Progress Meeting

03 April 2013, Teleconference

Corentin Guillo, ASTRIUM
Agenda

- Demonstrators Presentation
- HMA-S Test Bed Presentation
- ATS/ETS Responsibilities
- Progress on specification
- AOB
Agenda

- Demonstrators Presentation
- HMA-S Test Bed Presentation
- ATS/ETS Responsibilities
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- AOB
Identity Management (SPACEBEL)
Task inputs:

• OGC 07-118 v1.1 (see Task 2 specification activity)
• HMA-T Identity and Access Management Guidance Document v 1.0
• HMA Skeleton 2.2
• Intecs Policy Enforcement Point
• Spacebel STS Implementation
Goal:

- Demonstrator for the 3 use cases of OGC 07-118:
  1. STS as local IdP
  2. STS as Federating IdP
  3. STS with trusted IdP (e.g. Web-SSO)

- STS implementation shall be updated to cover use case 2.
- need to validate the correction of “DelegateTo” issue
Use case 1:
STS as local IdP
Use case 2: STS as Federating IdP (DelegateTo)
Use case 3: STS with trusted IdP

- External IdP
- Web-SSO, e.g. Shibboleth

- Client
- Client Keystore
- SOAP/HTTPS
- RST with signature
- RSTR (SAML Token) or SOAP fault

- STS
- STS Keystore
- LDAP User Registry
- JNDI

- PEP (Relying Party)
- PEP Keystore
- Service
- SOAP/HTTP(S)
- Service request
  - Signature of STS
  - STS private key
  - STS public key
  - Encryption of SAML token
  - Receiving Party's public key
  - Encryption of SAML token
  - JNDI
  - Verification of STS signature
  - Verification of SAML token signature

- Service request
  - Encryption of SAML token
  - JNDI
  - Verification of SAML token signature
HMA Skeleton (OGC 06-131 GetRecords)
Demonstrators Presentation
Identity Management

Output:

- **D2000.2**: Open-source Demonstrator
  - Policy Enforcement Point (Intecs)
  - Client – HMA Skeleton (Spacebel)
  - Updated Security Token Service (Spacebel)
- **D2000.3**: Demonstrator TN including
  - Description of native interfaces
  - User Manual

Updated HMA-T Guidance Document
Issues:

- Integration with Web SSO as part of Demonstrator?
- Alternatives:
  - Online (test) UM-SSO IDP available at ESA to connect to?
  - UM-SSO IDP to be made available by ESA?
  - Shibollet IDP instead of UM-SSO IDP?
EO Metadata (SPACEBEL)
Task inputs:

- D3000.1: Updated OGC EO Metadata Profile of O&M
- D4000.1: Opensearch extension for EO with O&M response.

Tasks:

- ERGO catalog server: allowing to import and serve O&M metadata (Intecs) via HMA-S OpenSearch (WP8300).
- Catalog client derived from SMAAD catalog clients
Open-source client

- Shares DAIL/SSE source code for Catalog clients (same stylesheets)
- Shares "light" MapViewer with DAIL/SSE (OpenLayers).
- Same source code as Task 5 Catalog client, different configuration files.
- Allows access to multiple catalogues from a list including Task 5
- Advantages:
  - Deploy HMA-S clients on DAIL/SSE Portal with minimal effort.
  - HMA-S client maintained as part of DAIL/SSE.
Open-source HMA-S Client (prototype) accessing G-POD OpenSearch catalog
Open-source client

- Endpoints configurable by user
- GUI will be built based on OpenSearch Description document which is accessed at run-time.

```xml
<service>
  <id>2</id>
  <name>Task 3 Catalogue</name>
  <icd>ogc-09-004-v01</icd>
  <operation name="Search">
    <xsl>Task_3_Catalogue_Search.XSL</xsl>
    <binding>
    </binding>
  </operation>
  <aoiRequired>false</aoiRequired>
</service>
```
## Demonstrators Presentation

### EO Metadata

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<tr>
<th>Name</th>
<th>Description</th>
<th>License</th>
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<tbody>
<tr>
<td>Red Hat Enterprise Linux ES</td>
<td>Open Source Operating system</td>
<td>Subscription</td>
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<tr>
<td>Apache Tomcat 6.0.25</td>
<td>Servlet Container</td>
<td>Apache license</td>
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<td>JSF Mojarra (v2.0.2)</td>
<td>JSF Reference Implementation</td>
<td>CDDL+GPL</td>
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<td>RichFaces (v 3.3.3)</td>
<td>Open source AJAX engine and component library for JSF</td>
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<tr>
<td>PrimeFaces (v1.1)</td>
<td>Open source AJAX engine and component library for JSF; used for the collection picker...</td>
<td>Apache license 2</td>
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<td>XSLT processor for transforming XML documents into HTML, text, or other XML document types</td>
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<tr>
<td>Xerces For Java (v 2.9.0)</td>
<td>XML Parser package of the Apache XML based project</td>
<td>Apache license</td>
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<tr>
<td>Log4j (v 1.2.14)</td>
<td>Component that provides logging functions for Java application</td>
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<td>IO Package (v 2.1)</td>
<td>Component of the Apache Commons</td>
<td>Apache license</td>
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<td>BeanUtils Package (v 1.5)</td>
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<tr>
<td>jQuery (v 1.3)</td>
<td>Javascript Framework</td>
<td>MIT license</td>
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- Technology
- Task 3 and 5 Client
Open-source server

- Update of Buddata Catalog (Intecs) available on http://rssportal.esa.int/tiki-index.php?page=Open Software

- Extended with OpenSearch interface (Task 4 compliant).
- Extended with EO O&M (Task 3 compliant) file import.
Outputs:

- **D3000.1**: Open-source Demonstrator
  - Updated ERGO Catalog server (Intecs)
  - OpenSearch O&M Catalog client (Spacebel)
- **D3000.2**: Demonstrator TN including
  - Description of native interfaces
  - User Manual
CIM EP (SPACEBEL)
Task inputs:
- D5000.1: Updated CIM EP of CSW ebRIM
- D4000.1: Opensearch extension for EO with O&M response.

Tasks:
- ERGO catalog server: allowing to import and serve ISO metadata (Intecs)
- Updated SMAAD CIM to INSPIRE bridge (WP5310)
- Catalog client derived from SMAAD CIM EP catalog client
Open-source Client derived from SMAAD client (http://geo.spacebel.be).
Open-source HMA-S Client (prototype) accessing FEDEO Collection catalog
Open-source client

- Shares DAIL/SSE source code for Catalog clients (same stylesheets)
- Same source code as Task 3 Catalog client, different configuration files.
- Endpoints/bindings configurable by user

```xml
<service>
  <id>1</id>
  <name>FRDEO Collection Catalogue</name>
  <idc>ogc-U7-038-v11</idc>
  <operation name="Search">
    <xsl>FRDEO_Collection_Catalogue_Search.XSL</xsl>
    <binding>
    </binding>
  </operation>
  <operation name="Present">
    <xsl>FRDEO_Collection_Catalogue_Present.XSL</xsl>
    <binding>
      </http get=
    </binding>
  </operation>
  <aoiRequired>false</aoiRequired>
</service>
```
Open-source servers

- Update of Buddata Catalog (Intecs) available on http://rssportal.esa.int/tiki-index.php?page=Open Software

Buddata Catalog

Buddata eXtensible Registry/Repository (or ebRRR in short) is an open source implementation of the OASIS ebXML Registry and OGC Catalogue Service. Much experience has been drawn from the OMAR ebXML Registry open source project (also known as “FreeEBXML”). Extensions of the OASIS ebXML Registry have been implemented to support geospatial capabilities.

The project has been funded by the European Space Agency (ESA) in support of the cataloguing activity for the Heterogeneous Mission Accessibility - Interoperability program (HMA-I) via the ESA ERG0 project.

Buddata ebRRR puts a strong focus on its geospatial capabilities and the goal of the project is to include all so-called “ebRIM Profiles” or “extension packages” as defined by the OGC Catalogue Service, but also to support any other ebRIM profiles.

Natively it implements SOAP Web Service interfaces based on the OASIS ebXML RS 3.0 and OGC Catalogue Service specifications. Its main other features are (1) a harvesting component with transformation capabilities to translate XML-based metadata in GML and ISO formats to ebXML RIM (with OGC geospatial extensions) and (2) a Java API to access the ebRRR directly from Java code.

- Update of CIM to INSPIRE Bridge (Con terra) available on http://rssportal.esa.int/tiki-index.php?page=Open Software

HMA Collection Discovery to INSPIRE Discovery Conversion

This component contributed by the SMAAD Project implements Web service facade which translates CIM EP CSW requests into INSPIRE Discovery or ISO AD CSW requests according to RDFS. The CIM EP CSW protocol is proposed for HMA Collection and Service discovery.

- (R0) INSPIRE Conformance Class of OGC Cataloguing of ISO Metadata (CIM) using the ebRIM profile of CS-W - CIM EP Protocol Binding of INSPIRE Discovery Services - OGC 08-197r1
- (R0) OGC Cataloguing of ISO Metadata (CIM) - Using the ebRIM profile of CS-W. OGC 07-038r3, Version 0.1.12, 14/12/2009.
Outputs:
- D5000.1: Open-source Demonstrator
- D5000.2: Demonstrator TN including
  - Description of native interfaces
  - User Manual
WPS (ASTRIUM)
Task inputs:
- D6000.1: WPS 2.0

Tasks:
- 52°North/Spacebel SSEGrid Processing on demand re-use
- 52°North Geodata Processing demonstration
- Mapshup WPS Web Client
Open-source Client based on Mapshup (http://jeobrowser.com/).
Open-source servers

**Demonstrators Presentation**

**WPS**

![Diagram of WPS architecture](image)

- **WPS Client**
  - WPS Java Applet
  - WPS Web Client

- **WPS Server**
  - GetCapabilities Operation
  - DescribeProcess Operation
  - ExecuteProcess Operation
  - WPS Server Interface

- **52° North Geodata Processing**
  - Repository Manager
  - Parser Factory
  - Generator Factory
  - Local Algorithm repository
  - Local Data Types
  - GRASS Algorithm repository
  - GRASS Data Types
  - ArcGIS Algorithm repository
  - ArcGIS Data Types

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**European Space Agency**

*Agence spatiale européenne*

**Living Planet**

**HMA-S Progress Meeting, 03 April 2013**
Outputs:

- D6000.3: Open-source Demonstrator
- D6000.4: Demonstrator TN including
  - Description of native interfaces
  - User Manual
OpenSearch (ASTRIUM)
Demonstrators Presentation
OpenSearch Extensions

➢ Task inputs:
  • HMA-S.TRD.D4000.1: OpenSearch Extension for Earth Observation (Geo-Temporal Protocol)
  • HMA-S.TRD.D4000.2: OpenSearch Extension to Search EO Products (Search Protocol)
  • HMA-S.TPZ.D4000.1: OpenSearch Extension to Download EO Products (Download Protocol)
  • HMA-S.ASU.D7000.1: OGC OpenSearch Extension for Feasibility Best Practice

➢ Tasks:
  • Intecs Buddata catalogue populated with CDS EO Data
  • Mapshup Catalogue Web Client
  • DREAM Feasibility Analysis Server
Open-source Client based on Mapshup (http://jeobrowser.com/).
Open-source servers - Update of Buddata Catalog (Intecs) available on http://rssportal.esa.int/tiki-index.php?page=Open Software
OpenSearch Extension for EO Satellite Tasking
Demonstrators Presentation
OpenSearch Extensions

➢ Outputs:

• Search Protocol
  ▪ HMA-S.ASU.D4000.1: Open-Source Demonstrator
  ▪ HMA-S.ASU.D4000.3: Demonstrator TN including
    – Description of native interfaces
    – User Manual

• Download Protocol
  ▪ HMA-S.ASU.D4000.2: Open-Source Demonstrator
  ▪ HMA-S.ASU.D4000.4: Demonstrator TN including
    – Description of native interfaces
    – User Manual

• Feasibility Protocol
  ▪ HMA-S.ASU.D7000.3: Open-Source Demonstrator
  ▪ HMA-S.ASU.D7000.4: Demonstrator TN including
    – Description of native interfaces
    – User Manual
    – RB & TS
Agenda

- Demonstrators Presentation
- HMA-S Test Bed Presentation
- ATS/ETS Responsibilities
- Progress on specification
- AOB
Task inputs:

- HMA-S Demonstrators Task 2 to 7 (incl. client and server parts) and Documents
- HMA-S Demonstrator CTL scripts (ETS)

Tasks:

- Define and implement a permanent and coherent HMA-S Testbed.
- Support integration in SSE Environment.
- TEAM Engine update (Intecs)
HMA-S Testbed Components*

(*) Preliminary component list.
Support integration with DAIL-SSE*

(*) Preliminary component list and integration strategy (i53).
HMA-S Progress Meeting, 03 April 2013

HMA-S Testbed Components*

H8.1 – TEAM Engine

- IF-HMAS-WPS
- IF-HMAS-FeasibilityAnalysis
- IF-HMAS-Download

H6.2 – WPS Server
- IF-HMAS-WPS

H6.1 – WPS Client

H7.2 – Feasibility Analysis Server
- IF-HMAS-FeasibilityAnalysis

H7.1 – Feasibility Analysis Client

H4.4 – Download Extension Server
- IF-HMAS-Download

H4.3 – Download Extension Client

H4.1 – OpenSearch Catalog Client

(*) Preliminary component list.
Support integration with DAIL-SSE*

(*) Preliminary component list and integration strategy (i53).
Task 8: HMA-S Testbed

- Testbed availability options (TBC):
  - As **software download** (binary and/or source), e.g. components grouped by protocol.
  - As preconfigured package (or VM) for download containing above components configured with test metadata and/or data where required.
  - As **on-line environment** deployed at ESRIN where users can access the protocol clients, the TEAM engine to run tests on one of the HMA-S server or an external server.
Task 8: HMA-S Testbed

- Preliminary Use Cases and scenarios
  - Explore client for HMA-S protocol "P" a.k.a. "P client"
    - Access P client in online testbed pointing to P server in online testbed
    - Download P client and P server and install locally with provided test data/metadata.
  - Test local P "client"
    - Point local client to online P server (with preconfigured data)
    - Download and locally install the P server with preconfigured or local data
  - Test local P "server"
    - Access online TEAM engine to run tests against local P server
    - Download P client and install locally to point to local P server
    - Install TEAM engine locally and run downloaded ETS scripts
Task 8: HMA-S Testbed

- Outputs:
  - D8000.1: HMA-S Testbed Environment
  - D8000.2: SRS, SDD, SVS
  - D8000.4: Acceptance Test Report
Agenda

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- AOB
ATS/ETS Responsibilities

- Identity Management:
  - ATS/ETS: INTECS

- EO Metadata:
  - ATS: GIM
  - ETS: INTECS

- CIM EP:
  - ATS/ETS: CON TERRA
ATS/ETS Responsibilities

- OpenSearch Geo-Temporal:
  - ATS/ETS: TERRADUE

- OpenSearch Search Protocol:
  - ATS/ETS: TERRADUE

- OpenSearch Download Protocol:
  - ATS/ETS: TELESPAZIO

- OpenSearch Feasibility Protocol:
  - ATS/ETS: ASTRIUM
ATS/ETS Responsibilities

- EO Data Access:
  - ATS: TELESAPZIO
  - ETS: ASTRIUM

- WPS:
  - ATS/ETS: ASTRIUM
Agenda

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Draft Version submitted for review to:

- INTECS (reviewed)
- CON TERRA (reviewed)
- EUMETSAT (reviewed)
- ESA (comments feedback date to be agreed)

Demonstrator:

- Changes to STS implementation for DelegateTo have been coded and user manual with installation instructions (HTML) updated
EO Metadata

- Contact with OGC TCC for what concerns the procedure to be followed:
  - Issue change requests
  - Voting in O&M SWG
  - Revision Notes doc required

- Collecting Requirements
  - Input received from ESA concerning Sentinel 2 & ngEO
  - Contacts with SAFE Community (P. Sacramento)
  - Effect from INSPIRE Orthoimagery data specifications being analysed
  - Critical review existing spec (typo's & minor inconsistencies)

- Document update
  - Draft technical note summarising change requests being finalised
  - Document update, UML update and revision notes document is happening in parallel.
Draft version 4 released with comments from:
- NASA (ECHO)
- JAXA

Definition of Executable Tests
- Which version of TEAM ENGINE?

CEOSS WGISS:
- Telco with CNES, JAXA and NASA
- Focus on geospatial and temporal extension
- No schedule or incompatibility issues foreseen by TERRADUE
- Released initial draft version as OGC 13-026
- Some elements are in accordance with OGC 06080
  - Any new version from EO Metadata?
OpenSearch
Download Protocol

- Reviewing other OGC specifications based on REST (or will be based on REST) in order to have homogeneous approach / useful suggestions:
  - GeoServices REST API (which looks like a counter example ....)
  - WCS Extension REST Protocol binding
  - WMTS
  - WFS
EO Data Access Protocol

- Started re-working of OGC 06-141 for producing the new document with REST encoding:
  - Using updated OGC template
  - Rewriting text
  - Updating UML diagrams to Enterprise Architect

- Reviewing ngEO download options
- Created Document with all CRs for CIM/I15
- Organized with OGC new I15 (former CIM) web page in OGC portal
- Included OWS9 data quality extension into I15
- Updated already major parts of the I15 (former CIM spec) including UML diagrams, Slots, ExtrinsicObject, Associations, Classifications….
- Aligned the I15 spec with OGC 11-035 “EO Product Collection, Service and Sensor Discovery using the CS-W ebRIM Catalogue”, Version: 1.0
➢ TC OGC Abu Dhabi - WPS 2.0 SWG Meeting Minutes, 18th March 2013
WPS 2.0 Core Specification – Draft
- Review of document structure
- Editing tasks identification
- Work plan & schedule - volunteers

Discussion Paper on WPS Transactional Basis for the WPS-T

Update on CRs since last TC
The review of the current draft version of the WPS 2.0 Core Specification has led to conclude that:

- Encoding consideration should be moved into a WPS2.0 <XXX> Encoding Extension document.

- As a result:
  - section 11 in the WPS2.0 Core Specification will be removed
  - the WPS 2.0 HTTP GET/POST Encoding Extension document should be written in parallel of the WPS2.0 Core Specification document in order to be issued together at the same date.

- Annex A - replace by ATS as usual business.

- Simple WPS consideration should be moved into a WPS2.0 Simple-WPS Extension document.

Strong discussion on synchronous/asynchronous execution model in the WPS2.0 SWG distribution list.
WPS2.0 SWG - Schedule

- **September 2013**
  - WPS 2.0 Core Specification – Draft
  - WPS 2.0 HTTP GET/POST Encoding Extension – Draft

- **December 2013**
  - WPS 2.0 Core Specification – Final – Candidate Document
  - WPS 2.0 HTTP GET/POST Encoding Extension – Draft
- Call for volunteers as editors or reviewers

- Submit CR11-119 on asynchronous model. Deliverable for ESA HMA-S project
  
  https://portal.opengeospatial.org/files/?artifact_id=45231
WPS2.0 SWG – Actions 2/2


- Use case based on EarthWeb approach as described in HMA AWG including cross-cloud computing.
On-going Discussion with OGC for the SWG
  • Recommended to have an OpenSearch SWG
  • SPS SWG reactivated but on hold

Tasking Parameters harmonisation with the Search Protocol
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<th>OGC Document Type</th>
<th>OGC Specification</th>
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<th>OGC SWG or DWG</th>
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AOB

- Virtual OGC TC:
  - The June 2013 OGC Technical Committee will be held virtually over a three week span from May 27th through June 17th. The Domain and Standards working groups will hold virtual meetings between 27 May and 14 June. The Chairs are asked to record their sessions and make them available to those with appropriate access for the individual groups.

- OpenSearch SWG creation:
  - Option discussed with OGC Architecture Board