

buildingSMART initiative

BIM Scoping Group
5/1/2006

Executive Report on Scoping Progress 3

Activities of NBIMS Scoping

1. Aligning the CSI OmniClass Phases to the IDM Project Stages for the BIM Scoping Chart

Part of making the National BIM standards work for North America is to align the current organization of the IDM work with the NA standards groups.

CSI Omni-Class and Uniformat are two important standards in the US. Below are the IDM stages. The Excel Spreadsheet of BIM Scoping shows a beginning mapping of these stages to Omni Class. Greg Seton of CSI is the reviewer for this mapping.

Project Stage	0	Portfolio requirements
	1	Conception of need
	2	Outline feasibility
	3	Substantive feasibility
	4	Outline conceptual design
	5	Full conceptual design
	6	Coordinated design and procurement
	7	Production information
	8	Construction
	9	Operation and maintenance
	10	Disposal

2. Aligning the International Building Code Building Types and Specifications

As Scoping moves forward, different building types will use variations of the NBIMS. The International Building Code- Building Types will be used for this. CSI Building types will be reconciled.

Current IDM Processes

The current IDM processes are available on the website <http://www.iai.no/idm/>. This represents the current state of IDM creation.

4	Outline conceptual design
5	Full conceptual design
6	Coordinated design and procurement
7	Production information

Overview of Current IDM Processes

1. er_exchange_building_model[basic]

- a. A basic building model is defined as 'the set of information that provides both a graphical representation of the design of a building and key pieces of information about the building that can be further used to analyze building performance'

2. er_exchange_document

- a. This exchange requirement is concerned with providing references to documents that are applicable generally to the project and whose provisions must be considered. The documents themselves may specify particular values of information that form part of the design brief, construction specification, operating and maintenance instructions or disposal requirements. However, it is not the objective of this requirement to capture these specific values. In this case, it

is only the document and the information that enables identification of the document that is of interest. **All 10 Project Stages use this exchange**

3. er_exchange_duct_system

- a. This exchange requirement describes the information to be provided about ductwork systems. It allows for the provision of information at various stages during the design process including: Line based representations at early design stages that enable routing, terminal location and main plant location information to be exchanged;
- Full 3D shape representations at detailed design stages that enable coordination between different building services systems, between services and structure and between services and the building construction elements.

4	Outline conceptual design	✓
5	Full conceptual design	✓
6	Coordinated design and procurement	✓
7		

relative to a datum level. There are various approaches that can be used to determine a terrain. These are identified as:

- Using a triangulated irregular network (TIN) in which points may be located according to the rate of change of the terrain (i.e. the more rapidly the terrain changes elevation, the more closely spaced are the points whilst points may be widely spaced for flat terrains). In current practise the TIN is either provided as survey points only (with some optional break lines) and the triangulation is done at the receiving end. or the TIN is given with complete triangulation.
- Using a regular grid of points in which the elevation of each point in the grid is determined. Rectangles formed by adjacent grid points can then be separated into 2 triangles. In the grid model, some extra triangles may be drawn adjacent to the extents of polygon shapes that represent 3D-objects in the terrain (roads, etc.), in order to get a smooth connection between the 3D-objects and the grid.
- Used by IDM Stages 4 Conceptual Model and 8 Construction

The Current IDM categories and Work In Progress (WIP) include:

1. WIP_er_exchange_electrical_model[equipment]
2. WIP_er_exchange_electrical_model[space]
3. WIP_er_exchange_electrical_model[systems]
4. WIP_er_exchange_energy_analysis_model[demand]
5. WIP_er_exchange_energy_analysis_model[energy]
6. WIP_er_exchange_energy_analysis_model[programming]
7. WIP_er_exchange_energy_analysis_model[zones]
8. WIP_er_exchange_HVAC_model[equipment]
9. WIP_er_exchange_HVAC_model[space]
10. WIP_er_exchange_HVAC_model[systems]

Note: Work In Progress documents are documents that are being developed for inclusion within the Information Delivery Manual but that are not yet complete. They are posted to the site by courtesy of projects sponsoring their development to enable them to be reviewed and commented by project and external participants.

'Work In Progress' documents are identified by the use of the prefix WIP_ ahead of the conventional IDM document title.

'Work In Progress' documents are subject to continuous change until approval within the sponsoring project. Please take careful note of the date of posting of the 'Work In Progress' file (or the revision number on version controlled sites).

On completion, documents will be transferred to the 'completed' folders namely ER, FP and PM. Completed documents will be removed from being 'Work In Progress'.

In reviewing and commenting on Work In Progress documents, you are agreeing to the following limitations on use:

- Documents designated as 'Work In Progress' are not published and should not be copied or distributed to others except for the purpose of further review and comment.
- Reviews and comments should be forwarded to the author named in the document

Posted: Jeffrey Wix
Date: 1st January 2006

Current BPMN Models for IDM

1. bpmn_electrical_engineering
2. bpmn_energy_analysis
3. bpmn_hvac_engineering
4. bpmn_piping_engineering

We will want to go over these current IDM's and review for discrepancies with NA processes.

Dianne Davis