CityGML 3.0 Versioning Module: Basic Versioning Example

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Findable



Accessible

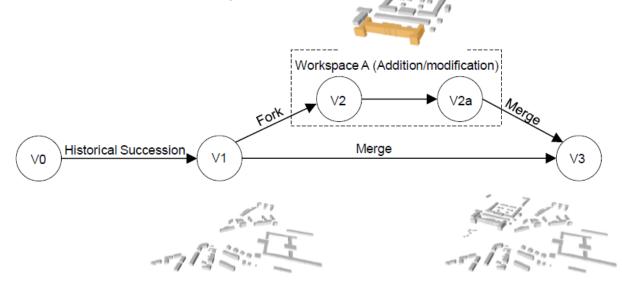


<u>I</u>nteroperable



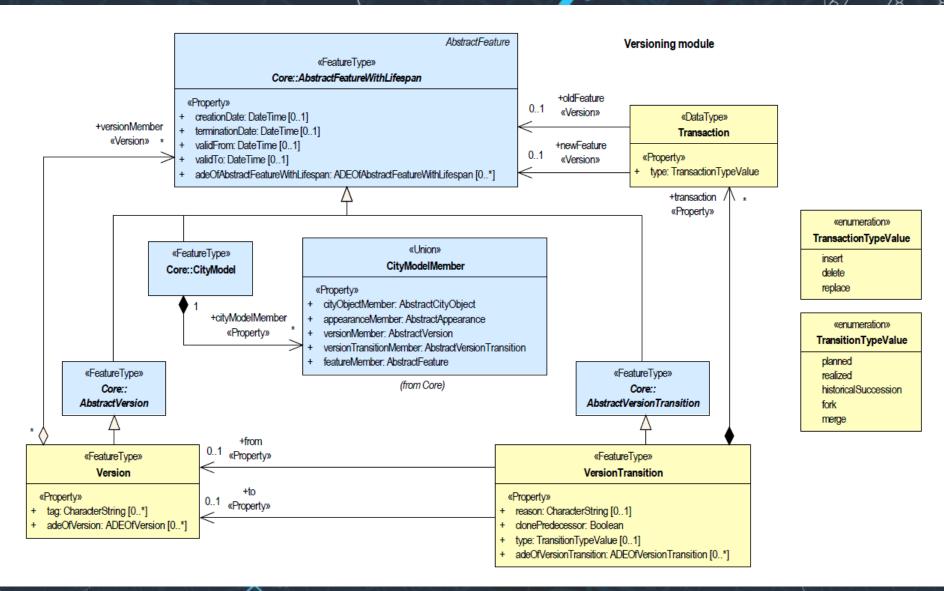


- **Version** used to explicitly define named states of the 3D city model and denote all the specific versions of objects belonging to such states.
- VersionTransition allows to explicitly link different versions of the 3D city model by describing the reason of change and the modifications applied
 - Types: planned, realized, historical succession, fork, merge
- Transaction a modification of the city model by the creation, termination, or replacement of a specific city object
 - Types: insert, delete, or replace

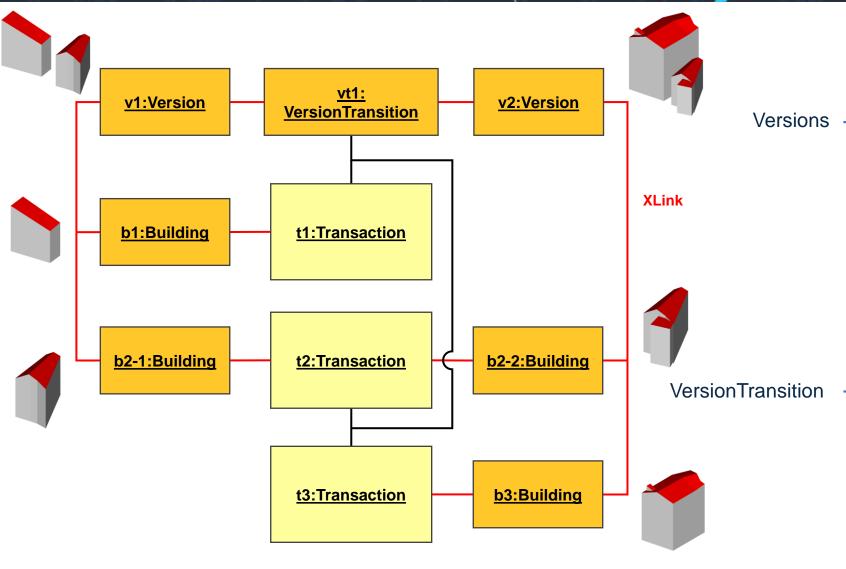


Versioning module: UML Diagram

12: 45: 87 **OGC** FEB - 05 - 3254



Versioning module: Example Versioning Graph 45: 87 OGC



```
<vers:Version gml:id="LYON_1ER_snapshot_2000-01-01">
   <vers:tag>v1.0</vers:tag>
   <vers:versionMember xlink:href="#BU_69381AL47_2000-01-01"/>
   <vers:versionMember xlink:href="#BU 69381AL49 2000-01-01"/>
 </re>
</core:versionMember>
<core:versionMember>
 <vers:Version gml:id="LYON_1ER_snapshot_2015-01-01">
   <vers:tag>v2.0</vers:tag>
   <vers:versionMember xlink:href="#BU 69381AL49 2015-01-01"/>
   <vers:versionMember xlink:href="#BU 69381AL50 2015-01-01"/>
 </re>
⟨/vers:Version⟩
</core:versionMember>
   <vers:reason>To exemplify a version transition between two ci
   <vers:clonePredecessor>false
   <vers:type>historicalSuccession/vers:type>
   <vers:from xlink:href="#LYON 1ER snapshot 2000-01-01"/>
    <vers:to xlink:href="#LYON 1ER snapshot 2015-01-01"/>
       <vers:type>delete</vers:type>
       <vers:oldFeature xlink:href="#BU_69381AL47_2000-01-01"/>
     </vers:Transaction>
    </vers:transaction>
       <vers:type>replace</vers:type>
       <vers:oldFeature xlink:href="#BU_69381AL49_2000-01-01"/>
       <vers:newFeature xlink:href="#BU 69381AL49 2015-01-01"/>
     </vers:Transaction>
   </vers:transaction>
       <vers:type>insert
       <vers:newFeature xlink:href="#BU 69381AL50 2015-01-01"/>
     </vers:Transaction>
   </vers:transaction>
 </vers:VersionTransition>
```

4583

Versioning module: Identifiers



- Identifier best practices
 - Use *gml:identifier* as a static or major id to identify a city object represented across different versions.
 - This id should be associated with a codeSpace.
 - Use gml:id as a unique minor id. Appending a datetime or timestamp can be an effective way to create unique ids from existing gml:ids