National BIM Standard Update

May 21, 2008

Agenda

Organization
Beginning Operations
Process
Technical Basis
OmniClass™ Revisions
Consensus Process
Projects
NBIMS Version 1 – Part 2 Planning
Beginning Operations – NBIM Standard Process

Technical Basis

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Norm Std</th>
<th>Owner</th>
<th>Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Process and Information Requirements</td>
<td>IDM, v2</td>
<td>BuildingSMART Intl.</td>
<td>IDM 2 Methodology, buildingSMART Norway</td>
</tr>
<tr>
<td>Generic &amp; Schema-specific Model-View Definition</td>
<td>MVD</td>
<td>BuildingSMART Intl.</td>
<td>NBIMS V1-P1, NIBS</td>
</tr>
<tr>
<td>Information, Modeling and Validation Framework</td>
<td>IMV</td>
<td>BuildingSMART Intl.</td>
<td>NBIMS V1-P1, NIBS</td>
</tr>
<tr>
<td>Virtual Building Objects, Properties and Associations Data Model</td>
<td>IFC, v2x3</td>
<td>BuildingSMART Intl.</td>
<td>ifc.buildingsmart.com/</td>
</tr>
<tr>
<td>Building Process &amp; Component Classification</td>
<td>Omniclass</td>
<td>CSI &amp; CSC</td>
<td><a href="http://www.omniclass.org/">www.omniclass.org/</a></td>
</tr>
<tr>
<td>Building &amp; Construction Terminology Reference Library</td>
<td>IFD Library</td>
<td>CSI, CSC, buildingSMART Norway, STABU Foundation</td>
<td><a href="http://www.ifd-library.org">www.ifd-library.org</a></td>
</tr>
</tbody>
</table>

NBIM Standard Product

- The National BIM Standard will consist of specifications and encodings to define the requirements for exchanges of data between parties using building information modeling processes and tools.
- NBIMS will
  a.) Organize groups of industry professionals to define requirements, then publish exchange specifications for use in specific business contexts within a holistic facility lifecycle framework.
  b.) Publish encodings for the exchange specifications employing internationally acceptable open standards as normative references.
  c.) Facilitate implementation by software developers of encodings in software.
  d.) Facilitate use of certified software by end-users to create and use interoperable building information model exchanges.

Industry Presentations

- IFC-based Product Library
- Object placed in BIM model
- Automated model analysis
- BIM for
  - Maintaining, Repair, Replacement
  - Commissioning & Operating
  - Construction & Installation
  - Procurement
## Electrical Manufacturing Lifecycle Value Chain

<table>
<thead>
<tr>
<th>PHASE</th>
<th>VALUE ADD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards and Manufacturing Specifications</td>
<td>Basic physical &amp; performance characteristics</td>
</tr>
<tr>
<td>Virtual Design/Engineering</td>
<td>Design requirements, Product Selection, Planned cost, quantity, Geometry placed into model, Systems integration, Conflict resolution, Performance Analysis</td>
</tr>
<tr>
<td>Procurement &amp; Installation Planning</td>
<td>Nameplate info, Actual cost, Inventory management</td>
</tr>
<tr>
<td>Contractor Installation Operations Engineering</td>
<td>Validate installed components, Commissioning data, Maintenance and repair specs &amp; data, Renewal and replacement specs &amp; data</td>
</tr>
</tbody>
</table>

### buildingSMART alliance: Emerging Projects

- Industry Foundation Classes (ifc) (Alliance Technical Committee)
- Information Delivery Manuals (IDM) (Alliance Technical Committee)
- Model View Definitions (MVD) (Alliance Technical Committee)
- Industry Framework Dictionary (IFD) (Alliance Technical Committee)
- National BIM Standard (NBIMS) (NIBS FIC)
- National CAD Standard (NCS) (NIBS FIC)
- AEC1G Testbed (OGC/buildingSMART/IAI)
- Architectural Precast (Pankow)
- Automated Code Compliance Checking (AC3) (ICC)
- Construction to Operations Building Information Exchange (COBIE) (NASA/COE)
- Early Design Information Exchange (COE)
- Structural Design (Pankow)
- Geospatial Integration (Alliance)
- Object Standards Harmonization (ISO 16739-ISO 15926) (FIATECH)
- Distance Learning (Alliance)
- Continuing Education Principles (Alliance)
- University Education Coordination (Alliance)
- Project Execution Planning for BIM (Pankow)

### Beginning Operations – Standards Projects

- By-laws and Rules of Governance
- Instructional documentation for Reference and NBIMS processes & technology
- Standards Projects
  - Coordinated through Alliance Project Coordination
  - MOU rider for Projects creating standards products

### Beginning Operations – Standards Projects

- OmniClass™ Revisions
  - Building Types
  - Space Class by Function
  - Organizational Roles
- Consensus Process
  - Reviewing public consensus processes
  - Preparing draft proposal for Planning Committee
  - Target is August 2008
- Start-up IDM Website & Exchange Database
- Initial population of IFD Library
NBIMS Version 1 – Part 2

- Methods for preparing and submitting candidates for standardization.
- Details of the Consensus process
- Update on Normative Standards
- Details on initial candidates for standardization