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STM Article Sharing Framework – Publisher Implementation Testimonial

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As one of the first publishers to implement support for the Article Sharing Framework (ASF), ACS had an opportunity to learn while charting our implementation approach and I've been asked to share our experience and lessons learned. I hope this is helpful to you as you evaluate or implement the ASF.

Why did we do it?

ACS decided to be an early adopter of the ASF for several reasons. Researchers and commercial content sharing platforms often seek clarity on what sharing is permitted. While Open Access articles usually convey information about allowed reuse and sharing through consistent and standard methods, a void existed for communicating similar sharing policies for other content that is not considered Open Access. Also, Article 17 of the new EU Copyright Directive provided an opportunity for ACS to make "relevant and necessary information" about sharing policies available to online platforms in an automated way. By making article sharing policy information freely available from a central repository (i.e., Crossref), multiple content sharing platforms can easily receive consistent and current sharing policy information. This, in turn, can enable researchers to have more confidence in, and spend less time on, determining where and how they can share research articles.

Getting Started

The ASF establishes a set of 48 predefined sharing policies covering a range of possible sharing contexts. As a publisher, our first step was to choose which combination of these ASF policies best represented our ACS sharing policy for any given published article. We quickly realized that one size did not fit all our content. It took several weeks to work with internal stakeholders to perform a thorough analysis of the types of published content that ACS has in order to determine what our effective ASF sharing policies would be.

In the end, content seemed to fall into three broad categories:

- **OA content:** no ASF policies applied; a public use license like CC-BY applied instead.
- **Broad sharing:** non-OA content with few restrictions on sharing. Examples would include editorials and promotionally free content.
- **Limited sharing:** non-OA content with more limited sharing. Examples would include research articles that don't fit into one of the two profiles above.

It's worth noting that in some cases content may change categories. An article with a "limited sharing" profile may move to the "OA content" category after a 12-month embargo. Another article with a "broad sharing" profile may move to "limited sharing" profile after a promotional period has ended.

Once we determined which ASF sharing policies would apply to which types of content, our technical implementation began.

Technical Implementation

From a technology standpoint there are two steps to implementing the ASF:

1. Adding two machine-readable metadata fields to each article PDF that enable unique article identification: i.e., the DOI, and the Journal Article Version (JAV)
2. Adding one or more ASF sharing policy indicator(s) to each article's metadata record in Crossref.

ACS, along with a number of other publishers, had already undertaken the first step several years ago in support of STM's voluntary principles of article sharing (see HowCanIShareIt.com). For recent articles, the article identify fields (DOI and JAV) are inserted into the PDF's XMP metadata area during the production process, and those fields travel with the PDF through our various distribution channels.

As far as the second step was concerned, adding ASF sharing policies to Crossref records was very straightforward, in part because ACS is a CHORUS member. One of the CHORUS publisher requirements is to deposit OA license indicators to Crossref as part of metadata record for all OA articles – and ACS has been doing so for many years. The ASF was designed to leverage those same "license ref" fields within the Crossref metadata schema. As a result, we only needed a small enhancement to our existing Crossref metadata feed: for OA articles we continue adding OA licenses as we have been, and for non-OA articles we are now adding ASF sharing policies.

For our legacy content, it wasn't practical for us to update and repost all of our article PDF files back to the nineteenth century. Instead, we focused on articles published within the last three years, retroactively adding ASF sharing policies to Crossref for those articles. We did this by creating large batches of "metadata updates" that we posted using Crossref's normal metadata API. We then partnered with Crossref's support team to identify specific windows when we planned to submit these metadata updates so they could adjust their service capacity. (Note that Crossref also has an alternate method in which OA licenses and ASF sharing policies can be updated for a large set of articles by supplying a simple CSV file.)

Overall, our technical implementation took less than 3 weeks, with one developer working part time on it. Much of the time spent was testing and validating the results.

Summary

I am occasionally asked for any tips about implementing the ASF. Here's what I would say to fellow publishers:

- **Metadata early!** If you aren't already adding DOI and JAV to your article PDF metadata, do that as soon as possible. This is the "longest pole" in the ASF implementation tent. The sooner this part is in place, the sooner you will have a critical mass of "ASF-compatible" content online.
- **Who's who.** Allow a generous amount of time to get internal agreement on sharing policies. Identify your approvers and stakeholders early.
- **One size may not fit all.** You may find that you need more than one set of ASF sharing policies. ACS has two: one set of policies for non-OA subscription content that asserts broad sharing permissions and another with more limited scope. Some publishers may have sharing policies that vary by journal.
- **Don't overthink implementation.** Sharing policies might be viewed as a complicated and difficult to work through, but the actual ASF implementation is straightforward and possible to achieve with free or low cost tools and services.
- **Test.** Of course!