BIM Collaboration Format Improvements

Pasi Paasiala, CTO

Solibri, Inc.

Motivation

- Nutshell
  - BIM Collaboration Format (BCF) is a way to communicate BIM-related issues between software.

- Version 1 (2010)
  - Developed by Tekla and Solibri
  - good acceptance
  - Simple schemes: easy to implement

BCF Vocabulary

- **Topic: an issue related to BIM design, for example a clash**
  - Markup: Collection of textual information related to topic
    - Name
    - Comments
    - Status
  - Viewpoint
    - 3D information related to topic
      - Components
      - Camera position
      - Lines, sectioning
  - Snapshot: A png snapshot of the topic

BCF File

- BCF file is a zip that contains one folder for each topic.
- Folder contains the following files:
  - markup.bcf
    - An XML file following the markup.xsd schema that is described below.
  - viewpoint.bcfv
    - An XML file following the visinfo.xsd schema that is described below.
  - snapshot.png
    - A snapshot related to the topic.

Improvements to BCF

- Suggestions collected in ISG Jira
- Suggested improvements:
  - Support for multiple snapshots/viewpoints per topic
    - Associate comments with snapshots
  - Support for provision for voids
  - Associate additional payloads or links with topic
  - Better process support:
    - Author identification
    - Clearer status of topic

Improvements to BCF, cont.

- Improved visualization:
  - Control of component visibility and color
  - Support for bitmap (text)
- Misc:
  - Maintain the order of topics

Development of Next Version

- Requirements discussed in telecons and in ISG Jira

- Participants: Catenda, DDS, Iabi, ISG, Solibri, Tekla

- Backward compatibility required with version 1

- Schemas finalized by Klaus Linhard and Pasi Paasiala

Solutions

- **Support for multiple snapshots/viewpoints**
  - A new element Viewpoint added:
    - Refers to its own markup, viewpoint, and snapshot files in the topic folder
- Support for provision for voids
  - New element BimSnippet
    - Refers to an IfcXml, Ifc2x3, Ifc4, ... File
- **Associate additional payloads or links with topic**
  - New element DocumentReference
    - Refers either to a file in topic folder or to a url

Solutions, Cont.

- **Better process support:**
  - Author identification
    - Added email to comment
  - Clearer status of topic
    - Added open/closed status to comment

- **Improved visualization:**
  - Control of component visibility and color
    - Added visibility, color, and selected information to Component
  - Support for bitmap (text)
    - Added Bitmap to viewpoint

- **Misc:**
  - Maintain the order of topics
    - Added index to topic

Status

- New schema available for comments
- Improved documentation still pending