



KEY FACTS

1.1

DATE & TIME

May 15-16, 2008
Thursday 9-16h, Friday 9-16h

1.2

LOCATION

GEO Secretariat
7bis, avenue de la Paix
Geneva, Switzerland

1.3

REGISTRATION

Please register per email as number of participants is limited to 50. Please send an email to ingo.simonis@igsi.eu.

1.4

ACCOMMODATION

Geneva offers a wide range of hotel accommodation. Please see <http://www.geneva.com> for details.

1.5

REGISTRATION FEES

The workshop is free of charge.

1.6

INFORMATION

For further information, please contact Ingo Simonis at ingo.simonis@igsi.eu.

GEOSS Task DA 07-04

GEOSS Sensor Web Workshop

GEOSS has the objective to continuously monitor the state of the earth in order to increase knowledge and understanding of our planet and its processes. Being a system of system, GEOSS has to master the challenge of integrating heterogeneous systems across institutional and political boundaries. Timely delivery of earth observation data is a key aspect in identifying potential natural and human threats, such as tornados, tsunamis, wild fires, or algae blooms.

Data from in-situ or remote sensing devices forms the basis for analyzing gradual processes, such as increasing drought, water shortages, or rising sea levels. The Sensor Web presents a paradigm in which the Internet is evolving into an active sensing macro instrument. Based on internationally adopted standards, the Sensor Web accomplishes the necessary requirements to ensure interoperability among its various components. Sensor Web software components and services work interactively in arbitrary application domains.

The Workshop is jointly organized by GEO-Task DA07-04 and the European Commission

through two integrated projects focussing on in-situ sensor networks: SANY (<http://sany-ip.eu>) and OSIRIS (<http://www.osiris-fp6.eu>).

Forming the Foundation Layer

Build the Sensor Web

The aim of the Sensor Web Workshop is to

- ◆ discuss scenarios and use cases to improve interoperability between sensor data providers and consumers
- ◆ identify standards and best practices that should be part of the GEOSS Information Infrastructure Architecture
- ◆ learn about the Sensor Web concept, its potential and role within GEOSS
- ◆ explore the capabilities of a strong Sensor Web within GEOSS
- ◆ discuss about the various approaches, applications, and technologies used within sensor networks.

Endorsed by the GEO Secretariat and the Open Geospatial Consortium (OGC), GEO Task DA07-04 and the European Commission invite everybody interested in sensors, sensor networks, information logistics and infrastructures to participate in this event.

Program May 15th

8.40 - 9.00	Registration	
9.00 - 9.05	Welcome & Introduction	Michael Rast (GEOSS Secretariat) Ingo Simonis (OGC Europe)
9.05 - 9.20	GEOSS Task DA 07-04 Introduction and overview of GEOSS task DA 07-04 and related ongoing activities.	Terence van Zyl (Meraka Institute) & Ingo Simonis (OGC Europe)
9.20 - 9.50	European Commission: Sensor Web Research Overview of current research projects funded by EC and future opportunities.	Michel Schouppe (EC)
9.50 - 10.10	OSIRIS Introduction to the research project "OSIRIS - Open architecture for Smart and Interoperable networks in Risk management based on In-situ Sensors"	Danielle Tacyniak (Thales Communications)
10.10 - 10.30	SANY Introduction to the research project "SANY - Sensors Anywhere)	Denis Havlik (Austrian Research Centers GmbH)
10.30 - 11.00	Coffee Break	
11.00 - 11.15	OGC Sensor Web Enablement (SWE) Introduction to the state-of-the-art in interoperable sensor networks.	Ingo Simonis (OGC Europe)
11.15 - 11.30	Open Source for Sensor Web Overview of Open Source products implementing OGC SWE	Johannes Echterhoff / Simon Jirka (University of Münster)
11.30 - 12.00	OSIRIS Architecture, technical achievements, and future developments	Yvan Ghiradelli (Thales Communications)
12.00 - 12.30	SANY Architecture, technical achievements, and future developments	Désirée Hilbring (Fraunhofer IITB) / Thomas Bleier (Austrian Research Centers GmbH)
12.30 - 14.00	Lunch	
14.00 - 16.00	Presentations by Participants Participants have the option to give short (10min) presentations about their current work, interesting scenarios or use cases, or identify standards and best practices for the GEOSS Information Infrastructure Architecture.	

Program May 16th

8-9**Registration**

9-10.30**Working Groups**

We will split in working groups to discuss interoperability issues in sensor networks, new approaches to integrate existing and future Sensor Networks, alignment of Sensor Web and GEOSS.

10.30-11.00**Coffee Break**

11.00-12.30**Working Groups**

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12.30-14.00**Lunch**

14.00-16.00**Presentation of Results**

The working group results will be presented and discussed.

Research Questions

9 - 10.30

Sensor Web Architecture & Standards

Recent discussions focus on SOA, mostly implemented in the form of Web Services. Shall we proceed that way, or investigate other middleware approaches more intensively?

Other approaches like CORBA, Agents, J2EE, or Grid all serve specific purposes. The development will continue and most likely the evolution doesn't stop at Web services.

Which role do P2P protocols play for the Sensor Web?

Peer-to-peer (P2P) protocols have proven to be very efficient for file sharing on large-scale networks with high fluctuations of nodes.

The Sensor Web heavily depends on the use of standards. As multiple standards are used, how to implement them in an interoperable fashion?

OGC's Sensor Web Enablement is just one standard suite among others, though probably the best adapted to the specific needs of Sensor Networks. Other standards, like the OASIS Web Service Suite, WSDL, SOAP, BPEL, Atom, RSS are often used complimentary.

11.00 - 12.30

Sensor Web, GEOSS, and the Role of Semantics

How do we align Sensor Web Activities among each other and with GEOSS?

There are a number of research and development activities, initiated and sponsored by various agencies and organizations. How do we coordinate European Commission supported projects of the 6th and 7th framework program, with NASA supported activities such as the AIST program and other initiatives? How could collaboration effectively managed across organizational and competitive borders?

Which use cases shall we address in the upcoming GEOSS Architecture Interoperability Pilot 2008? Who participates?

The AIP 2008 is in its final preparation phase. We are currently defining the use cases that shall be addressed during the 6 months of the pilot.

Where do we need semantic? How much is available, how much is required? And how do we infuse semantics in a meaningful way to existing approaches?

The Semantic is a slowly but steadily evolving concept. First technologies and tools are on the market, but semantic enrichment is still far from being an every-days reality. Concepts, standards, languages, such as SPARQL, OWL, SeRQL, SWRL, or tools, such as SWOOP, Protégé, Jena, Pellet, Racer etc. are under development or have proven usefulness