being too onerous to implement, it would be very useful.

3. Building blocks of DAM interoperability (Ralph Windsor)

Ralph: There are hundreds of DAM vendors, big and small; the vendor market is fragmented, and it's getting worse. DAM crosses a range of asset types--videos, images, documents, records. CMIS is very good, very comprehensive. It maps nicely by supporting rendition, directories, classification hierarchy, arbitrary directional relationship (containment). But there is a lack where you have multiple layers of metadata (e.g., security elements, usage rights, descriptive data). There is a need to separate out object properties, property collections-- 'first class objects'--but it's too complicated to implement by many of the vendors in the market (especially the smaller ones). Getting CMIS into use across the whole of the DAM industry is unlikely. Instead, we need a precursor to CMIS or a specification that would fit underneath the strata of CMIS.

There are four building blocks to address: linked data, global asset identifiers, asset registries (image registries where copyright owners can register their interest in intellectual property), and metadata (IPTC format in XMP). It would be easier to fit just those blocks together--vendors could actually do it without too much difficulty. I'm thinking about something like DNS for digital assets. Just as DNS tells location and ownership, we need a model that does the same for digital assets. There are two big objectives/trends to leverage: 1) protect the rights of copyright owners and 2) address vendor interoperability in an easier way.

Group discussed whether CMIS really is too complex.

Ralph: CMIS is large. There's a features arms-race in the industry…unless the client asks for CMIS (and most don't know to ask for it), the vendor will take a simpler, more proprietary path.

Group debated the level of customer demand for CMIS and the length of time needed to develop a simple integration.

Ralph: Maybe CMIS is recognized as a priority for large customer installations, but other use cases need something faster.

Mike: I spent some time trying to map CMIS to DAM concepts. CMIS covers a great deal of the ground already, but there is an area where there's a lack. In DAM, you can have multiple layers of metadata, some of which have specific security associations, (e.g., technical data, usage rights, legal, Duplin Core style descriptive metadata)—these are all handled separately. You could probably do it with CMIS, but it would be complex and might require a lot of documentation to describe how to achieve it.

Todd: The challenge we have is around the business rules and semantics--what can or should happen to this asset or its parent or derivatives? How do we capture and codify these rules? The second issue is the single point of truth for auditing. We need to show business intelligence around the use of the asset in downstream systems, round-trip. For example, I distribute an asset for a specific purpose, but I want it to come back home when the prescribed conditions are met. How do we capture those capabilities and requirements?

Arun: We see these issues too in TV and broadcasting. We also still have a big job of getting content off legacy tape systems into current systems. There's so much metadata for these assets that needs to be preserved. There's only so much you can do as a single vendor. A draft version of FIMS (Framework for Interoperable Media Systems) came out last year, but so far no MAM (media asset management) vendors are claiming compliance. [FIMS compliance assessment is very much a work in progress, and as such, smaller, single-purpose self-contained systems may technically be considered compliant with much less effort than enterprise-wide MAM systems.] There needs to be an incentive for vendors to implement. Customer awareness of the benefits and customer demands are key.

Two questions on conformance: Does CMIS address content versioning directly? How does it deal with security?

4. How does CMIS fit? (David Choy)

David: There's a lot to talk about on this topic. We're running short of time, so I'll be brief. CMIS supports different object types, content streams, and type hierarchy with inheritance. CMIS defines several object types, each with system-maintained properties and user-maintained properties. User can add more properties by defining subtypes. CMIS addresses versioning. CMIS tries to come up with single version. Access control is used in CMIS on individual objects.

CMIS could help in defining data types to describe digital assets, type hierarchy (types and subtypes). You can leverage CMIS to simplify the implementation of a DAM-compliant server. This may be sufficient, but sometimes, you may want to open the CMIS interface to allow the client to access the DAM asset through CMIS, even though the client may not use all the DAM functions by bypassing the DAM server.

Applications can add metadata, DAM vendors can define additional sub-types properties, and add to CMIS implementations such that the 'CMIS client to access DAM interface.' DAM semantics could be pushed down into CMIS layer, CMIS will consider this. DAM implementation/application can use the 'retention and hold' capability built into CMIS. CMIS could add these additional features.

The CMIS TC would be happy to consider additional DAM functions. We've done this in other areas. In CMIS 1.1, for example, we introduced new capabilities to support records management systems. If a new DAM extender had similar requirements, the CMIS TC would be interested in addressing those.

Mike: What does a minimum implementation of CMIS looks like?

David: Essentially, CMIS will support data type information updates, update retrieve, search capability, and relationships of objects. It will allow applications to build peer-to-peer and let you manage other objects individually. For people who are not interested in building a CMIS server from scratch, there are open source servers on the market.

5. How does ICOM fit? (Ken Baclawski)

Ken: ICOM builds on the basis of CMIS. It provides for collaboration among systems. It has specific profiles for digital object types (wikis, email, forums, etc.). Both CMIS and ICOM would be a good basis for a standard on DAM. We can go into more details on a follow-up call.

6. Is there a need for a new standard or a profile/extension of existing standard?

Chet: This has been a great discussion, but we are running out of time. Rather than address next steps on this call, let's distribute these minutes, further discuss online, and schedule another call.