

Metafor Services – Planning and Architecture

WP4, WP5, and WP6

METAFOR YEAR TWO MILESTONES AND DELIVERABLES

WP4: D4.1 Single-Sign-On-Evaluation (M12->M15 by agreement).

WP4: M4.1 Service Identification (M15)

WP4: M4.2 OAI Prototype (M18)

WP4: D4.2 OAI System Deployed (M24)

WP5: M5.2 Agree Features of the Query Interface (M15)

WP5: D5.1 Query Tool (M21)

WP5: M5.3 Difference Engine Requirements (M21)

WP5: D5.2 Difference Engine Implementation (M24)

WP5: D5.3 Presentation Tools (M24)

WP5: D5.4 Data Transformation Tools (M24)

WP6: D6.1 Automatic Capture Tools (M18)

WP6: M6.3 Prototype Human GUI (M18)

WP6: D6.2 Revised Capture Tools (M24)

MEETINGS

Actions arising from 8-June 2009 telco:

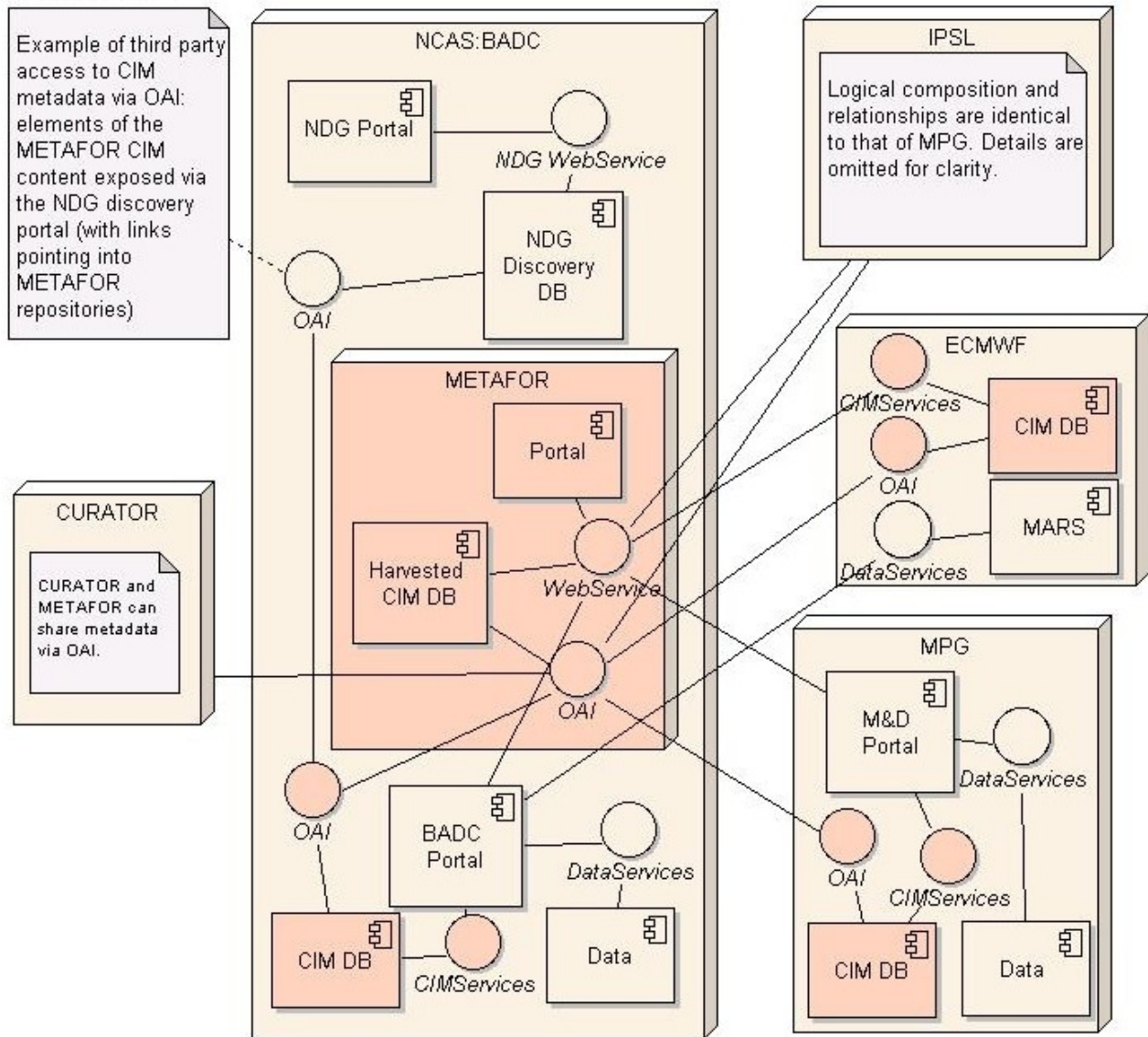
1. Bryan to produce a first draft of the services actions, sequences, etc for next telco (13th July), with some description in enough detail to help with relationships with IS-ENES.
2. We need an interim chat about the issue of how to create CIM information from data (following Hans' recent work). This needs to be scheduled asap. (Basically to share the experience of generating XML from vast quantities of NetCDF, and the importance of CSML¹ and NCML², and to understand the impact of ESG publisher).
3. We need two further specific meetings, to be scheduled after the 13th of July telco:
 - a) WP4 and WP6 detailed discussion about implementation specifics.
 - b) A detailed discussion of the document of service actions which is Bryan's action above.

1 CSML: Climate Science Modelling Language <http://csml.badc.rl.ac.uk/>

2 NCML: NetCDF Markup Language <http://www.unidata.ucar.edu/software/netcdf/ncml/>

Metafor Milestones and Deliverables, Architecture and Sequencing

It's probably helpful to review the original basic architecture diagram:



Key METAFOR service components

(Note that data services are out of scope for Metafor per se, but absolutely in scope for IS-ENES.)

In each of the following, there are three sections: a brief description of what we expect, the relationship/dependencies between metafor work packages, and the expected dependencies of IS_ENES where they exist (there are NO expected dependencies on IS-ENES from Metafor).

They are presented in date order

1. D4.1 Single-Sign-On Evaluation (delivered approx 15 June).

- **Description:** This deliverable outlines the choice of authentication and authorisation for metafor, which we expect to be used to control editing etc. This work has been done in conjunction with ESG.
- **Internal Dependencies:** The data creation tools should eventually use these technologies to allow editing access to CIM creation instances. The eventual Metafor portal will allow metadata annotation using this solution.
- **External Dependencies:** We expect IS-ENES to exploit this, so this is a key interface with IS-ENES.

2. M4.1 Service Identification (M15)

- **Description:** This milestone identifies which services will (or could) be deployed in Metafor. Current expectations are:
 - i. An aggregation service (that harvests CIM compliant metadata from CIM producers, initially via OAI and then possibly via provider atom feeds).
 - ii. A restful query API, which exposes the query interface (M5.2)
 - iii. An OpenSearch Interface
 - iv. An Atom feed of new CIM instances harvested to the portal
 - v. An annotation interface to CIM instances (restful + metafor security)
 - vi. An Atom feed of user annotations to CIM instances
 - vii. Vocabulary services exploiting the BODC vocabulary RESTful API (including editing services to allow the management of controlled vocabularies)
 - viii. A WFS interface (once the CIM is recast as an Application Schema of GML).
 - ix. A service to allow differencing CIM documents (i.e. exposing D5.2)
 - x. A service to expose CIM Transformation Tools (i.e. exposing D5.4)
 - xi. A portal which utilises and/or provides the above interfaces (cf D5.3)
 - xii. It might be possible to run a UML-> XSD and/or RDF service to expedite the ongoing development of the CIM, but this depends on as yet unmade decision to make Metafor GML compliant. If so, this would be one Data Transformation Tool.
- **Internal Dependencies:** Nearly all WP4 activities depend on this milestone. A number of WP6 activities impact on these services.
- **External Dependencies:** If, as seems likely, IS-ENES build their own portals, then they will depend on these services (as well as other *data* manipulation services).

3. M4.2: OAI Prototype (M18)

- **Description:** Essentially this was about starting to put in place the mechanisms for moving CIM documents around the partners. At this stage it seems most simple for BADC and MPIM to all create Geonetwork instances in order to store “local” copies of CIM instances, and for BADC to use a standard OAI tool (not Geonetwork, in order to demonstrate multi-vendor capability) to harvest CIM instances from both sites into a repository. At this stage it doesn't matter what the repository is. The point is to get OAI

working.

- **Internal Dependencies:** While we might want to use Atom in the longer run, in the first instance, this should work easiest, and then the portal can use the harvested CIM documents. The CIM creation tools will need to get their data into local Geonetwork instances via some sort of batch interface.
 - **External Dependencies:** Ideally none.
4. D6.1 Automatic Capture Tools (M18)
 - **Description:**
 - **Internal Dependencies:**
 - **External Dependencies:**
 5. M6.3 Prototype Human Gui (M18)
 - **Description:** Geonetwork + Questionnaire.
 - **Internal Dependencies:** CIM
 - **External Dependencies:** CMIP5, editing CIM instances exported from anywhere else.
 6. D5.1 Query Tool (M21)
 - **Description:** I think this just amounts to xquery definitions
 - **Internal Dependencies:** The portal will depend on xqueries defined into CIM documents
 - **External Dependencies:**
 7. M5.3 Difference Engine Requirements (M21)
 - **Description:**
 - **Internal Dependencies:**
 - **External Dependencies:**
 8. D5.2 Difference Engine Implementation (M24)
 - **Description:**
 - **Internal Dependencies:**
 - **External Dependencies:**
 9. D4.2 OAI System Deployed (M24)
 - **Description:** It seems that it will be easiest to simply use the Geonetwork instances to establish the Metafor “system”. So the enhancement from the prototype would be for ISPL to deploy Geonetwork, and potentially, despite the name of the package, to modify all the (or utilise) Geonetwork atom feeds to expose their content (what would we do about exposing “deletions”?), and utilise something based on a feed aggregator to populate the “portal repository”.
 - **Internal Dependencies:** The development of the portal depends on this, as do all the services.

- **External Dependencies:** No services for IS-ENES can be exposed without this activity. If we want to interoperate with GENESI-DR we might need the atom feeds (in order to allow them to harvest from us).

10. D5.3 Presentation Tools

- **Description:** I think this could be either genshi(pylons) or django templates
- **Internal Dependencies:** need to make a decision: django or pylons for the portal?
- **External Dependencies:**

11. D5.4 Data Transformation Tools

- **Description:** Should include the production of GEOS documents, and INSPIRE metadata. Atom Feeds. These are all essentially xqueries on CIM content (or database queries on ORM content if we load into django).
- **Internal Dependencies:**
- **External Dependencies:**

12. D6.2 Revised Capture Tools (M24)

- **Description:**
- **Internal Dependencies:**
- **External Dependencies:**

13. M4.3,M4.4, M4.5,M4.6 Portal Prototype and underlying services deployed (M27)

- **Description:** This is the first “official” metafor portal and service deployment, but we expect to have deployed as much as possible before this point. In particular, we expect to have some CIM presentation tools and limited CIM querying available by M21 (approximately the end of 2009).
- **Internal Dependencies:** All subsequent services depend on this, and probably the success of the project. This depends on all the 2009/2010 milestones which outline capability and tools to be deployed. Depends on CIM V2.0 (the M24 version!), so we can expect a tool upgrade between month 24 and month 27, which in practice means we need all the underlying tools deployed with CIM V1.x by the end of Metafor year 2.
- **External Dependencies:** will be legion on the services, and it's likely that BADC and MPIM will build on this for deploying CMIP5 services.

Appendix A: Dependency Chart

Gant or Pert ..

Appendix B: Relationships with IS-ENES

The key issue is that there a number of dependencies on Metafor in the IS-ENES project plan. In this section we identify those dependencies.

TBD