



CityGML and 3D City GIS

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Agenda

- CityGML and Bentley Map
- Using FME to import CityGML
- Produce a panorama with i-Model optimizer for iPad
- Use Navigator for iPad to view and markup Panoramas.



Convert 3D models to CityGML

- 3D models in 3DS or DWG – standard tools
 - Directly reference to MicroStation
 - Note referencing model to GIS features
 - Copy selected models into active file
 - Drop to component pieces
 - Promote to CityGML data model using provided tools
 - Assign any other attribution
 - Name, description, floors, heights, LOD
 - Export to CityGML using FME
 - View in viewer

Demo

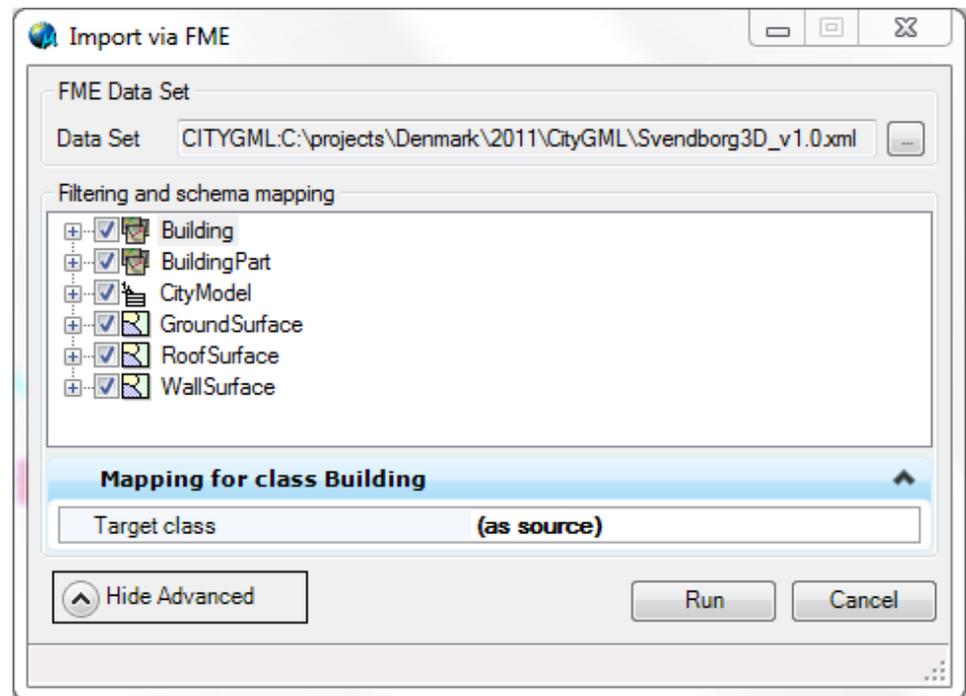
Convert 3D models to CityGML

- 3D models in 3DS or DWG – Custom Promote
 - Build solid from existing models using solids tools
 - Use custom promote tool to evaluate solid and extract component pieces
 - Custom tools assigns CityGML features based on geometric properties
 - Vertical – walls
 - Horizontal – roof
 - Further selections can be made based on level or symbology.
 - Assign any other attribution
 - Name, description, floors, heights, LOD
 - Export to CityGML using FME
 - View in viewer

Demo

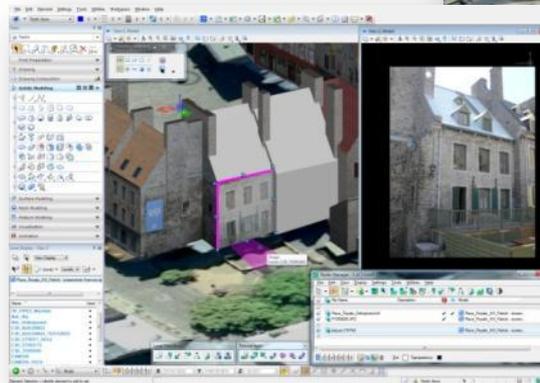
Importing CityGML with FME

- Start with Bentley Map CityGML Model
- Import using FME Interface
 - Mapping to CityGML features done automatically
- Demo
 - Import CityGML and GML via FME
 - Export to iModel
 - Create optimized iModel
 - Display on iPad



Advanced Texture Creation/Editing

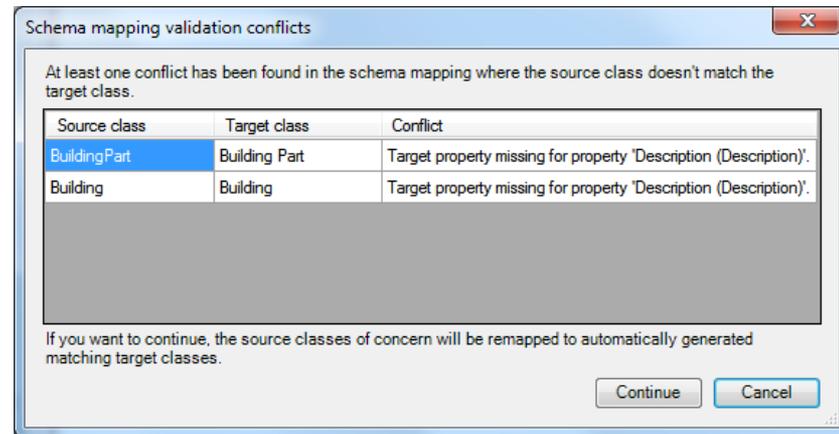
- Create Advanced textures with simple digital images
 - By rectangles, ideal for facades
 - By points, ideal for roofs
- Easy export to Google Earth (KML, KMZ), Collada, 3D PDF
- Animation creation



Data provided by Quebec City, Canada

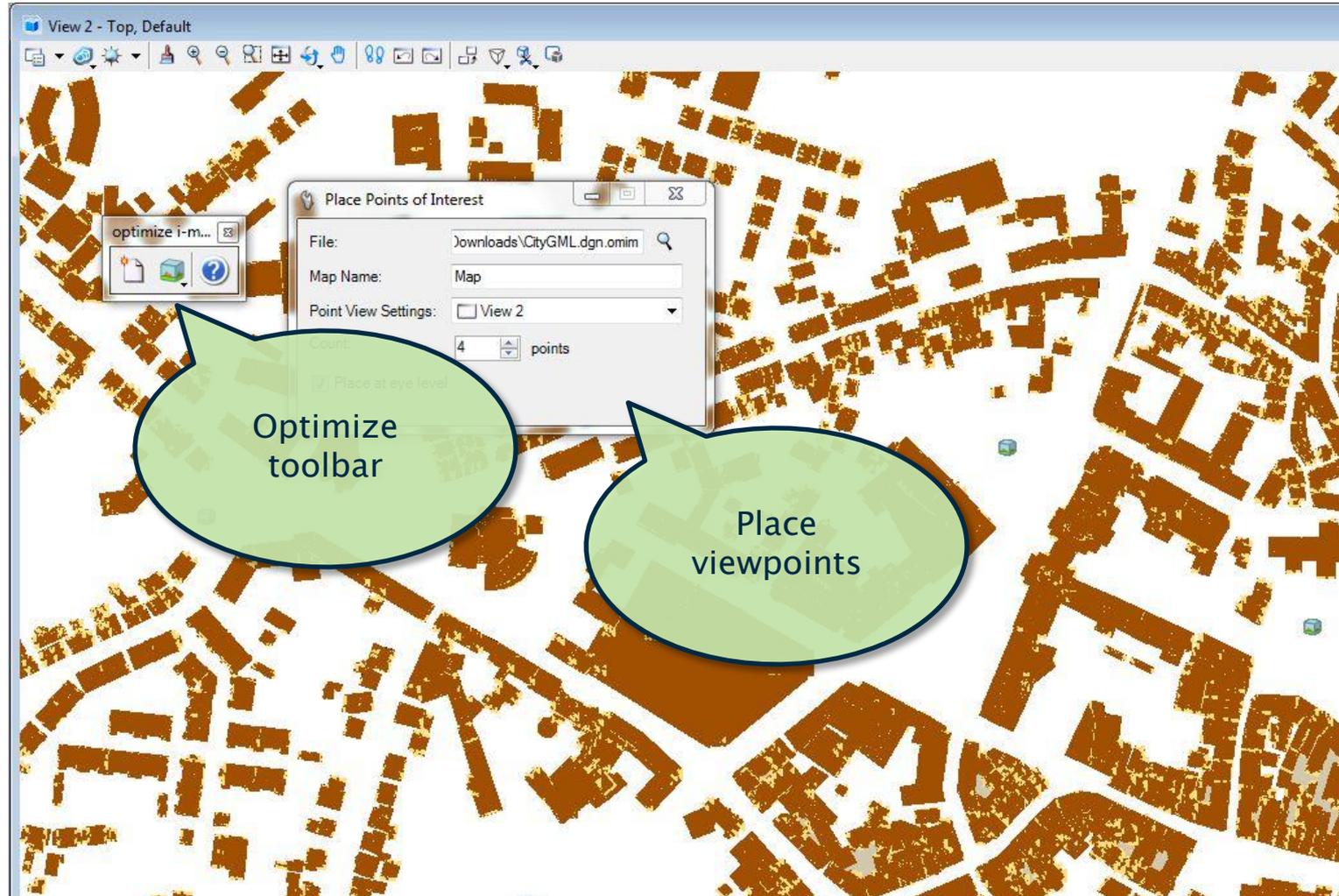
Issues with provided model

- CityGML has a defined set of properties
- Properties can be added but receiving model needs to be adapted to receive them.
- Building and Building Part had extra properties
 - Object Name and Object Type were non standard with spaces and had to be manually mapped
- These were added to the current CityGML schema





Converting i-Model to iPad format



Optimize
toolbar

Place
viewpoints