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## The USC School of Cinematic Arts: The Arrival of Spring in the Facilities Industry

# How the New agcXML Standards Can Save Your Firm Time and Money

By Dan Bailingger



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Information Exchange

ON EVERY CONSTRUCTION PROJECT, challenges always exist with timely and accurate communication and collaboration among all project team members. When you get right down to it, an RFI is an RFI, yet every project team member, whether they are a contractor, designer, engineering firm, subcontractor, consultant or owner, has their own project management system, which makes sharing and exchanging information difficult. To draw an analogy, traveling to foreign countries would be very difficult if currencies could not be converted in real time. In the AEC industry, the opposite dynamic exists. So how can we communicate most effectively when by nature we all use different systems on the same project? There needs to be a simple means of translating and exchanging information in the same way that currencies can be readily translated and exchanged. Recognizing this challenge, the Associated General Contractors of America, Inc., established the agcXML initiative to help bridge the gap between project team members by creating a common standard for sharing information among different systems. This initiative resulted in the creation of standards for the construction industry called agcXML.

XML is nomenclature for eXtensible Markup Language, although it may be easier to think of it as eXchange Medium Language, a common standard for sharing data. There are many software systems that address project management needs, including processing Requests for Information. Even though “an RFI is an RFI,” each project management system retains the same information in its own format. This results in a natural breakdown

in communication, because the same data is represented differently in the different systems used by different project team members on the same project. The agcXML schemas bridge these gaps by establishing a common format for representing the same type of data that each system can read. In short, using the agcXML schema, a subcontractor can transmit an RFI electronically to a general contractor, who can receive the information without operator intervention, as long as both software systems support agcXML.

To help develop these standards, the AGC developed a task force through its Electronic Information Systems (EIS) Committee to oversee the initiative. In conjunction with the buildingSMART alliance™ of the National Institute of Building Sciences, schemas for the following common business processes were developed: RFIs, Submittals, Bonds, Change Directives, Contracts, Schedules of Values, Potential Change Orders / RFPs, Change Orders, and Applications for Payment. Representatives of design and construction firms, together with industry experts and software vendors, conducted review and validation meetings to vet the schemas. agcXML is meant to be flexible, providing a baseline data set to which a user can add (or deduct) any specific information requirements.

Here is how the agcXML schema can work, using the example of a “round trip” RFI exchange between a general contractor and an architect as presented in live demonstrations at the recent building SMART alliance™ National Conference in Washington DC, and in a widely attended webinar sponsored by AGC:

1. The general contractor enters an RFI into its project management system as it normally would.
2. The GC then sends the RFI record by whatever means has been agreed to by the project team. This could be an XML-tagged word document via email, or, if supported by the software, electronically via a toolbar button directly from the RFI form.
3. The architect who, in this example, is a user on the owner's capital project management system:
  - Receives the RFI record.
  - Validates it to ensure all required content is received (i.e. RFI Date, RFI Question, etc.). If any of the required data fields have not been transmitted, a rejection notice is returned to the subcontractor.
  - Notifies the appropriate individual via workflow that a new RFI has been received.
  - That individual evaluates the RFI, enters an appropriate response, and sends it back to the GC, again, in agcXML format.
4. The GC is notified by the workflow engine in his project management software. He reviews and accepts the response, which is automatically recorded in his software, marking the RFI as resolved.

As this simple scenario demonstrates, the general contractor and the architect can communicate seamlessly without any operator intervention, without having to standardize on the same project management software, and, most importantly, without incurring any additional cost for the respective parties to re-enter the same

RFI record into their different project management and collaboration systems. Multiply the time saved re-entering all RFIs on a project by the hourly cost of your project engineer, and the savings add up pretty quickly.

Like any other technology initiative your firm has undertaken, good planning and preparation are needed to incorporate these standards into your daily operations. First, you need to make sure your software vendor supports the agcXML standards. If they do not, they can most likely readily adapt to these standards. Then, what is most important is developing a communications strategy for using the agcXML schemas to communicate seamlessly with your project team members in the most efficient way. Conceivably, you could use the agcXML schemas to send certain keyed information electronically, while using other processes for uploading drawings and other back-up documents. Inevitably, when an owner prescribes rules for communicating, your firm will most likely have to adapt. agcXML schemas, however, can become an important part of your collaborative strategy. Used effectively, agcXML can reduce the cost of

communicating and shorten the response time for many routine forms of communication such as RFI's, proposed change orders, and applications.

Another benefit of the agcXML schema is future compatibility with the ConsensusDOCS™, the new standard agreements and forms developed collaboratively by the Associated General Contractors of America, Inc., the Construction Owners Association of America and 20 other leading construction organizations. In other words, if you receive an electronic record using the agcXML schemas, you will be able to import that information directly into the applicable ConsensusDocs form, eliminating the need to enter the information manually.

As you can see, the Associated General Contractors of America, Inc., in conjunction with the National Institute of Building Sciences, is helping to bridge the communication gaps between project team members. ■

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## The benefits of a buildingSMART Aquarium:

- Obtain high Return on Investment;
- Access truly global solutions and expertise;
- Make better decisions earlier;
- Enhance coordination between disciplines;
- Reduce change orders and mistakes significantly;
- Avoid "hand-checking" of data; and
- Enable digital collaboration.

## The outputs:

- Description of business opportunities;
- Problem definition;
- Process map;
- Exchange requirements; and
- Proposed software solution.

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