



SOS

INSPIRE Thematic Clusters



Air Quality

Thematische und ihr Benefit

SOS-Services als Best-Practice



INSPIRE Thematic Clusters

- Groups for each INSPIRE Theme
- Similar Themes grouped into clusters
- Group and Cluster membership open
- Currently stronger focus on thematic problems
- <https://themes.jrc.ec.europa.eu/>

INSPIRE Thematic Clusters

- Biodiversity and Management Areas
 - Protected Sites
 - Area Management/Restriction/Regulation Zones and Reporting Units
 - Habitats and Biotopes
 - Species Distribution
 - Bio-geographical Regions

- Facilities, Utilities and Public Services
 - Utility and Governmental Services
 - Production and Industrial Facilities
 - Agricultural and Aquaculture Facilities

INSPIRE Thematic Clusters

- Topographic and Cadastral Reference Data
 - Hydrography
 - Geographical Names
 - Administrative Units
 - Cadastral Parcels
 - Addresses
 - Buildings
 - Transport Networks

INSPIRE Thematic Clusters

- Environmental Monitoring and Observations
 - Environmental Monitoring Facilities
 - Observations and Measurements

- Marine and Atmosphere
 - Oceanographic Geographical Features
 - Sea Regions
 - Atmospheric Conditions
 - Meteorological Geographical Features

INSPIRE Thematic Clusters

- Elevation, Orthoimagery, Reference Systems and Geographical Grids
 - Elevation
 - Orthoimagery
 - Reference systems
 - Geographical grids

- Land Cover and Land Use
 - Land Cover
 - Land Use

INSPIRE Thematic Clusters

- Earth Science
 - Geology
 - Soils
 - Natural Risk Zones
 - Mineral resources
 - Energy resources

- Statistical
 - Statistical Units
 - Population Distribution
 - Human Health and Safety

INSPIRE Thematic Clusters

- Good if one has problems understanding how to use a thematic data model
- Also good if one sees systematic problems – while can only be addressed for a theme (or cluster), info can be propagated to MIG-T (cluster has liason)
- First check through existing discussions if topic already covered
- Discussions can be filtered by categories, i.e. Data provision, Encoding, Recommended Implementation Examples, Member State issues

INSPIRE Thematic Clusters

- Not just discussion pages, also:
- News
- Links
- Group Pages
 - Used to provide more static information
 - Examples from EF / SOS Cluster:
 - EF/O&M Resources (data model stuff)
 - EF/O&M Best practices
 - SOS Clients and Servers

INSPIRE & Reporting

- Develop reporting data models integrated with INSPIRE data
- Advantage is reusability: provide the data once for both purposes
- First Directive to stipulate and implement INSPIRE based reporting:
Directive 2008/50/EC on ambient air quality and cleaner air for Europe

AQD e-Reporting

- Air Quality Reporting under Directive 2008/50/EC & Implementing Provisions 2011/850/EU
- Requires yearly reporting of air quality data together with assessment methods and attainment of objectives
- Includes Up To Date (UTD) measurement data
- Requirement for provision of AQD data under INSPIRE 2007/2/EC. Implications:
 - Data models in accordance with INSPIRE, ISO and OGC Standards
 - Data made available via web services

AQD e-Reporting

Reporting Dataflows:

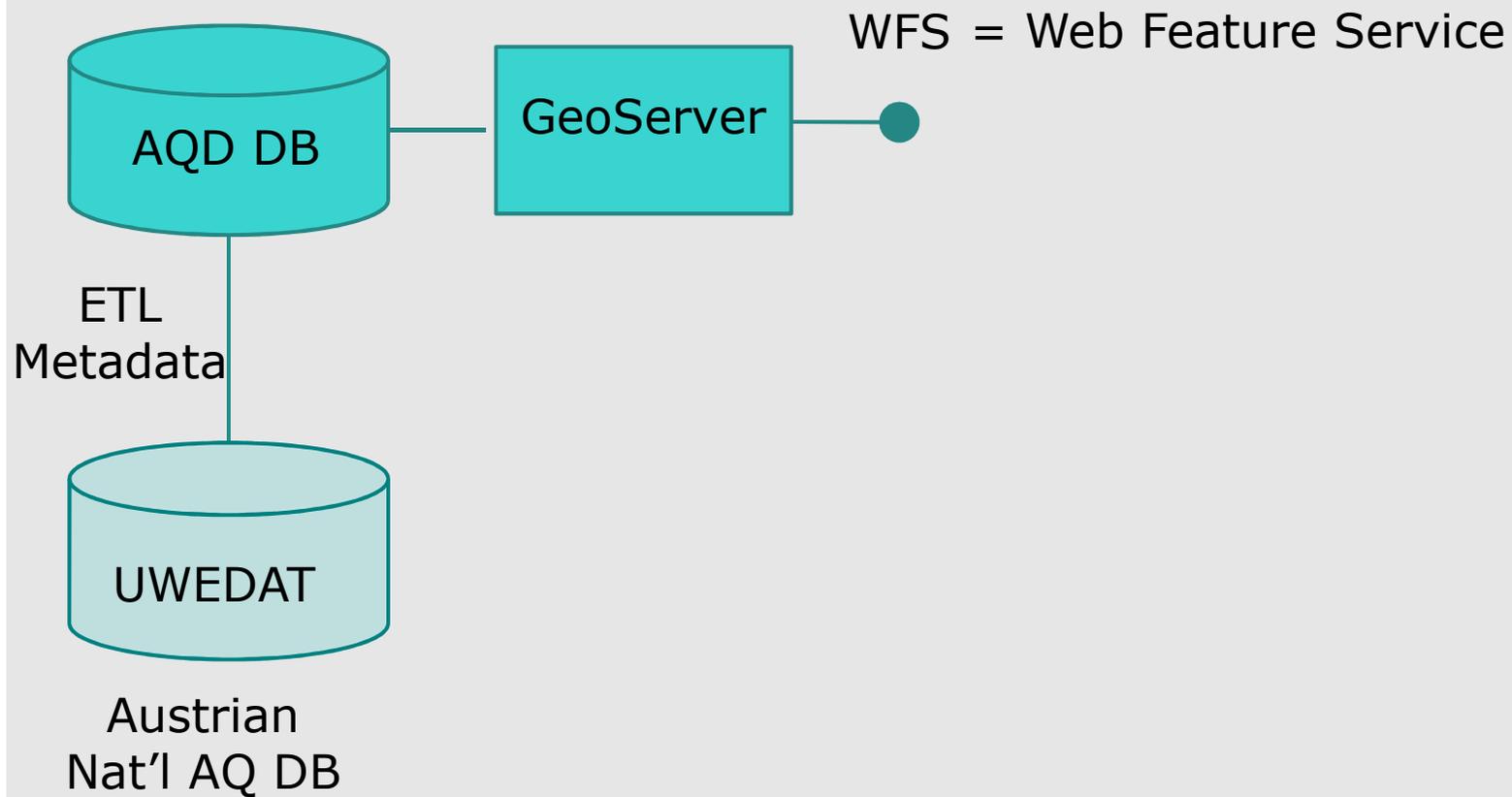
- B. Zones and Agglomerations
- C. Assessment Regime
- D. Information about Assessment Methods
- E. Primary data (both validated & UTD)
- F. Generated Aggregated Data
- G. Attainment of Environmental Objectives

Austrian AQD SOS implementation



Austrian
Nat'l AQ DB

Austrian AQD SOS implementation

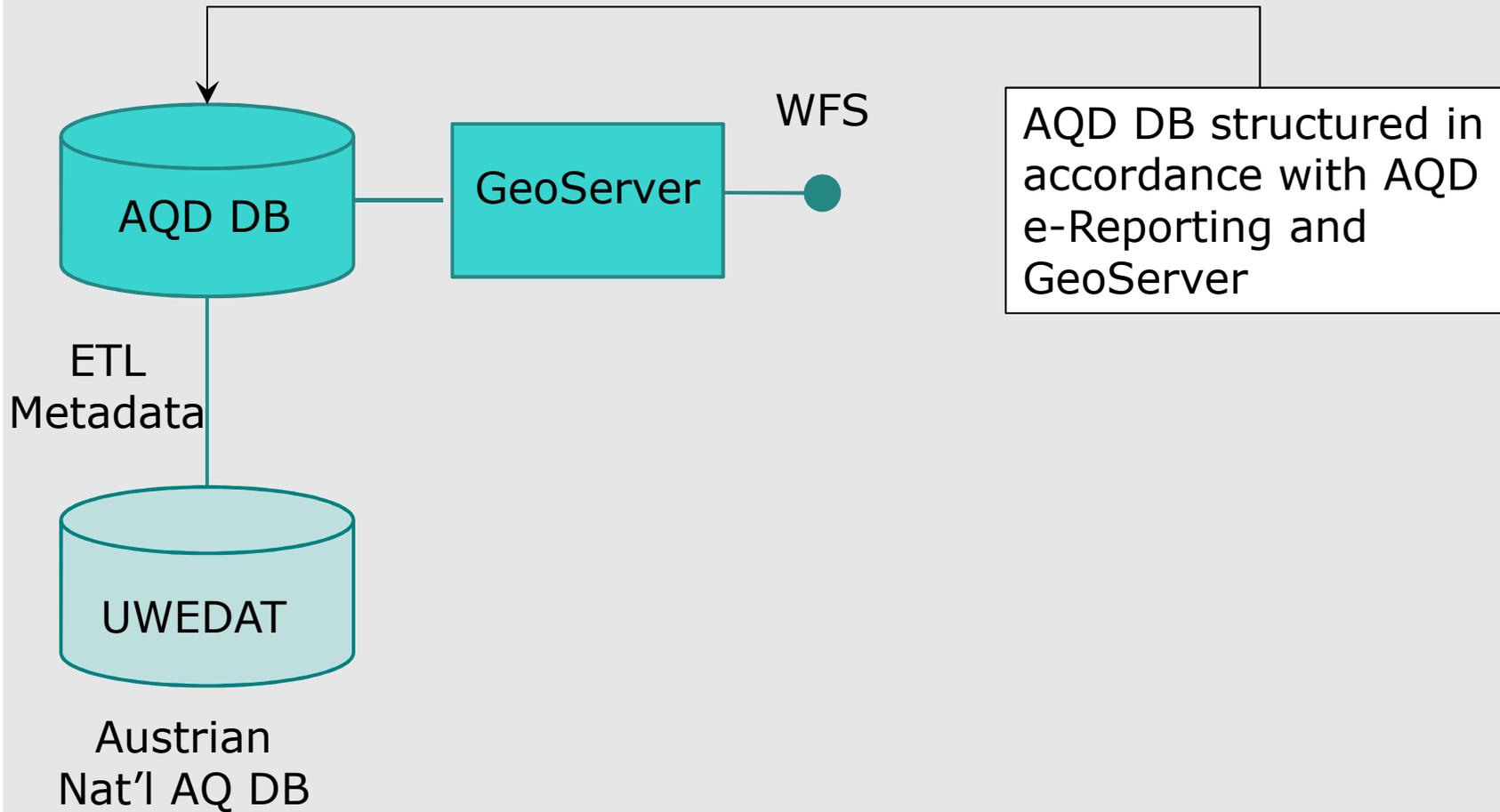


AQD e-Reporting

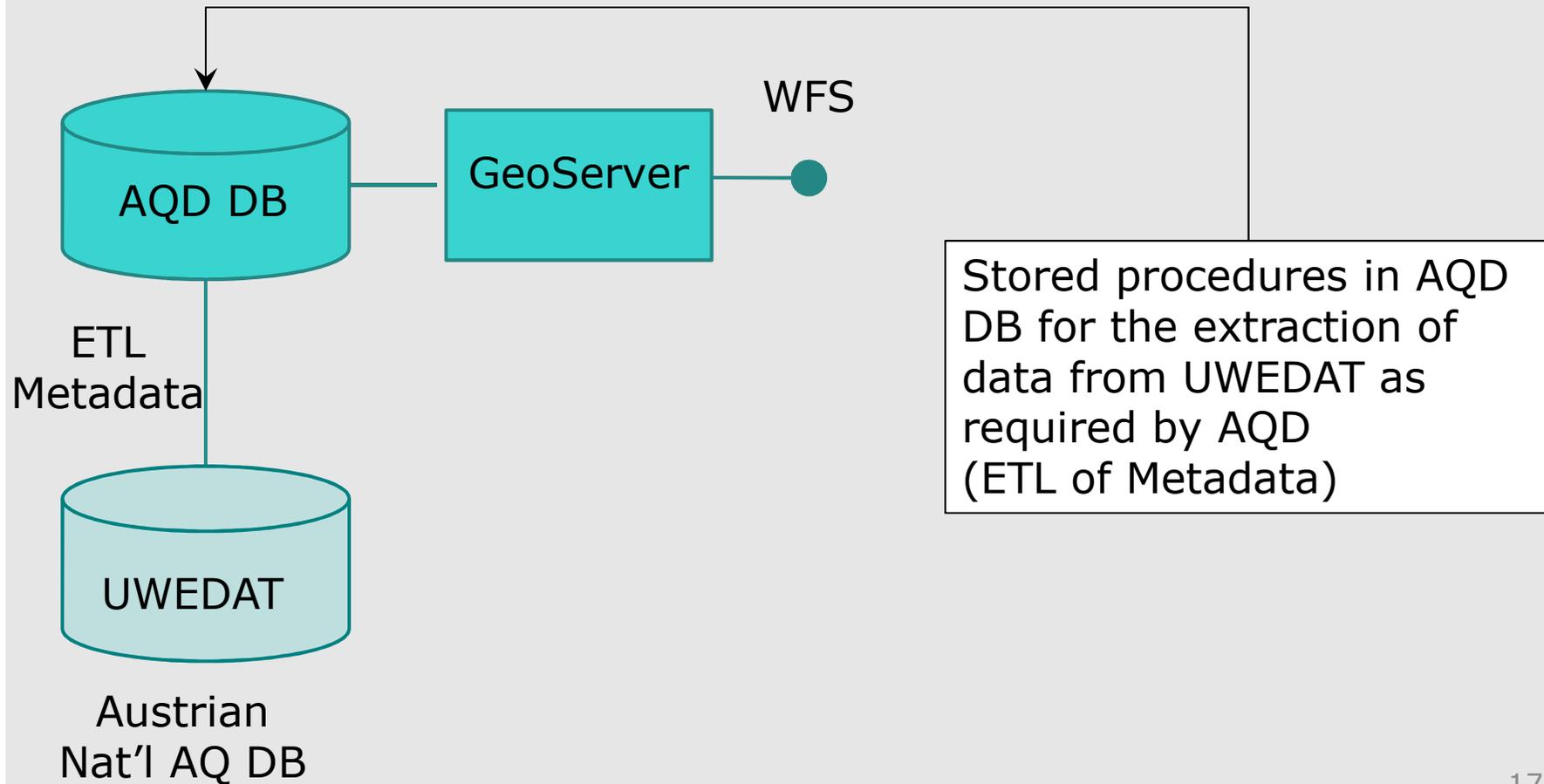
Reporting Dataflows:

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- } **WFS**
- } **WFS**

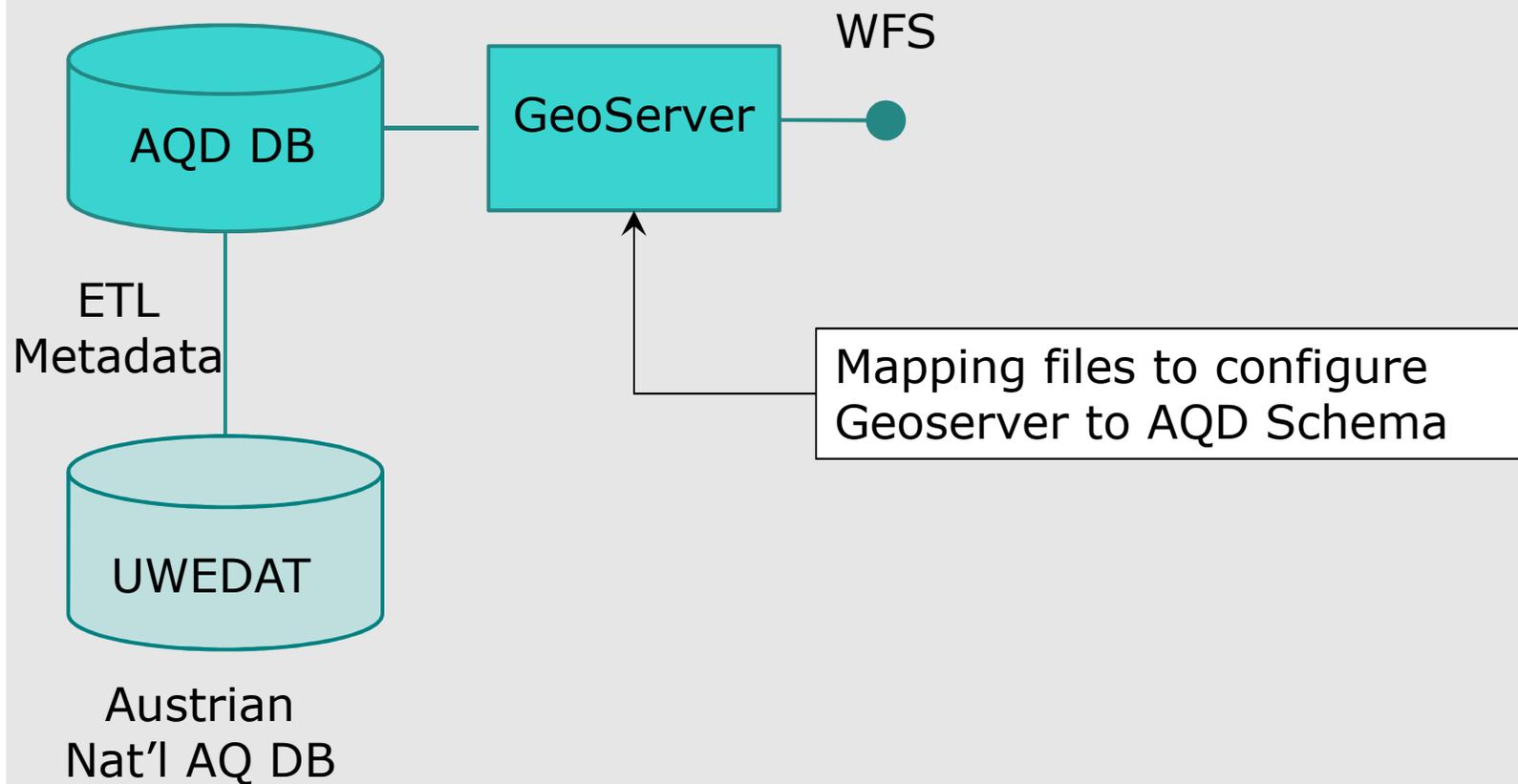
Austrian AQD SOS implementation



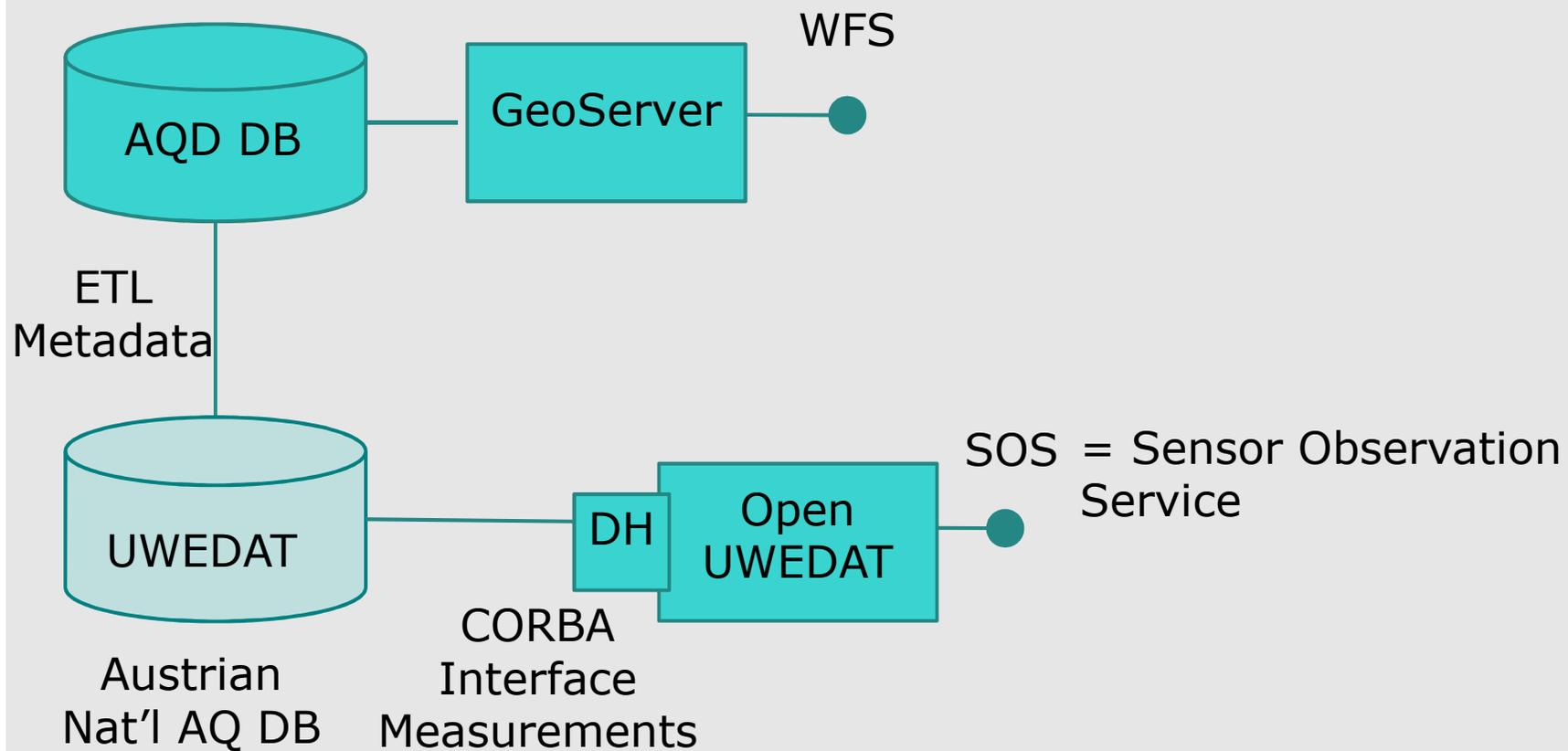
Austrian AQD SOS implementation



Austrian AQD SOS implementation



Austrian AQD SOS implementation

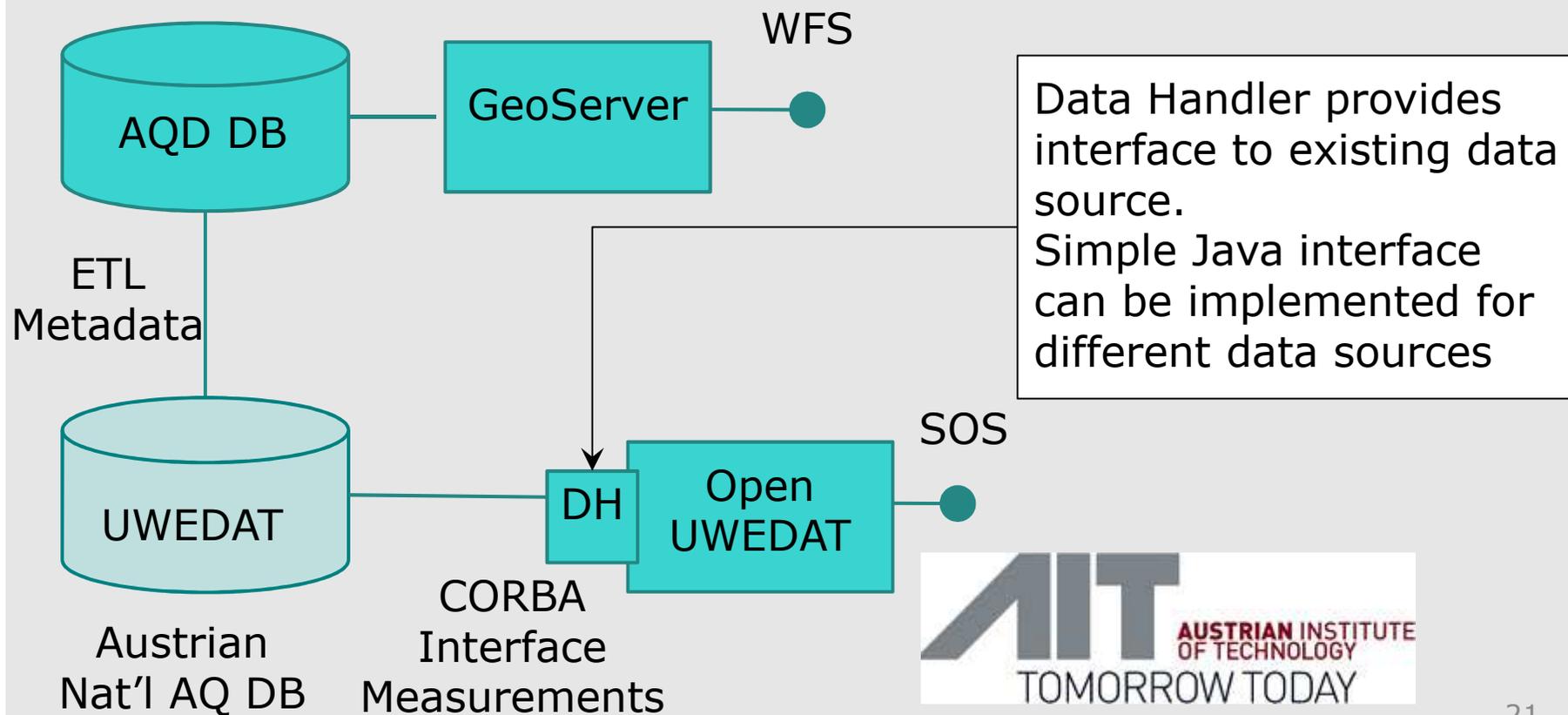


AQD e-Reporting

Reporting Dataflows:

- B. Zones and Agglomerations
 - C. Assessment Regime
 - D. Information about Assessment Methods
 - E. Primary data (both validated & UTD)
 - F. Generated Aggregated Data
 - G. Attainment of Environmental Objectives
-
- The diagram uses brackets to group the reporting dataflows into three categories:
- WFS**: Includes B. Zones and Agglomerations, C. Assessment Regime, and D. Information about Assessment Methods.
 - SOS**: Includes E. Primary data (both validated & UTD).
 - WFS**: Includes G. Attainment of Environmental Objectives.
- Note: F. Generated Aggregated Data is not grouped into any of the categories shown.

Austrian AQD SOS implementation



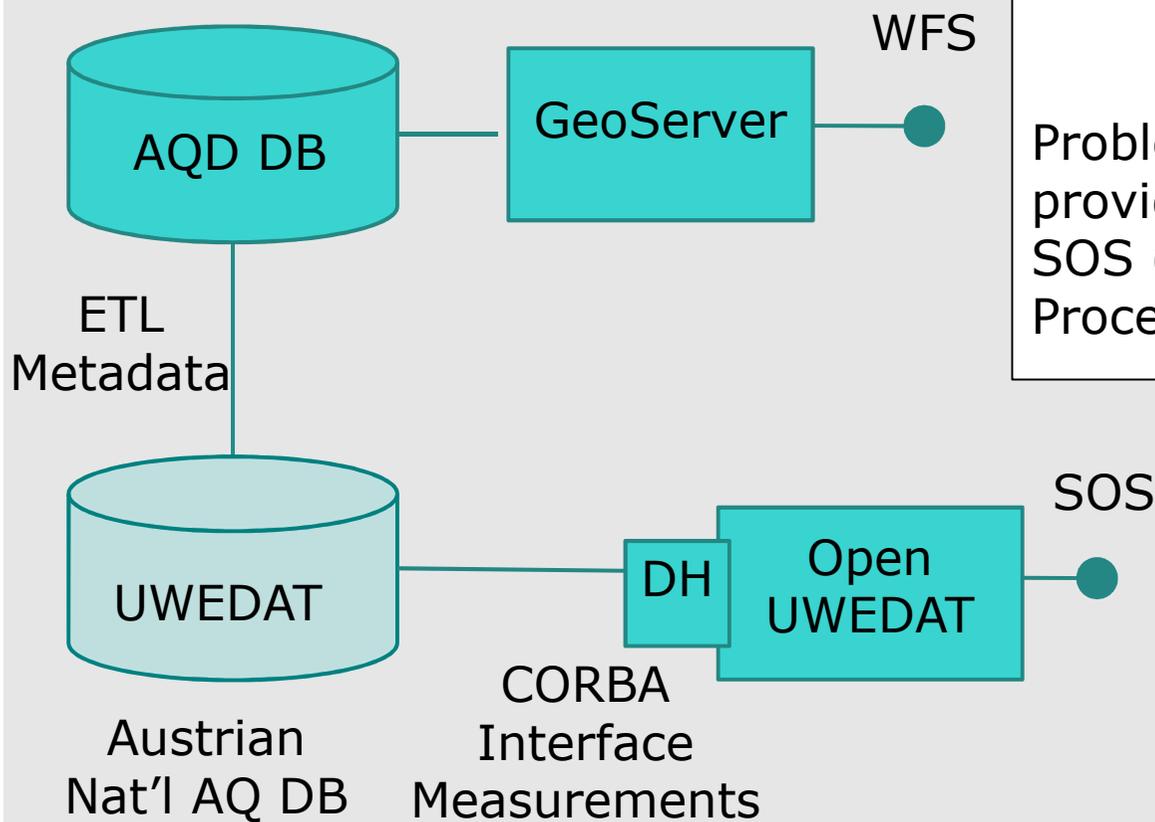
Austrian AQD SOS implementation

Data Handler Class (Java) must be adapted in the following methods:

- Setter methods to parameterize data source connection
- Open & Close methods
- Filter methods to specify specific data point (~ ObservingCapabilities).
- getTimeSeries

TimeSeries class must also be configured in accordance with data to be served

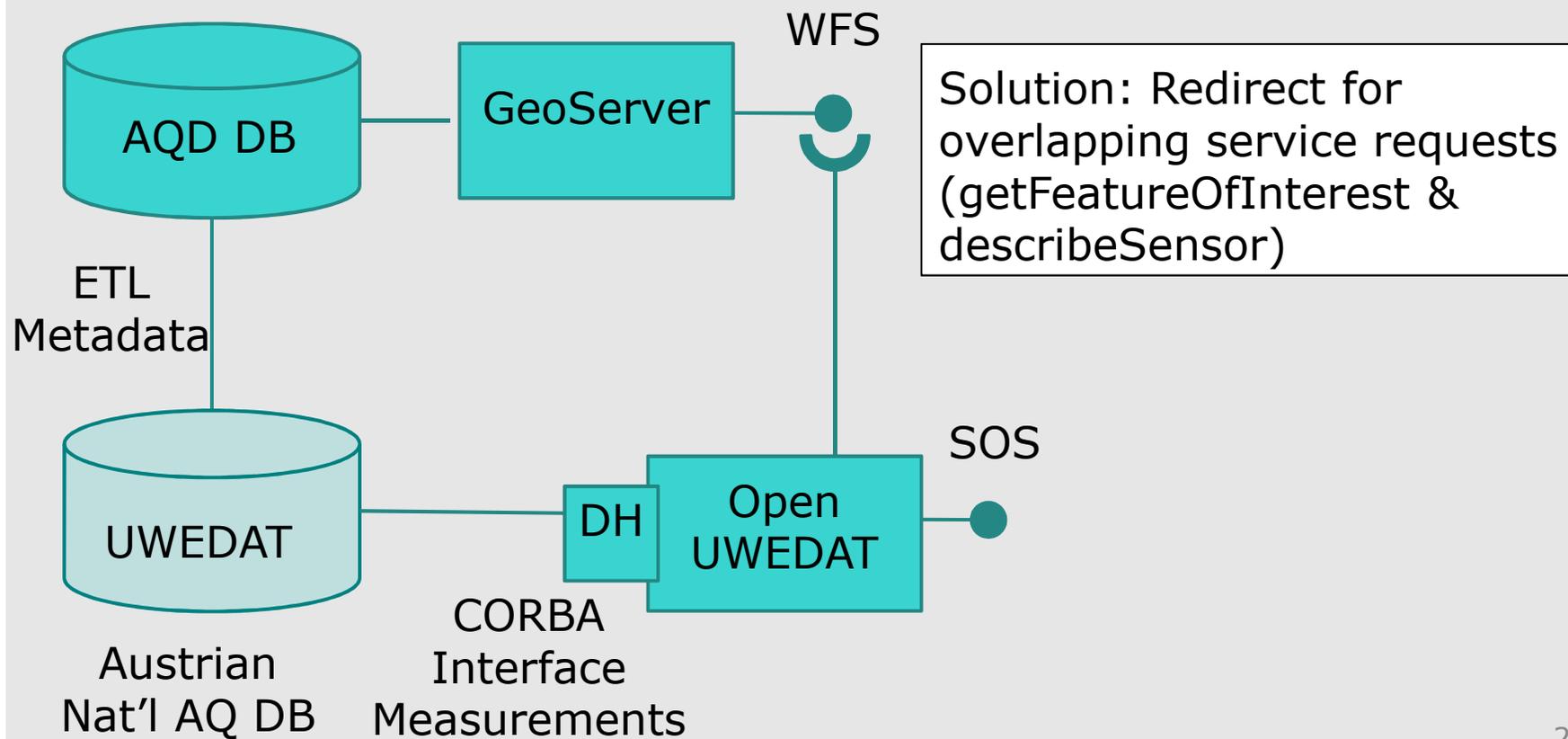
Austrian AQD SOS implementation



First approach

Problem: how to keep features provided by both WFS and SOS (featureOfInterest and Process) aligned?

Austrian AQD SOS implementation



Austrian AQD URIs

WFS:

<http://luft.umweltbundesamt.at/inspire/wfs?service=WFS&version=2.0.0&request=GetCapabilities>

SOS

<http://luft.umweltbundesamt.at/inspire/sos?service=SOS&request=getCapabilities>

Conclusions

- GeoServer well suited for provision of INSPIRE Data
 - However not easy to configure, should find way to support each other
- Client side problems with complex features (but solvable)
- Lightweight SOSI from AIT configurable to various data stores
- Redirect of overlapping requests can be redirected between services
- Could make sense to put solution in the cloud and reuse across organizations

Contact & Information

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SOS URIs

<http://luft.umweltbundesamt.at/inspire/sos?service=SOS&request=getObservation&offering=urn:any/identifier/03/0407/1/1&eventTime=2012-10-11T00:00/2012-10-12T00:00>

<http://luft.umweltbundesamt.at/inspire/sos?service=SOS&request=getFeatureOfInterest&offering=urn:any/identifier/03/0407/1/1>

http://luft.umweltbundesamt.at/inspire/sos?service=SOS&request=DescribeSensor&procedure=www.gisaustria.at/AT.0008.20.AQ/AQD_SamplingPointProcess/SPP.4029