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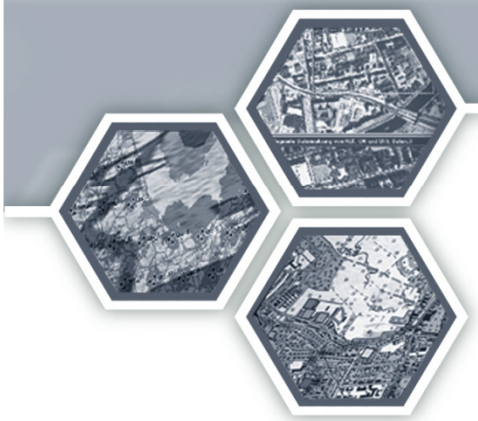

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Surface Water IE - Use Case: Cross Border Data Exchange

73rd OGC Technical Committee

Silver Springs, Maryland, USA

Surface Water IE (Cross Border)

June 16, 2010

Agenda

- Overall Goal
- Participants
- Architecture
- Deliverables
- Workplan (Outcome)
- Timeline and Actions

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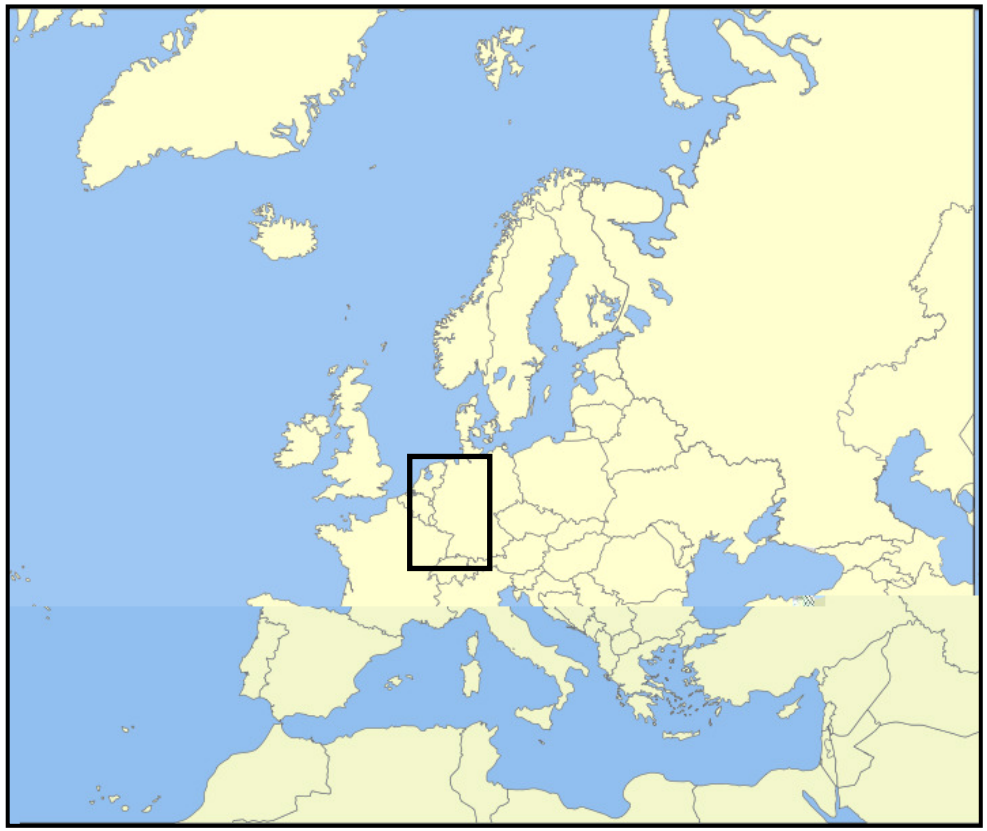
Overall Goal

- Test WaterML2.0 encoding with surface water data
- (Near) Real-time data exchange
- Regional focus: Rhine River (French: Rhin – German: Rhein)
- Technologies SOS, WFS and WMS
- Challenge: different administrational responsibilities and a lot of multilingual issues

Regional Focus: Rhine River



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Participants: KISTERS (Germany)

- Will provide an SOS Service speaking WaterML 2.0 as part of the KISTERS Hydrological Information System WISKI 7.x. The SOS Service enables WISKI 7.x to publish but also to consume meta and time series data in WaterML 2.0 Format.
- This WISKI 7.x System will be implemented at the Service Centre Information Technology of the BMVBS for the purpose of this experiment
  Note: Data from the Global Runoff Data Center will also made available through the WISKI 7.x version (see → Global Runoff Use Case).
- KISTERS will also contribute to the implementation of a catalog service.
- Participants include: Michael Natschke and Stefan Fuest.

KISTERS

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Participants: 52°North

- Will contribute a SOS implementation supporting WaterML 2.0. This will include:
  - (i) support for the deployment of the SOS implementation in order to allow other contributors to serve surface water data and to
  - (ii) supply client APIs and components to access SWE services which can be used to build client applications.
- Depending on the specific requirements, 52° North can provide a catalogue technology for the discovery of sensors and the look up of observables/phenomena and their semantics.
- Participants include Simon Jirka, Arne Broering and associates.

52north exploring horizons

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Participants: International Office for Water – Sandre (France)

- Will test hydro quantity data exchange using WaterML 2.0 and deploying OGC webservices (WMS, WFS, SOS). Thus will contribute to the evolution on WaterML 2.0.
- Potential feedback on the French Water Information System will also be evaluated.
- Participants include Sylvain Grellet and associates.

SANDRE

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Participants: Service Centre Information Technology of the BMVBS (Germany)

- Will provide surface water time series data of the German federal hydrometric network (quantity and quality) and surface water data from the Netherlands which is archived in the hydrological information system PEGELONLINE using SOS and WaterML2.0.
- Loading of WaterML2.0 XML-documents with the application "Altova MapForce" and experimentally performing transformations of these documents.
- Test and interoperability-check of the available WebServices with XMLSpy, Excel/InfoPath2007, gSOAP-toolkit and optionally .NET und Java.
- Test of the available WebServices against the WS-I 1.1 Basic Profile with the WS-I testing tools.
- Participants include Christian Michl, Dietmar Mothes and associates.

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Participants: disy Informationssysteme GmbH (Germany)

- Will provide catalogue implementation for the description and discovery of services.
- Will provide an implementation of the 52° North web client
- Will host the experiment Website
- Provides an Issue Tracker for the Surface Water IE and for the WaterML2.0 development (as mentioned by Pete Taylor)
- Participants include Carsten Heidmann and associates

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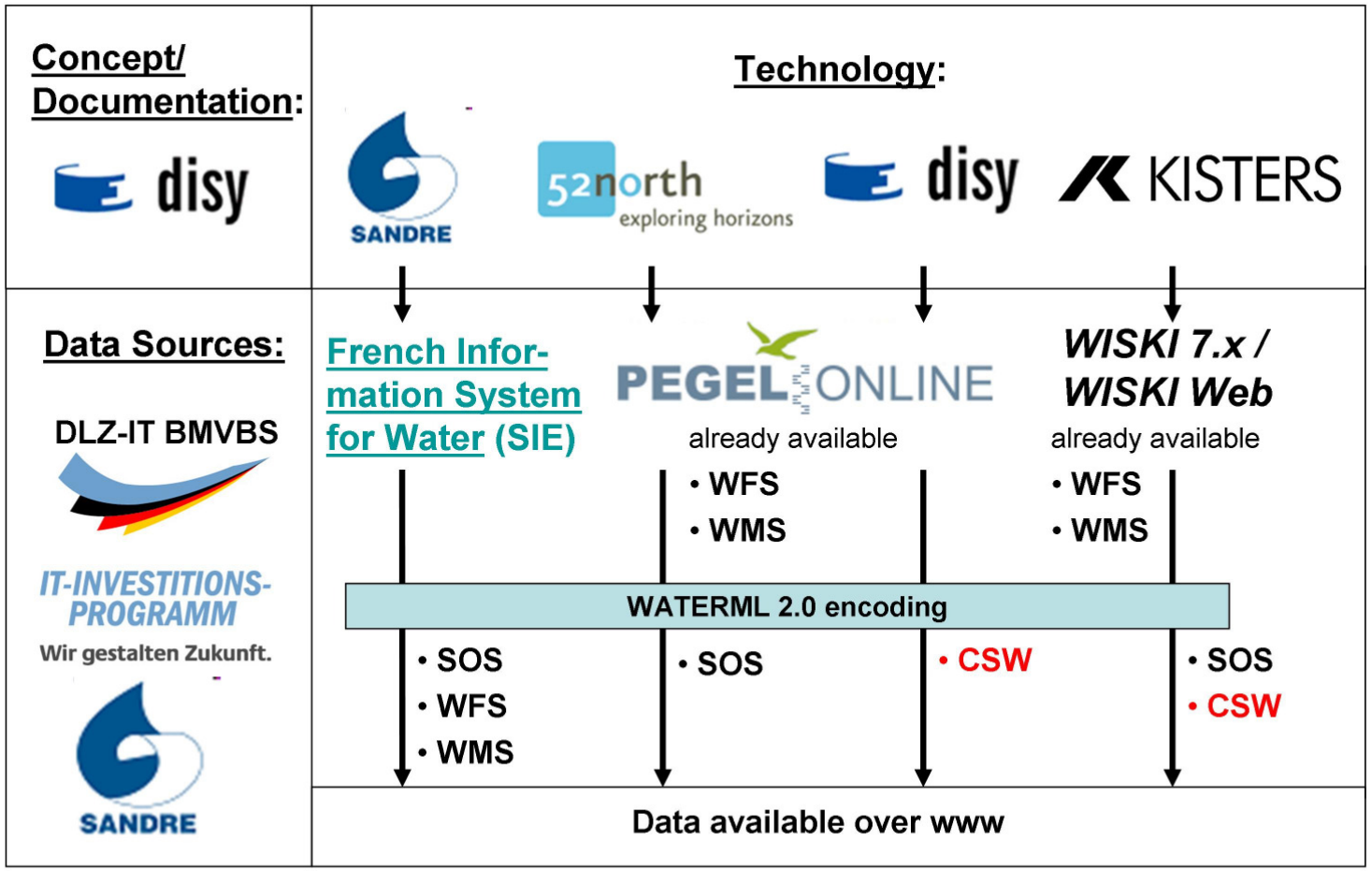
Architecture



Phase 1: Implementation of SOS only
Phase 2: Implementation of CSW

Deliverables DLZ-IT and Sandre

DLZ-IT BMVBS

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Deliverable	Technology	Data Sources	Comment
Infrastruc-ture for PEGEL-ONLINE	C++, Java, Oracle	DBMS PEGELONLINE	Data of the German federal hydrometric network (including Rhine data from the Netherlands)
Infrastruc-ture for WISKI	C++, Java, Oracle	DBMS WISKI	Testinstallation using the Wiski 7.x environment

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Deliverable	Technology	Data Sources	Comment
Infrastructure for French Banque Hydro	Java, Oracle ?	French Water Information System	Hydrometric data
SOS Server Client Environment	Java	French Water Information System	Using 52°North SOS server and client development

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Deliverables 52° North and disy

Deliverable	Technology	Data Sources	Comment
SOS Server	Java	DBMS PEGELONLINE	Based on the regular SOS, serving WaterML2.0
SOS Client	Java	SOS Server	Enhancement of existing SOS client

Deliverable	Technology	Data Sources	Comment
CSW	Java	./.	Basic implementation, using the ISO AP 1.0 specification
Webclient for SOS	Java	SOS Server	Provide a server with an installation of the 52° North web client

Deliverables Kisters

KISTERS

Deliverable	Technology	Data Sources	Comment
WISKI 7 database	ORACLE/ MSSQL	German federal hydrometric network	Basic structures of measurement stations and meta data
KiTSM server	JAVA	WISKI 7 Database	Manage time series data, publish and consume data through SOS (WaterML2 to be implemented).
WISKI 7 Client	C++	KiTSM	Data delivered through SOS can be accessed (SOS/WaterML2 consumption to be implemented).
WISKI Web Pro	Ajax/Dojo	KiTSM	Web frontend of WISKI/KiTSM System allowing data consumption from the KiTSM System but also from other SOSs (enhancements necessary).
SOS Service/ WaterML 2.0	JAVA	- KiTSM for data publishing - External ser-vices	SOS service implementation into the KISTERS Server Architecture (requires development).

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Workplan Part 1

Data Type: Station

Data Type	Description	Techno-logy	Data Sources	Outcome	Party in Charge
Station	Provides location of the available hydrometric stations	WMS, WFS	France: French Banque Hydro Germany: DBMS PEGELONLINE, DBMS WISKI	Display available hydrometric stations on a map (WaterML2.0 encoded information will be available to describe the monitoring)	France: IOW-Sandre Germany: DLZ-IT, Kisters

Workplan Part 2

Data Type: Observation

Obser-vation	Each station provided in the station use case can provide access to its related observation	SOS	France: French Banque Hydro Germany: DBMS PEGELONLINE, DBMS WISKI	Display available observations at one hydrometric station	France: IOW-Sandre Germany: Kisters, 52°North
Time Series	Accessing all time series from an Observation	SOS	France: French Banque Hydro Germany: DBMS PEGELONLINE, DBMS WISKI	Display (chart) and download hydrometric time series	France: IOW-Sandre Germany: Kisters, 52°North

Data Type: Time Series

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Workplan Part 3

Data Type: Observation using CSW

Cata-logue Obser-vation	Accessing all observation from a CSW based catalogue	CSW-SOS	France: French Banque Hydro Germany: DBMS PEGELONLINE, DBMS WISKI	All observations that correspond to a specific query in the CSW (visualization and download possible)	France: IOW-Sandre Germany: Kisters, DLZ-IT, disy
Cata-logue Time Series (in dis-cussion)	Accessing all time series from a CSW based catalogue	CSW-SOS	France: French Banque Hydro Germany: DBMS PEGELONLINE, DBMS WISKI	All time series that correspond to a specific query in the CSW (visualization and download possible)	France: IOW-Sandre Germany: Kisters, DLZ-IT, disy

Data Type: Time Series using CSW

Time line and Actions

Time Line:

- Coordination Meeting (June/July)
  - Link German and French activities
- Revised Workplan Meeting (early September)
  - Status of implementations and needed actions
  - End Septemper (running pilot?)

Immediate Actions:

- SOS service with WaterML2.0 encoding (-> WaterML2.0 group)
- Webpage for IE (for every use case or one together, -> responsibilities)
- Data storage and data layers

Further Information

- Website (will be launched within the next few weeks):
  http://crossborder-ie.disy.net

- Experiment Lead:
  Chris Michl (michl@grapevine.com.au)
  Carsten Heidmann (carsten.heidmann@disy.net)

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Thank You

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Carsten Heidmann

DLZ-IT BMVBS

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Wir gestalten Zukunft.

Christian Michl
Dietmar Mothes

SANDRE

Sylvain Grellet

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KISTERS

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Stefan Fuest

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