OGC Update, Domain Focus, and Standards:
Presentation for Open Geospatial Day

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CTO
Open Geospatial Consortium
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OGC Snapshot

• Currently 400+ members
• 28 adopted standards
• Hundreds of product implementations
• Broad user community implementation worldwide
• Alliance partnerships with 30+ standards & professional orgs
The OGC Mission

• To serve as a global forum for the development, promotion and harmonization of open and freely available geospatial standards …

Urban Model of Berlin based on OGC CityGML
Source: www.3d-stadtmodell-berlin.de
# Domain Working Groups (August 2010)

<table>
<thead>
<tr>
<th>Name</th>
<th>Load **</th>
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<tbody>
<tr>
<td>3DIM WG (3DIM WG)</td>
<td>Tim Case, Case, Tim</td>
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<td>Architecture DWG (Arch DWG)</td>
<td>Doug Nebert, US Geological Survey (USGS)</td>
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<td>Aviation DWG (Aviation DWG)</td>
<td>Vembar Navin, FAA System Operations Airspace and AIM Office</td>
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<td>Catalog WG (Cat WG)</td>
<td>Doug Nebert, US Geological Survey (USGS)</td>
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<td>Coordinate Reference System WG (CRS WG)</td>
<td>Victor Minor, Blue Marble Geographics</td>
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<td>Coverages WG (Cover WG)</td>
<td>Peter Baumann, FORWISS (Bavarian Research Centre for Knowledge-Based Systems)</td>
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<td>Data Preservation WG (PreservWG)</td>
<td>Steve Morris, North Carolina State University</td>
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<td>Date Quality WG (DO WG)</td>
<td>Victor Minor, Blue Marble Geographics</td>
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<td>Decision Support WG (DS WG)</td>
<td>Stan Tilman, Intergraph Corporation</td>
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<td>Defense and Intelligence DWG (D and I DWG)</td>
<td>Richard Pearsall, US National Geospatial-Intelligence Agency (NGA)</td>
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<td>Earth Systems Science DWG (ESS WG)</td>
<td>Philip Dibner, Ecosystem Research</td>
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<td>Geo Rights Management (GeoRM) WG (GeoRM WG)</td>
<td>Roland Wagner, BHT-Berlin (Beuth Hochschule fur Technik Berlin)</td>
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<td>Geography Markup Language (GML) WG (GML WG)</td>
<td>Ron Lake, Galdos Systems Inc.</td>
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<td>Geometry WG (GeometryWG)</td>
<td>John Herring, Oracle USA</td>
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<td>Geosemantics DWG (Semantics)</td>
<td>Joshua Lieberman, Traverse Technologies, Inc.</td>
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<td>Hydrology DWG (Hydrology DWG)</td>
<td>David Lemon, CSIRO</td>
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<td>Location Services WG (LS WG)</td>
<td>Maria Mabrouk, ESRI</td>
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<td>Mass Market Geo WG (MassMarket)</td>
<td>Ed Parsons, Google</td>
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<td>Metadata WG (Metadata WG)</td>
<td>David Danko, ESRI</td>
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<td>Meteorology and Oceans DWG (Meteo DWG)</td>
<td>Chris Little, UK Met Office</td>
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<td>Oblique Imagery DWG (ObliqueImageryD)</td>
<td>Shayne Urbanowski, Lockheed Martin</td>
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<td>Risk and Crisis Management WG (RCM WG)</td>
<td>Hormoz Modaresi, BRCM</td>
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<td>Security DWG (SecurityDWG)</td>
<td>Andreas Matheus, University of the Bundeswehr - ITIS</td>
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<td>Sensor Web Enablement WG (SensorWeb)</td>
<td>Mike Botts, University of Alabama in Huntsville</td>
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<td>University WG (Univ WG)</td>
<td>Chris Higgins, Open Grid Forum</td>
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<td>Web Feature Service WG (WFS WG)</td>
<td>Martin Daly, cadcorp (Computer Aided Development Corp.) Ltd.</td>
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<td>Workflow DWG (Workflow DWG)</td>
<td>Stan Tilman, Intergraph Corporation</td>
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** - There may be Co-Chairs or Vice-Chairs that are not listed in this table.
Example Integration/Fusion Use Cases in the OGC Community
Use Case 2: Geology

- Create and provide access to a distributed, dynamic digital geological map for the world. Share geologic structure, lithology, and bore hole information across all boundaries and communities.
OneGeology

- Distributed, interoperable geologic information

- Powered by:
  - OGC Web Map Service
  - OGC Web Feature Service
  - Geography Markup Language
  - OGC Observations & Measurements
  - GeoSCIML (OGC GML Schema)

- Agreement between national Survey (103) agencies and umbrella (11) organizations

- [http://onegeology.org](http://onegeology.org)
Use Case 3: Hydrology

- Define an information model that enables sharing of water data on a global basis and then encode as an XML/GML application schema.
Hydrology Interoperability Experiments

- Surface, Groundwater, and forecasting

- Advance development of WaterML 2.0 and test its use with various OGC service standards (SOS, WFS, WMS and CSW).

- Contribute to the development of a hydrology domain feature model and vocabularies: essential for interoperability.

- Use of O&M compliant WaterML 2.0 and OGC web services for data exchange will allow for easier access and interpretation of water data.

- Ground Water IE report in draft. Surface Water to finish by 3rd quarter 2011
Use Case 5: Meteorology/Oceans

- The OGC Meteorology and Oceanography DWG provides an open forum for work on meteorological and oceanographic data interoperability and a process to publish and revise OGC Best Practices and Standards hence giving a route for submission to WMO CBS for adoption.
Use Case 6 – Emergency and Disaster Management Enhanced Interoperability with CBRN Sensor Networks

CCSI – Common Chemical, Biological, Radiological, and Nuclear Sensor Interface
Use Case 7: Aviation

- Provides a venue to discuss issues related to implementing OGC standards to support (1) the representation and secure exchange of digital, consolidated, globally-interoperable aeronautical information and (2) the secure delivery of high-quality, real-time information needed to react efficiently in a dynamic airspace environment.
Use Case 8: CryoClim - A System for Cryospheric Climate Monitoring

- When the system becomes operational, it will perform long-term systematic climate monitoring of the cryosphere.
  - Designed to be integrated with GEOSS
  - Multiple OGC standards: CSW, WMS, WFS, WCS
  - http://publications.nr.no/33_ISRSE_CryoClim_Solberg.pdf
Use Case 1: Sensor Web Enablement

- Water Resource Information Integration Management System (WRIIMS) – Taiwan. Sensors and Hydrology

Information Flow for WRIIMS
SEAMONSTER

- SouthEast Alaska MOntoring Network for Science, Technology, Education and Research
  - A wireless Sensor Web prototype applied to studying glaciated watersheds
  - Observations from distributed, heterogeneous sensors with irregular sampling
  - Implements SWE, WCS, Simple Features
Sensor Asia

• Developing an infrastructure called Sensor Service Grid (SSG), which integrates fieldservers and Web GIS to realize easy and low cost installation and operation of ubiquitous field sensor networks.
  – Implements SOS, O&M, SensorML
Global Hawk

- OTH, Commercial Ku
- C&C and Data
- Multiple web services:
  - WMS, WCS, SPS, WNS
  - Beta WCPS
  - RTSP, RSS
- On board Sensor Web
 CSRIO Hydrologic Sensor Web
 South Elk River Catchment – NE Tasmania

- OGC Sensor Observation Service used to republish and expose near real time hydrologic and other sensor data from multiple agencies on a Google pane
- Sites color coded by responsible agency
Met-Ocean Science Interoperability Experiment

World initiative to advance standards for advancing interoperability of ocean observing systems.

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Thank you for your attention!

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