Soil Things How to put Domain Models into STA

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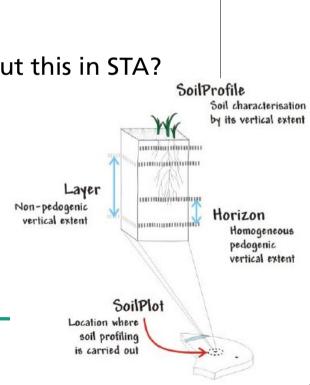


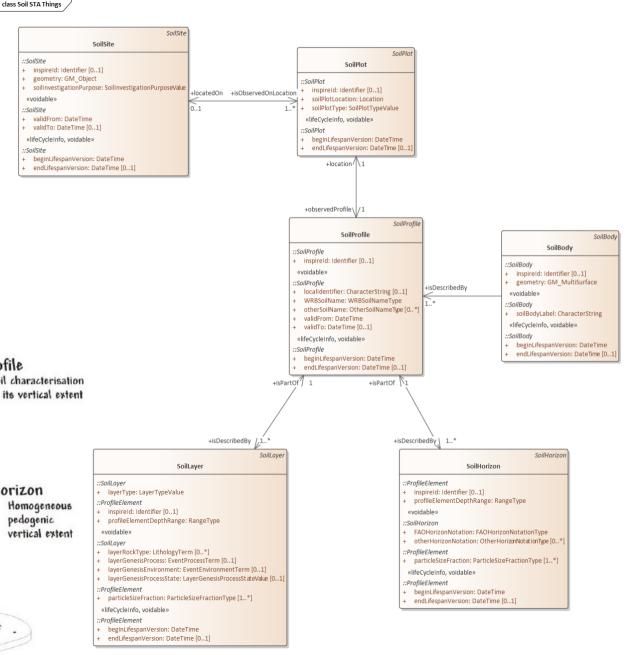


The Starting Point

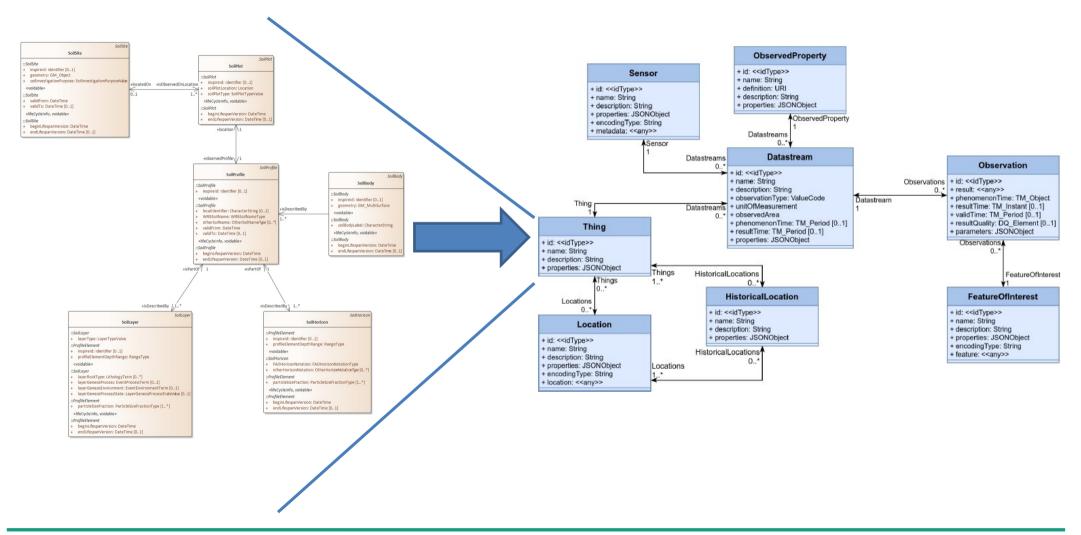
- It's a Domain Model
 - With relations
 - Observations 4 All

How to put this in STA?





How to put Soil Features in STA Thing?

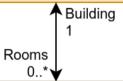


A simpler example

■ To reduce diagram complexity

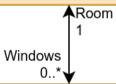
Building

- + id: <<idType>>
- + name: String
- + description: String
- + properties: JSONObject



Room

- + id: <<idType>>
- + name: String
- + description: String
- + properties: JSONObject



Window

- + id: <<idType>>
- + name: String
- + description: String
- + properties: JSONObject

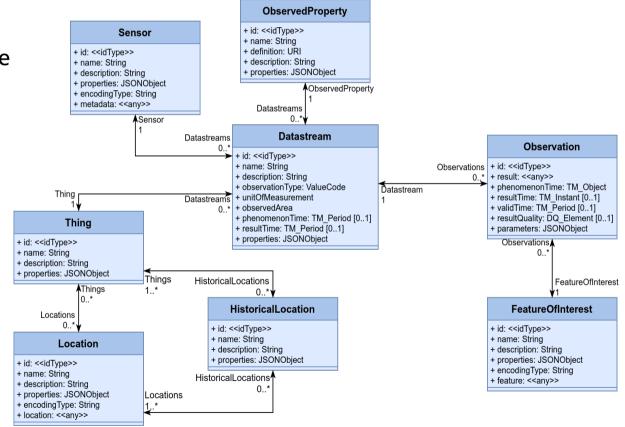


Option 1 – Pure STA

- Model all entities as Thing
 - Give each Thing a properties/type

- Advantages
 - 100% STA

- Disadvantages
 - Relations between specialized thing entities are lost

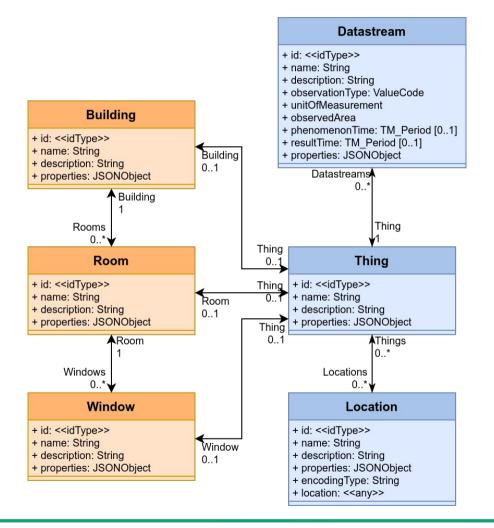






Option 2 – Shadow Things

- Add Entities attached to Things
 - Give each Thing a properties/type
- Advantages
 - 100% STA
 - Relations are fully exposed
 - Full Query/Expand
- Disadvantages
 - All domain entities duplicated
 - → Double maintenance
 - Things in between
 - Room → Thing → Datastream
 - Room \rightarrow Thing \rightarrow Location

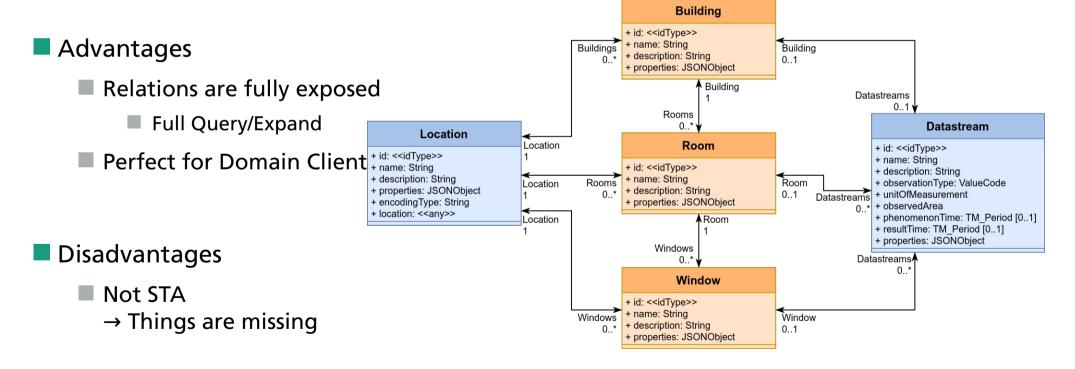






Option 3 – Thing-less

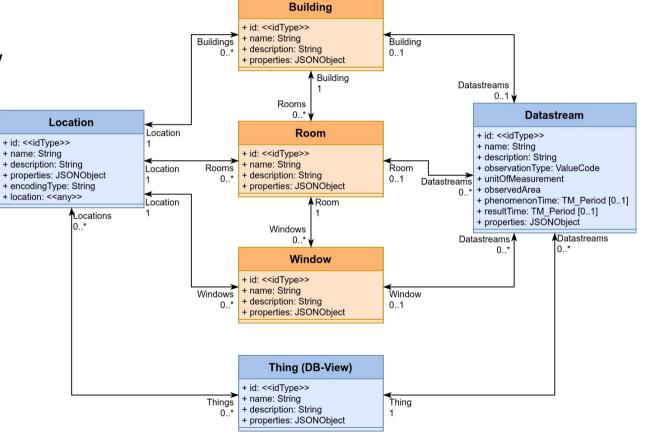
Replace Things with Domain Entities



Option 4 – Thing Views

- Model all Domain Entities
 - Replace Things with a DB-View merging all entity information
- Advantages
 - 100% STA
 - Relations are fully exposed
 - Full Query/Expand
 - Perfect for Domain Clients

- Disadvantages
 - **...?**

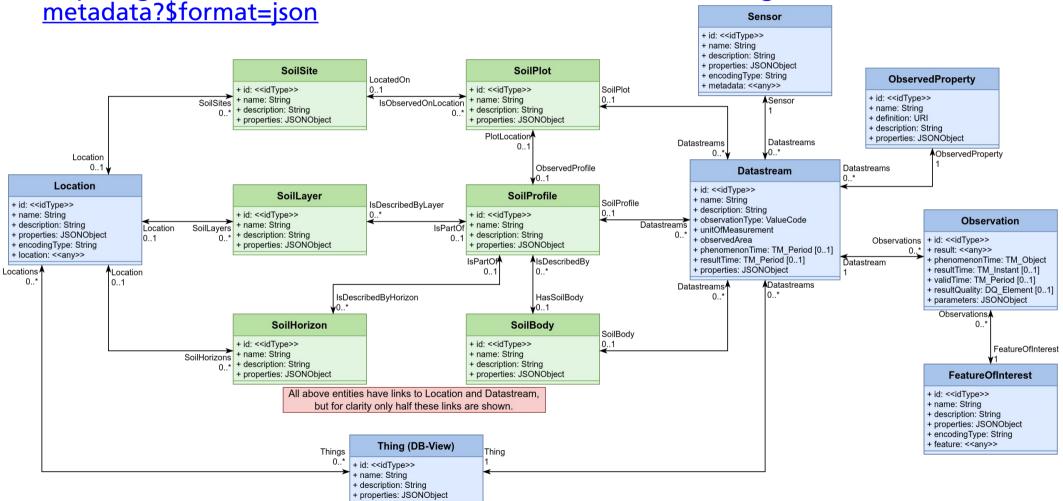




Back to Soil Things

https://ogc-demo.k8s.ilt-dmz.iosb.fraunhofer.de/FROST-SoilThings/v1.1/

https://ogc-demo.k8s.ilt-dmz.iosb.fraunhofer.de/FROST-SoilThings/ODATA 4.01/\$



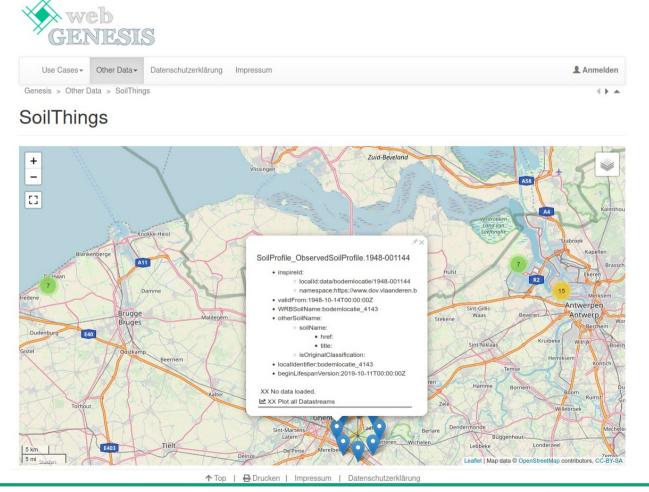
Example Queries

https://ogc-demo.k8s.ilt-dmz.iosb.fraunhofer.de/FROST-SoilThings/ v1.1/SoilPlots?\$filter=ObservedProfile/IsDescribedByHorizon/Datastreams/ ObservedProperty/name eq 'grensduidelijkheid'

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https://ogc-demo.k8s.ilt-dmz.iosb.fraunhofer.de/FROST-SoilThings/
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Standard STA Client can read Soil Things

https://api4inspire.k8s.ilt-dmz.iosb.fraunhofer.de/servlet/is/203/



How about **Your** Domain Models?

- Tooling
 - Domain Database → Domain+STA Database
 - Database → FROST
- SoilThings Example: https://github.com/hylkevds/FROST-Server.SoilThings
- Observable Properties example: https://github.com/hylkevds/FROST-Server.ObservableProperty