

Integration of Multiple Product Models

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1 INTRODUCTION TO WORKSHOP

The development of the Industry Foundation Classes (IFC) started from the vision that an integrated building product model would cover all necessary information for a buildings' entire lifecycle: from requirements management, through different design processes to construction and maintenance processes. Although the IFC model specification covers a substantial part of the required information, AEC projects still have encountered many problems putting this model into practice. AEC professionals still find it difficult to have dynamic, lossless, truly effective data flow amongst the different participants and applications. It is obvious that file based data exchange alone is not a feasible solution; some other solution for integrating project information is necessary.

This workshop discusses some viewpoints and potential solutions to the above issues and problems.

- Kiviniemi et al (2005) suggest we break the project into 4 main types of models: requirements models, design models, construction models, and maintenance models. They suggest we then use model servers with standardized interfaces (SABLE 2003) to simplify access to these models. They also call for a standard way to link objects in different models to each other. They call for an international research effort to define the framework and proof of concept that incorporates several applications in a multi-model
- Haymaker (2005) suggests an interaction metaphor called Narratives that AEC teams adopt as a way to enable dynamic communication and control of many models. With Narratives, AEC professionals formalize and control the dependencies of their models on other models. The straightforward graph based formalization is designed to enable AEC professionals to easily, visually, and formally construct and control many models and their interrelationships.

In this workshop, we propose to design a multiple model server environment using the Sable API, IFC data formats, and any number of User Applications and interaction metaphors such as the 4 Model, and Narrative. This platform would first be developed as a proof of concept and test bed for international project model research. Ultimately, AEC project teams can use it to easily and dynamically define, construct, and manage their many models.

Haymaker, J. 2005. Formalizing and managing the dependencies between models. In: present publication, *Proceedings of 22nd W78 Conference on Information Technology in Construction*, Dresden, Germany, July 2005.

Kiviniemi, A., Fischer, M., Bazjanac, V., 2005. Integration of Multiple Product Models: IFC Model Servers as a Potential Solution. In: present publication, *Proceedings of 22nd W78 Conference on Information Technology in Construction*, Dresden, Germany, July 2005.

SABLE: Simple Access to Building Lifecycle Exchange project by Eurostep. Houbaux, Patrick, 2003. URL: <http://www.blis-project.org/~sable/>

