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Alliance Project Update

Delivering Product Information

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UTILIZABLE PRODUCT INFORMATION

is needed throughout a project's life. There are many reasons why. Designers need to understand the availability and quality of manufactured products. Specifiers need to translate designers' quality constraints into specific products or types of products. Contractors need to quickly find and purchase specified products. Owner's representatives need to assure the quality of delivered products. Commissioning agents need direct access to maintenance schedules and special tool requirements. Facility managers need access to product literature as well as warranty contractors and parts suppliers.

While there are many different types of product properties that apply to specific phases of a project, product performance requirements are needed during design, construction, commissioning, and operations. These requirements are also documented in contract specifications where associated business processes, such as construction submittals, ensure the paper delivery of this information today.

The U.S. Army, under the leadership of the Engineer Research and Development Center (ERDC) and the Specifications Consultants in Independent Practice, began the Specifiers' Properties information exchange (SPie) project to transform this paper-based data into utilizable building information. One concern from the start of the project was to ensure that lessons were learned from the failure of past electronic product catalog efforts.

The first lesson learned was that, due to the breadth and depth of the building product manufacturing community, a centralized catalog would be unmanageable. As a result, our group defined the following roles and responsibilities:

- Manufacturers are the publishers and owners of their own products' information;
- Manufacturing associations (or equivalents) set the minimum content requirements of their members' products;
- Manufacturers may add additional distinguishing properties to the agreed-upon minimum content requirements;
- The buildingSMART alliance[™] provides harmonized templates for content across all manufacturing sectors;
- The buildingSMART alliance[™] provides an example repository for the free exchange of these templates;
- Other organizations, such as the Construction Specifications Institute (CSI),



use these templates as the basis for national and international taxonomies and dictionaries; and

• The buildingSMART alliance[™] provides the schema and formats for the representation of the information, using the Industry Foundation Class (IFC) as the common neutral standard.

The second lesson learned was that proprietary product catalogs have been unable to sustain commercial success. As a result, and in keeping with the tenets of the buildingSMART alliance[™], SPie product templates will be freely available to anyone needing them. By creating this open platform for the exchange of building product data, the buildingSMART alliance[™] is creating a market opportunity for those who would choose to exploit it for their own benefit, and the benefit of the entire capital facilities industry.

As we began the SPie project, the team's first task was to develop a draft set of template properties across all specification sections. Today, the Whole Building Design Guide's product guide[™] is the repository of these draft templates. Once these draft templates were published, ERDC funded CSI to coordinate SPie properties with the OmniClass draft Table 49 "Properties" most recently released in March 2006. Following this harmonization effort, additional SPie properties, beyond those included in the OmniClass Properties table, were nominated for future inclusion into OmniClass.

To directly test the framework for open product information exchange with product manufacturers, the SPie team invited several leading manufacturers to update and extend their sections of the productguideTM.

Once that was completed, these manufacturers were asked to demonstrate the provision of information delivery of their data in the standard product data sheets, in PDF format, with accompanying specific product data in ifcXML. At a SPie meeting during the 2009 National Institute of Building Sciences Annual Conference last December, representatives of General Electric, Eaton, eSpec, and U.S. Gypsum demonstrated the interoperable use of product data. The recipe for creating SPie templates demonstrated at the meeting was to:

- Find and review the current draft SPie template from the productguideTM;
- Review the Common Property Sets from current standards (such as IFC);
- Update the draft template and produce XML schema (using ifcXML);
- Update the draft SPie template in the productguideTM;
- Publish manufacturer data in SPie template format; and
- Demonstrate the use of manufacturer data by software providers.

While product manufacturers have significant data about their products, they are also currently assailed to provide this information in a variety of different proprietary formats. The manufacturers participating at the December 2009 meeting expressed strong support for the SPie recipe and the use of the underlying ifcXML schemas published through the product guide[™]. During the meeting, the GE Senior Specification Engineer for Lighting made several points about SPie, stating that it was user friendly, minor changes could made within 5 minutes, the parameters were pre-defined, it had manageable file sizes, and one standard file type = productivity. Other demonstration participants agreed that the results were significant, absolutely worth the effort, and that these benefits will be a selling point for all stakeholders.

SPie does not stand on its own. SPie is part of a combined effort to replace the boxes of paper construction handover documents with utilizable data. Many *JBIM* readers will already be familiar with the Construction Operations Building information exchange (COBie) format. As shown in **FIGURE 1**, SPie fills in the next piece of the COBie data set. The final piece, the Equipment Layout information exchange (ELie), delivers schematic drawings of heating, ventilation and air-conditioning and other building services.

To follow-up on the success of the SPie project, the Institute would like to have many more building product manufacturer associations participate in the next meeting. The goal for this meeting, which was held in March while this *JBIM* issue is at press, will be to present the SPie recipe and begin to develop the cook book for our entire building products industry. In addition to developing the XML schema for new product families, this meeting will also introduce manufacturers to the CO-Bie format for the delivery of preventative maintenance schedules and replacement parts information.

For information about the results of this meeting, contact Dominique Fernandez at dfernandez@nibs.org.

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