

# Cultural Heritage and DAMS

## Essay on *SPECTRUM Digital Asset Management*

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Upon reading Collections Trust *SPECTRUM DAM*<sup>1</sup> guide, I was impressed to discover such an extensive and well written specification for the deployment of a digital asset management system (DAMS) in a collection management organisation. In our own DAMS practise we have many cultural heritage customers as well as a broad community of local government and university customers who are engaged in collection management as some part of their activities.

In line with Collections Trust intent to provide informative information in an open access environment, I have created this essay to add to the wealth of knowledge already found in *SPECTRUM DAM*. I hope to engage in a productive dialogue with Collections Trust and other members of the cultural heritage community by making this content freely available on various social media channels such as our blog.

To start at the beginning – the definition of a digital asset. In itself this seems to be quite a simplistic task but on closer inspection we find that an organisation's first challenge is defining what **is** a digital asset, (and thus is suitable for a digital asset management regime), and what is not. Most commonly this is in reference to what

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<sup>1</sup> Collections Trust *SPECTRUM Digital Asset Management* v2.0 March 2013

can be considered primarily as a document and better managed within a document centric solution. Within the context of collection management there is also a consideration of what are primarily collection objects requiring management within a collections management system (CMS), such as born-digital assets and derivative media that encompass one or more physical collection objects.

From a purist DAM perspective, any computer file that includes *content* in a broad definition can be considered a digital asset and can be managed within a DAMS. In the simplest of descriptions, a DAMS is a database that has as a file reference (e.g. a UNC path) as a primary database field. This differentiates DAMS from document management as often the latter contains the document within the database. However, this is rather an academic point as some DAMS contain assets and not references and some document management solution refer to digital files. The differentiation to collection management solutions is clearer, as although some CMS may have images or media embedded or referenced, almost all CMS users would agree that the primary reference is an acquisition or collection reference, typically as an alphanumeric used to identify the collection object in question.

In my experience, the reasoning behind an organisation implementing a DAMS is all about the very nature of the digital assets / content / media that is being managed and what that organisation is intending to achieve by managing these assets. In light of this, the nature of digital asset management and digital assets becomes much clearer as the media provides opportunities for the organisation to leverage the content embedded within the media and the DAMS must support this process. For most organisations, if there is a clear intent to provide public access to digital surrogates of their collection items, then the DAMS must have an active role in achieving this. In many cases the DAMS is not the solution but rather the supporting infrastructure that facilitates the *solution*. For example, public access is achieved by making content available via web, social media and a range of other digital delivery processes. Thus the DAMS must be able to supply suitable content rendered to a preferred size/format to support the consumer's device of choice in response to whatever discovery process is deemed most suited and with sufficient throughput/speed for the target community.

## Factors in the Management of Digital Assets

With a more robust characterisation of a DAMS such as above, we can then work back to the media itself and engage more objectively with the definition of what digital assets are and what a DAMS must be able to do with them.

1. Suitable content – the DAMS must support the discovery process within a framework that respects cultural sensitivities, copyright/licensing, content censorship, access permissions and security. To achieve this the DAMS must be a sophisticated database that can integrate within an organisation's technology landscape and offer suitable control over what content will be available to a user of the solution.
2. Rendering – digital assets will be in a wide range of formats and often in historical formats that are no longer supported. The format to store the digital surrogates will also be dictated by the process of content creation and should support long term storage of suitable quality or better for longevity. Preferred formats and sizes for

delivery of content are quickly changing and can be expected to continue to change as the technological landscape of our society evolves. A successful DAMS must stand in between the output from an organisation's preferred choice of digital capture and the current standards for effective delivery of content. In simple terms a DAMS must include the capability to transform media from one format and size to another for all the asset types an organisation may want to manage. This characteristic alone is perhaps one of the most obvious points of difference between a DAMS and any other collections solution.

3. Consumers – other than for the purposes of storage and preservation of digital surrogates a DAMS is all about delivering content to consumers. There is little to no value in a DAMS by itself if content delivery is not considered as a prime requirement. There are some exceptions to this, such as born-digital assets may be managed by a DAMS purely as an archival process or the photographic record of a preservation process is required to be stored for later retrieval. To the most part a successful DAMS must be designed from the consumer back to the source of the content. This places the consumer correctly as the primary driver of a DAMS.

4. Throughput – for many organisations that place the consumer first the next important topic is to determine the intended audience. In light of recent findings such as those outlined in *Striking the Balance* from Collections Trust, the target audience will be the *public* in the widest meaning of the term. To support successful delivery of



media to such a large audience that has such widely varying patterns of consumption, the DAMS must be scalable to support extremes of throughput. It is perhaps a key strategic directive of any cultural heritage organisation to be able to support viral consumption of digital surrogates of collection objects in response to trends within society most typified by short term raised public awareness triggered by commercial media organisations.

With these factors in mind and a more sophisticated understanding of what are digital assets and why an organisation might have a DAMS the approach to digital asset management may be extended.

## The Value of Digital Assets

But to return to my definition of a digital asset, and taking into consideration one of the primary factors driving an organisation to create, store and collate large numbers of media files. In our practice of digital asset management, one of the key questions to ask any organisation is what is their *understanding of the value of their digital assets*? Seemingly a simple question but the inherent significance of this question becomes more apparent when it is pointed out that the key word in this phrase is *understanding*. For a collections organisation that is following an open access policy, the value is not necessarily just in the asset itself, but also in the added benefit of having the digital assets in common circulation, freely available for access. Whereas another collections organisation following a commercial re-use strategy with

regards to digital collections may establish a value rating based upon the licensing for commercial re-use of the content, to enable its reproduction onto objects such as cups, T-shirts, and prints for sale.

In either case the organisation needs a well developed understanding of the value of their digital assets and must embed this understanding into both the business case for a DAMS as well as the solution design that dictates the final deployment. Once this has been done, specific business outcomes can be achieved objectively such as:

- Prioritisation of content allowing for a phased approach to be taken with well defined (value understood) range of digital assets targeted for delivery at each stage
- Well understood approach to archiving of digital assets
- Selection of content to be suitable for open access
- Primary storage of content in high definition formats as opposed to lower cost medium or storage of low resolution renditions
- Research and negotiation of suitable licensing of digital surrogates
- Ongoing digitisation strategy

and more.

One facet in understanding the value of digital assets is determining a suitable metric and whether this should be relative or absolute. Again the understanding of value is the best guide to determining the metric: an open access model may be best served by establishing a relative value whilst a commercial model should establish an absolute value of their digital assets.

Once a metric is established, suitable reporting strategies can be implemented based upon the ranking of digital assets by their chosen value.

A *relative* valuation might focus on determining digital assets that are of *higher value* rather than lesser. Priorities may then be established to pay more attention to higher value assets and push them into earlier phases of deployment and to keep the digital originals in hot storage to support frequent/wider delivery of the content. With such a relative value approach it might be mentioned that it is implicit that some assets will never rise high enough in their relative value and thus might never enter into the DAMS solution.

Alternatively, an *absolute* valuation will set a financial value on any/all assets based upon well understood commercial viability. In such an environment a business driver will be to have all digital assets within the DAMS to support a greater total value of digital assets owned by an organisation.

## Cost of Ownership

Further to the positive value of a digital asset is also the negative value in so much as there can be a cost of ownership associated with any asset or collection of assets. The cost of ownership must also be well understood and will contribute to the overall evaluation of an asset.

The various contributors to the overall cost of ownership may include the initial digitisation, storage, ingestion to the DAMS, preservation and on-going digitisation. By nature, cost of ownership is typically stated in an absolute framework i.e. in dollars and cents, pounds and pence, and not be in relation to the positive value of the asset. In an environment where an absolute value is attributed to digital assets, this quickly leads to a calculation of the overall worth of an asset, i.e. total positive or negative worth. The cost of ownership in a relative value environment is difficult to compare due to the inherent incompatibility between a relative valuation to an absolute cost. It is perhaps better for an organisation to recognise the overall cost of ownership and weigh this against the overall secondary benefits that are being sought. If discrimination is desired it will be better to work at a collection level as this will be more practical to derive an absolute value rather than for individual objects.

When determining the value of a digital asset whether it be relative or absolute, the quality of the asset also comes into play. One common business outcome associated with DAMS is to raise the overall value of the digital assets or an organisation. For cultural heritage organisations moving to an open access strategy, making available high quality digital surrogates may be key to the overall strategy of driving the public back to the host organisation for sourcing digital media and away from public domain low quality versions. Whereas a commercial strategy may be based upon an assumption that the digital assets are of a high enough quality to support the sales process. In either case the host organisation will at times review the quality of their digital surrogates and may embark on a new digitisation process to raise the overall quality. If the organisation supports an internal digitisation group, the digitisation process is likely to be ongoing. Having a well developed understanding of the value of the digital assets can be critical in directing the efforts of the digitisation team to raising the quality of higher value assets to achieve the most return on investment. In the case of digitisation being outsourced, the cost of this process can be accurately weighed against the increased benefits/profits of having higher quality digital assets. This can be of particular importance when communicating to an external digitisation partner, so that a suitable commercial agreement can be reached that provides benefits to both organisations.

## Opportunities

This brings into play entirely new opportunities for an organisation, as with a well defined understanding of the value of the digital assets of the collection, new commercial opportunities are available. For example, if a joint venture with an external organisation or other investment channel is being considered, the host organisation can enter into negotiations from a position of strength, knowing both the plausible financial opportunity for the external partner and also what benefits that are attainable from this project. Typically, such joint ventures will deliver benefits to the host organisation in raising the extent to which the collection is digitised, the quality of the digitisation and possible the exposure of the collection to the public. With an underlying understanding of the value of the digital assets, such a partnership can be planned and documented in a much more precise financial manner and compared with any other activity and weighed accurately on its merits.

## Scope of DAMS

From an informed basis of both the nature of DAMS for a cultural heritage organisation and a good understanding of the value of the digital assets to be managed, the scope within the organisation to which the DAMS will be involved can then be addressed. For most collections-based organisations there will already be in place a well developed collections management solution with associated processes and procedures. When a DAMS is introduced into this environment, attention needs to be paid to the extent to which digital assets will be targeted for ingestion into the DAMS.



Some simple cases exist to the scope of DAMS within cultural heritage organisations; obvious contenders here are those business areas/groups of users within the organisation that operate outside of the collections management solution. For example, marketing, communications, photography, preservation, retail and digital are all commonly found within a cultural heritage organisation and all have a need to manage their digital assets. In my experience these are often the early adopters of a DAMS responding to the prevalence of media being used at a generic level in almost all walks of life. For these business segments there are few complications in the adoption of DAMS - it is a simple requirement and a DAM solution addresses this need.

For other areas of operation involved in the collection management process, the question of the position of the DAMS versus the collection management solution is often profound.

- Should digital assets be primarily the domain of the CMS or the DAMS?
- Should a collection object first be recorded in the CMS or the DAMS?

- Will there be an equal number of records in the CMS and in the DAMS?
- What to do with born-digital collection objects?

First and foremost is the need to determine who is going to be the primary business owner of the DAMS. Should DAMS be seen as a specialised case of collections management or should DAMS be owned by the creators or the consumers of the content?

In the case of a commercial model for digital assets, the business unit involved in the commercialisation process, e.g. retail, may be the main business owner, engaging the collections management team and content creators as their supply chain. In an open access model, the collection management team may be the business owners as their usage of the DAMS may be centred on the delivery of content. In our experience it is best not to have the DAMS owned by content creators unless the purpose of the DAMS is limited to storage, retrieval and preservation of the digital content being created. In most cases content creators are not consumers and not exposed to the greater needs of the DAMS during delivery of content or have the business drivers involved in either the primary or secondary benefits of a DAMS.

Next, guidelines need to be established as to the extent to which a cultural heritage organisation's digital assets will be stored in the CMS or the DAMS. There are some simple cases such as a lack of capability or the choice to not store digital assets in the CMS that lead to the outcome that digital assets will be entirely the domain of the DAMS. Most typically the CMS used has some capacity to store digital assets and usually there is a desire to store representative media content in the CMS.

Furthermore, it needs to be understood the range of media that is created by an organisation for the collection. Is the digitisation process aimed at producing a single digital asset per collection object - indeed is this possible considering the nature of the collection? For organisations involved in document or photographic archival there can be a simple one to one relationship between collection objects and digital assets, but this is rarely the case as most collections have widely varying objects of different nature. A cultural heritage digitisation process most typically generates multiple digital assets for collections objects.

With this in mind we can then start to answer some of the questions posed above:

1. All the working digital assets created during the digitisation process, plus preservation specific and ancillary digital assets that may describe alternate views/aspects of the collections object are stored in the DAMS.
2. Depending upon the extent to which integration is available between the DAMS and CMS it then needs to be determined whether a single digital surrogate of the collections objects should be stored in the CMS.
3. If a high level of integration is available between the CMS and DAMS, then it is generally best to reference the digital assets in the DAMS from the CMS. This has the benefit of centralising all digital content in the DAMS, makes digital distribution simpler. The DAMS and its ability to deliver content becomes the single source of digital assets and removes complexity from the acquisition

process as the collection management process does not need to entail sourcing of a representational digital asset.

4. If a lesser level of integration is available, then typically a single or limited number of digital surrogates are stored in the CMS leaving the greater number of digital assets in the DAMS. Processes have to be created for supply of these digital surrogates, the possibilities of duplication of digital content needs to be addressed, as well as issues resolved concerning the means of distributing digital content not held within the DAMS.



As a consequence, the domain of digital assets can then be determined to be entirely within the DAMS in cases of complete integration with the CMS, otherwise partial ownership of digital content will need to be split between the DAMS and CMS.

## Acquisitions and Integration

The acquisition process for most cultural heritage organisations is typically well established and it is best that the introduction of a DAMS augments this process or at least does not interfere with it. In cases where a high level of integration exists between CMS and DAMS a great amount of flexibility in the acquisition process exists, as essentially the work of the collections and digitisation teams are not dependent upon each other. If there is a lesser level of integration, then procedures will need to be determined as to the sequence of events suitable to the collection objects and the involvement of the

collections and digitisation teams. Special examples of this are when born-digital objects are involved as these may well first need to be ingested into the DAMS before they are available in a suitable format for the collections team.

Therefore, one of the key determinates to the scope of the DAMS involvement in the day to day operations of a cultural heritage organisation is the extent to which the CMS and DAMS can be integrated. If the business case for the procurement of a DAMS dictates a broad scope of operation within an organisation, then integration with the CMS will be a primary criterion for success.

In almost all cases of cultural heritage digitisation projects, there will be a much larger domain of digital surrogates generated per collection items, as above. It is also typical that the digitisation process will never completely encompass the entire



collection held by the host organisation. This introduces another complexity involved during the discovery process - assuming a federated search is possible across all sources the following outcomes are possible:

- Collection objects associated with one or more digital surrogates
- Collection objects associated with no digital surrogates
- Digital assets not associated with any collection objects.

The first two possibilities in themselves dictate that the discovery process be able to address primary and secondary content in the CMS and DAMS respectively. The third outcome needs to be understood at an organisational level and integrated into the overall business objective of the organisations.

Simple examples of digital assets not associated with collection objects are those sourced from any of the non collections-based business operations within a cultural heritage organisation. Media captured during the construction of exhibitions, exhibition launches, original content based upon re-use of existing collection objects, the cultural heritage building itself, the staff, sponsors, visitors, retail items, food outlets etc.

For any cultural heritage organisation whether it be following an open access or commercial policy towards digital content, it is most likely the intent that discovery should encompass all content considered above. This creates a highly complex environment for discovery to operate within as any query will need to be resolved across multiple systems (i.e. CMS and DAMS) then reconciled as to the relationship between the result sets from each of these sources. It is not practical to expect either the CMS or the DAMS to be able to perform such an extended search process as it is not within the realm of the primary purpose of either solution. Instead it is most likely that the best architecture to facilitate such a process is a dedicated discovery environment which can draw upon multiple different sources and present results to the user in a suitable format.

## Digital Asset Lifecycle

Finally, we need to consider the digital asset lifecycle within a cultural heritage organisation - from genesis of the digital content, to evaluation, ingestion into DAMS, usage/tracking/auditing, replacement, archival and eventual disposal. The initial creation of digital assets will typically be already underway and in most cases have a well established process along with an associated history. In most environments, new content is being created at a fast rate due to the availability of capture devices ranging from high quality digitisation tools through to hand held digital cameras and smart devices. For the survival of a viable DAMS process, the first task is to understand the value of this content – as discussed earlier in this document. The evaluation process needs to filter out content that needs to be only available for short periods of time before archival, thus allowing the DAMS team to focus on the acquisition of high value content that serves the business objectives of the organisation.

The operation of the DAMS to allow for ingestion and day to day management and use of content is highly important. In the modern day workplace, users expect ease of

use, simple and highly efficient functionality, and device independence that allows for access anywhere/anytime. The range of highly competitive DAMS available to a cultural heritage organisation provides a good selection of appropriate tools to support the different ingestion methodologies and with highly effective reporting capabilities.

During the lifecycle of a digital asset the host organisation may at times choose to raise the value of the asset by increasing the quality of the digitisation or demote the asset to an archive. These topics are intertwined with the overall value of the asset to the organisation and have been dealt with extensively previously.

At some point disposal of the digital asset needs to be taken into consideration, whether in response to a change in status of the source collection object such as de-accessioning, or a change in copyright/cultural sensitivity/associated permissions. Most DAMS will support the continuation of the record metadata after the removal of the digital asset, allowing the cultural heritage organisation to retain the history of the digital asset after its disposal. The record may also be used to record the disposal of the digital asset for purposes of governance.

## Conclusion

In conclusion, now that a more complete understanding of a digital asset including knowledge of its value to the organisation, intended usage, business ownership, context within the discovery process and overall lifecycle has been established, the requirement to manage these valuable assets can be assessed. The future for cultural heritage is to disseminate more content digitally, whether that be in an open access or commercial framework, as more people demand access to content than is practical to provide access to the primary collection object.

The scale of opportunity that digital distribution offers a host organisation varies depending upon the nature of the collection and the overall business objectives, but in all cases is an opportunity that must be addressed to fulfil core objectives into the future. Essential to delivering an effective digital program is a suitable digital asset management solution that matches the scope of the program and purposes of the host organisation. It is hoped that this essay adds to the body of knowledge available for cultural heritage organisations to respond more effectively to content consumption demands of the future.



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