

Bundesamt für Landestopographie
Office fédéral de topographie
Ufficio federale di topografia
Federal Office of Topography

Multirepresentation Databases and Need for Generalization at **swisstopo**

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MRDB

Architecture

Topographic Landscape Model TLM

- Reference Data. Base DLM for most topographic products such as maps and landscape models.
 - Primary geometry, captured data, 1m - 5m accuracy
 - Including topology
 - 3-dimensional, grid model
-
- State of development at **swisstopo**: concept

MRDB

Architecture

Digital Cartographic Model DCM

- Basis for cartographic products at a certain scale (-range)
 - Cartographically generalized
 - Including topology
 - 2-dimensional
-
- State of development at **swisstopo**: preliminary study

MRDB Architecture (old concept)

DLM1M

DCM 1M

DCM 500

DLM200

DCM 200

DCM 100

DCM 50

Generalization
Visualization

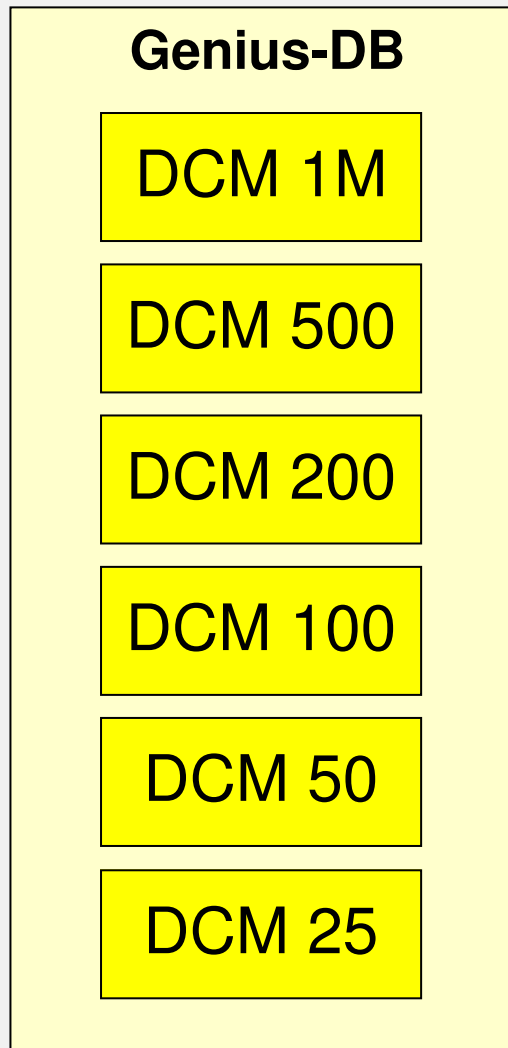
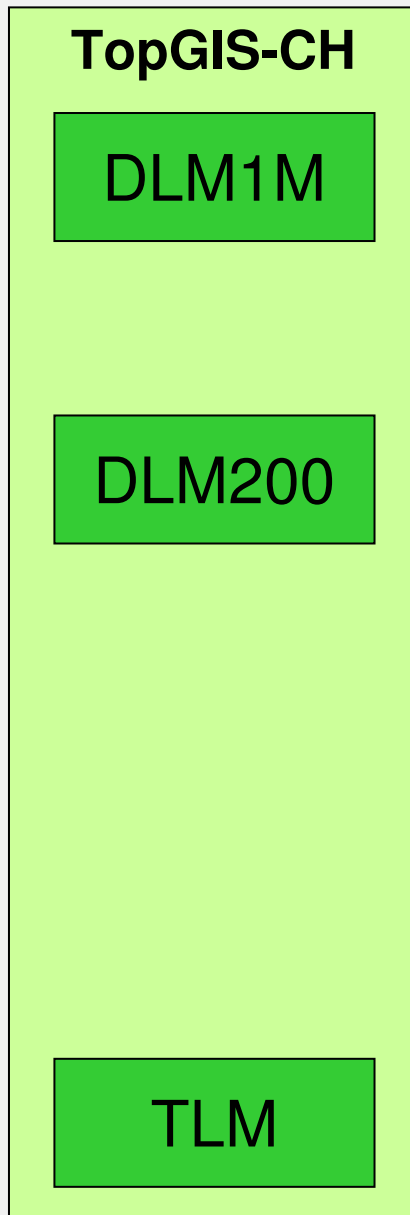
DCM 25

Capturing
Integration
Verification

TLM

MRDB Architecture

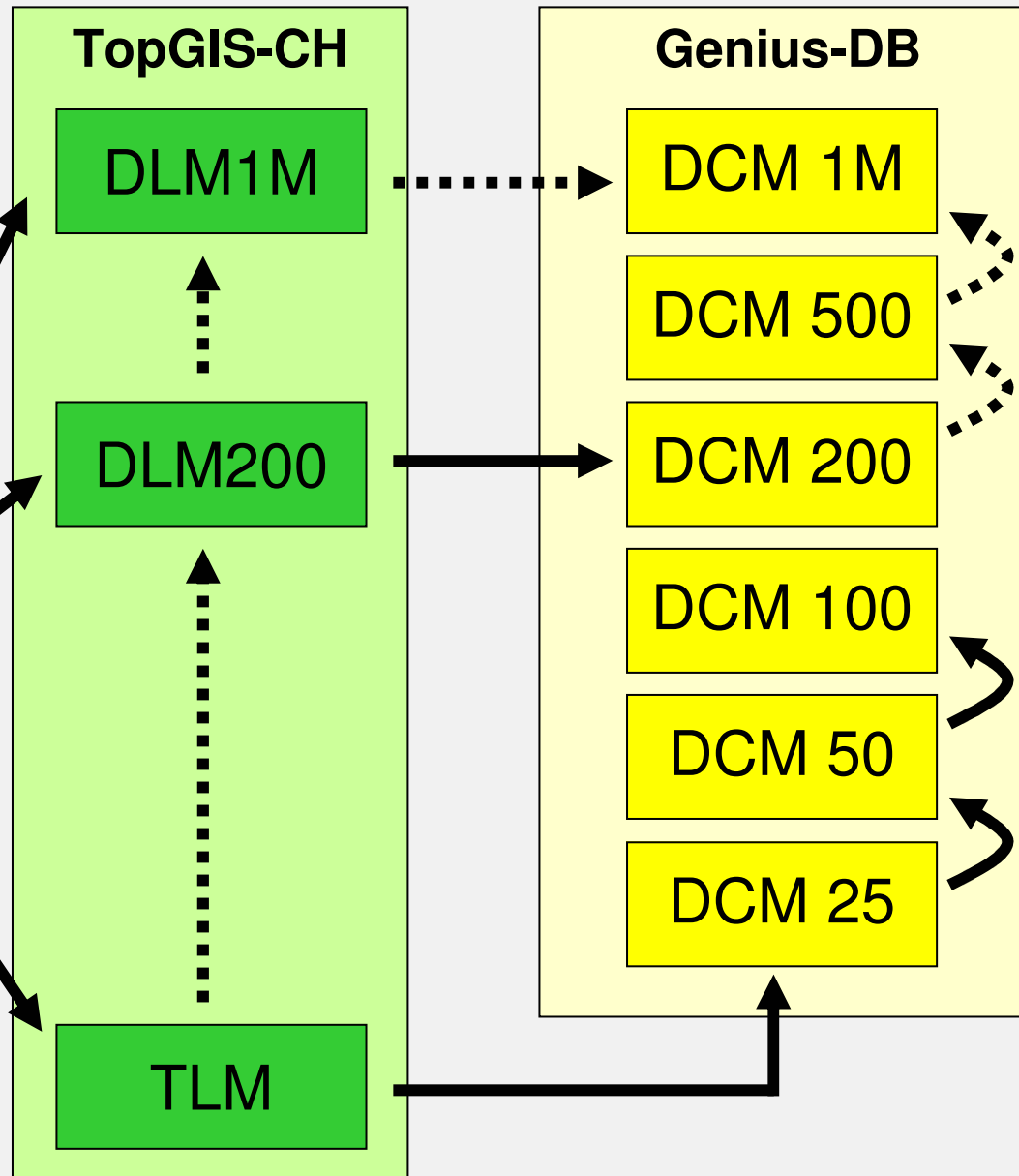
Capturing
Integration
Verification
(Generalization?)



Generalization
Visualization

MRDB Dataflow

Capturing
Integration
Verification

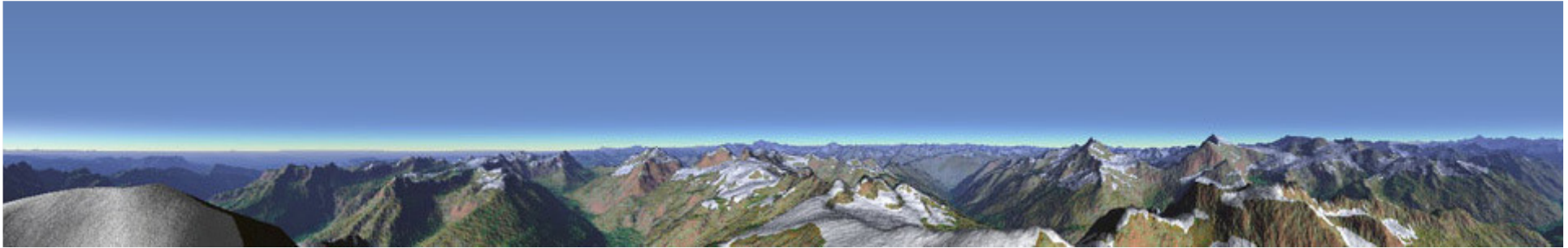


Today's vectordata of swisstopo

- **VECTOR25** and **VECTOR200**
 - Map based GIS-data
 - Full coverage, except buildings (in progress)
 - With topology, OID, year of change
 - Data delivery: incremental updates (comparer)
- Digital Elevation Model **DHM25** and **DTM-AV**
 - DHM25: digitized contour lines and ridges from Map25
 - DTM-AV: approx. 1 point per m² (laserscanning)
- **SwissNames**
 - Flat text allocated by coordinate

Need for Automatic Generalization

- Model generalization and cartographic generalization:
 - from VECTOR25 (possibly via TLM) to DCM25
 - from DCM25 to DCM50
 - from DCM50 to DCM100
 - from VECTOR200 (map based DLM) to DCM200
 - ...
- Support for semiautomatic generalization (semantic, geometric and cartographic) of incremental updates
 - from TLM to DCM25 and so on
- Data matching between DCM100 and DCM200



swisstopo



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MRDB Dataflow

Capturing
Integration
Verification

