

METAFOR

*Common Metadata for Climate
Modelling Digital Repositories*

An ENES FP7 proposal for the INFRA
2007-1.2.1 “Scientific Digital Repositories”,
Coordinated by the PRISM core group

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Eric Guilyardi (NCAS/Climate & IPSL)



Climate metadata

- “Data describing climate data and the models that produced it”
- Key to unlock full potential of modelled climate data to wide stakeholders
- Potential demonstrated by IPCC AR4’s CF/netCDF +CMOR+portal (200 scientific papers, many community initiatives)
- Number of existing metadata initiatives (mature community)
- Fragmented and uncoordinated efforts: duplication and gaps
- In consequence, existing climate data repositories are difficult to identify and use, especially for non-climate science users

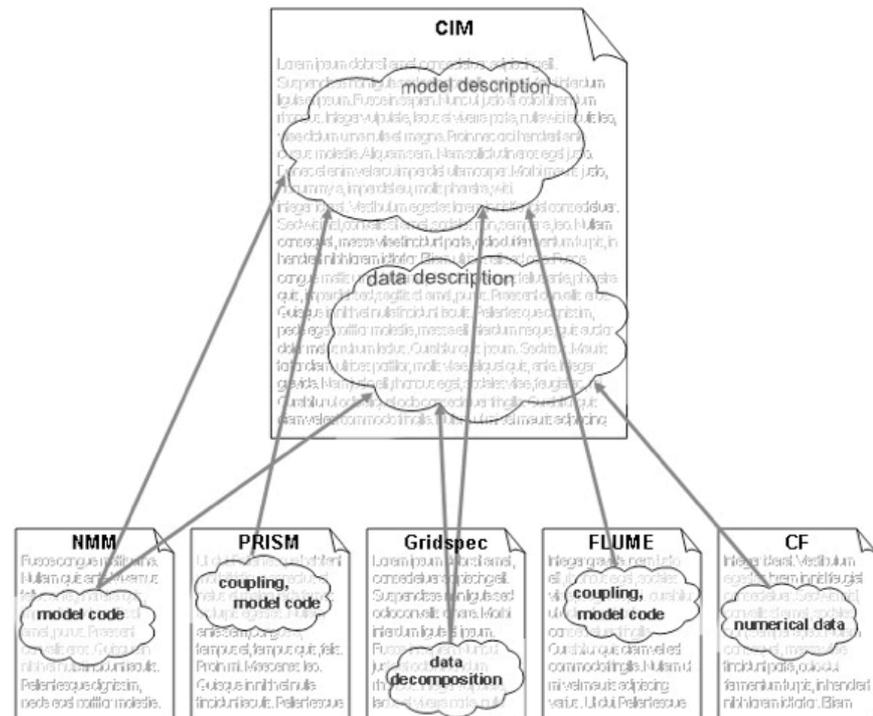
METAFOR Goals

- Develop a “Common Information Model” (CIM) to describe climate data and models in a standard way
 - Builds from strong expertise and active networking in community on this topic (NMM, CF, Curator, OASIS, NDG...)
 - Collaborate with other projects initiatives towards international CIM
- Populate CIM for existing data repositories (ENSEMBLES, AR4,...) to preserve them and facilitate access
- Provide trans-national access services
 - Common cataloguing of distributed archive
 - Single sign-on, web services
- Build tools to manipulate / create CIM
 - Search/query model and engines
 - Automatic translation + human interfaces for existing models/data

CIM definition

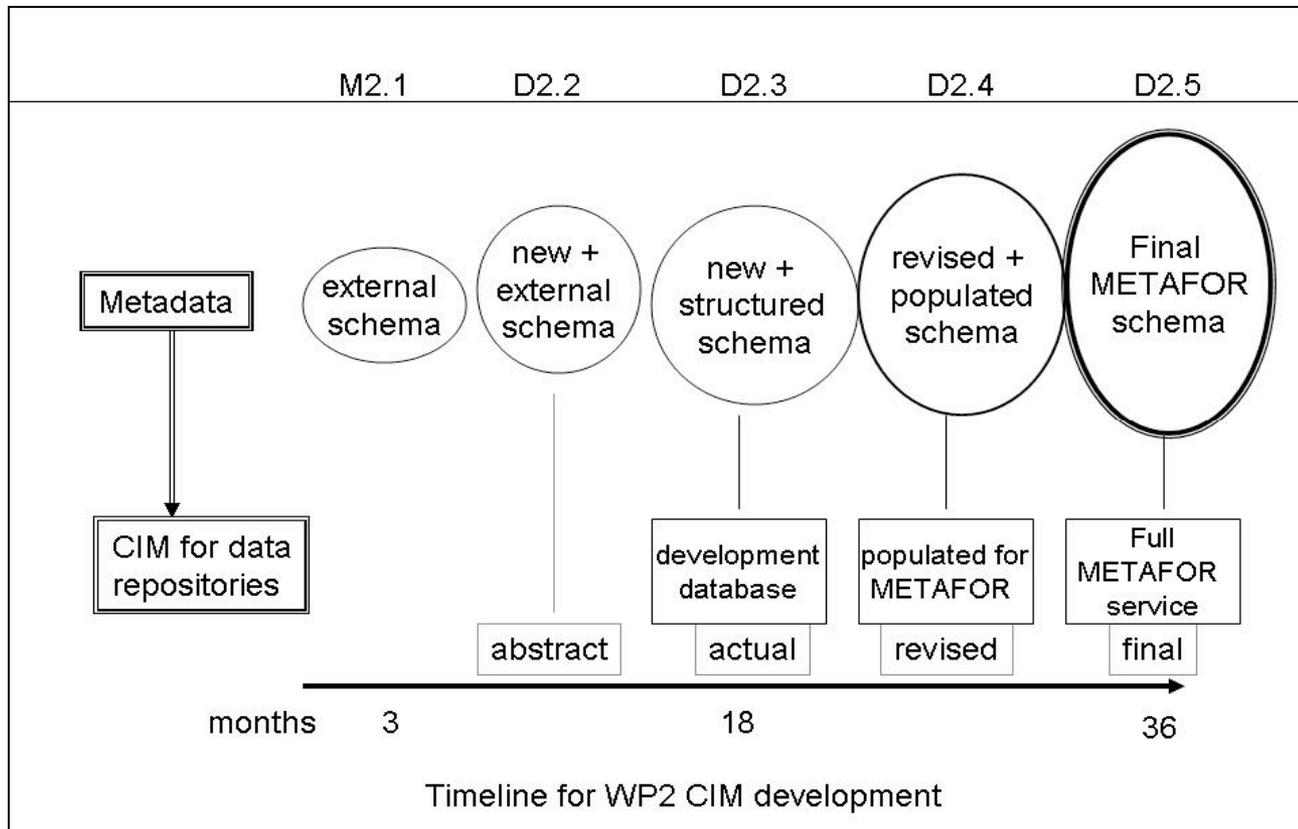
- Gap/consistency/duplication analysis of information models from existing initiatives:
 - CF, BFG, PRISM, NMM, gridspec, ESG, NumSim, CERA, FLUME, Curator, FRE, O&M, CSML, ISO, LEAD,...
 - Invent the wheel only where missing

- Both semantic and syntactic
- Aggregation into the CIM

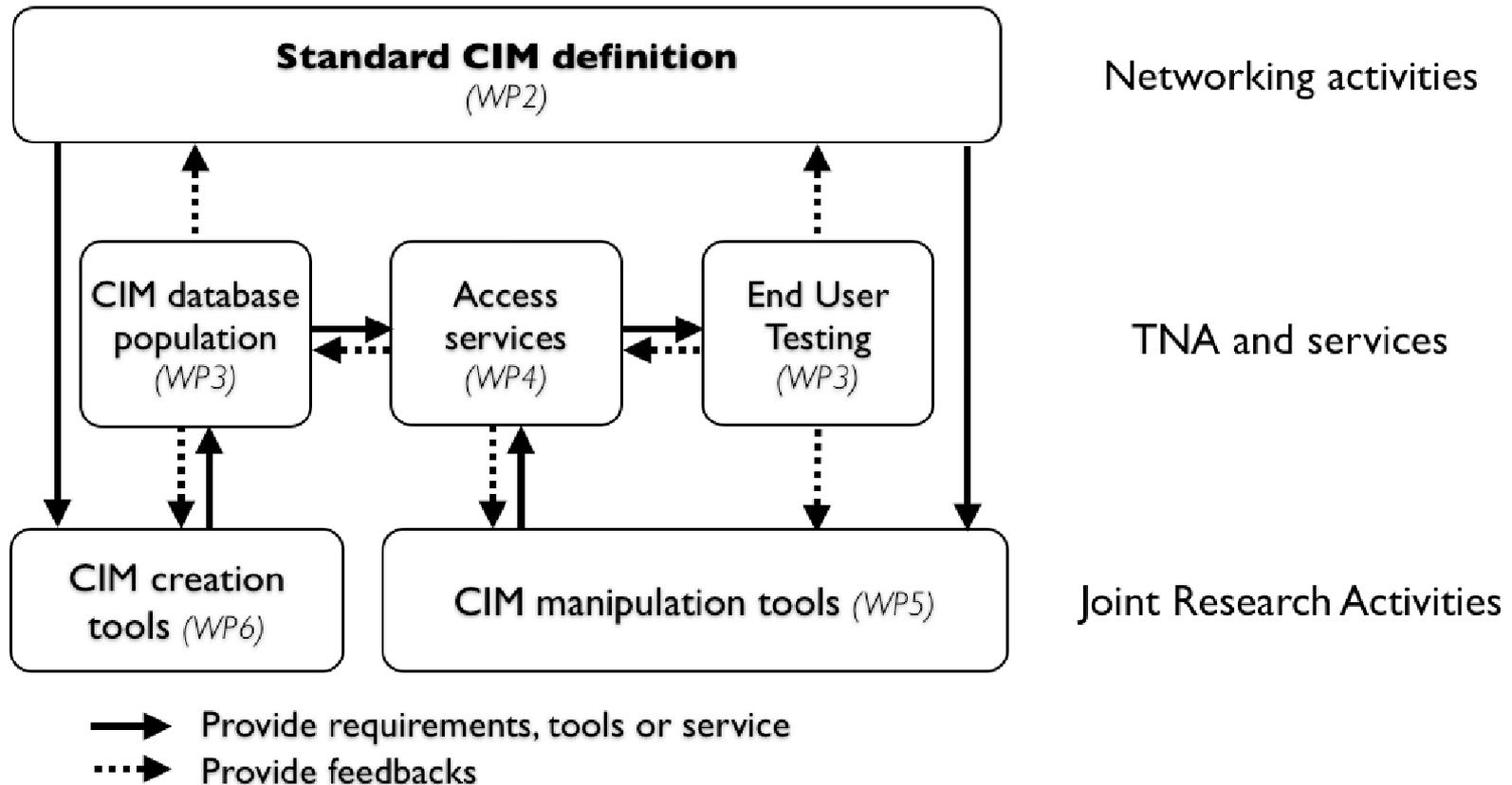


CIM definition

- An incremental approach

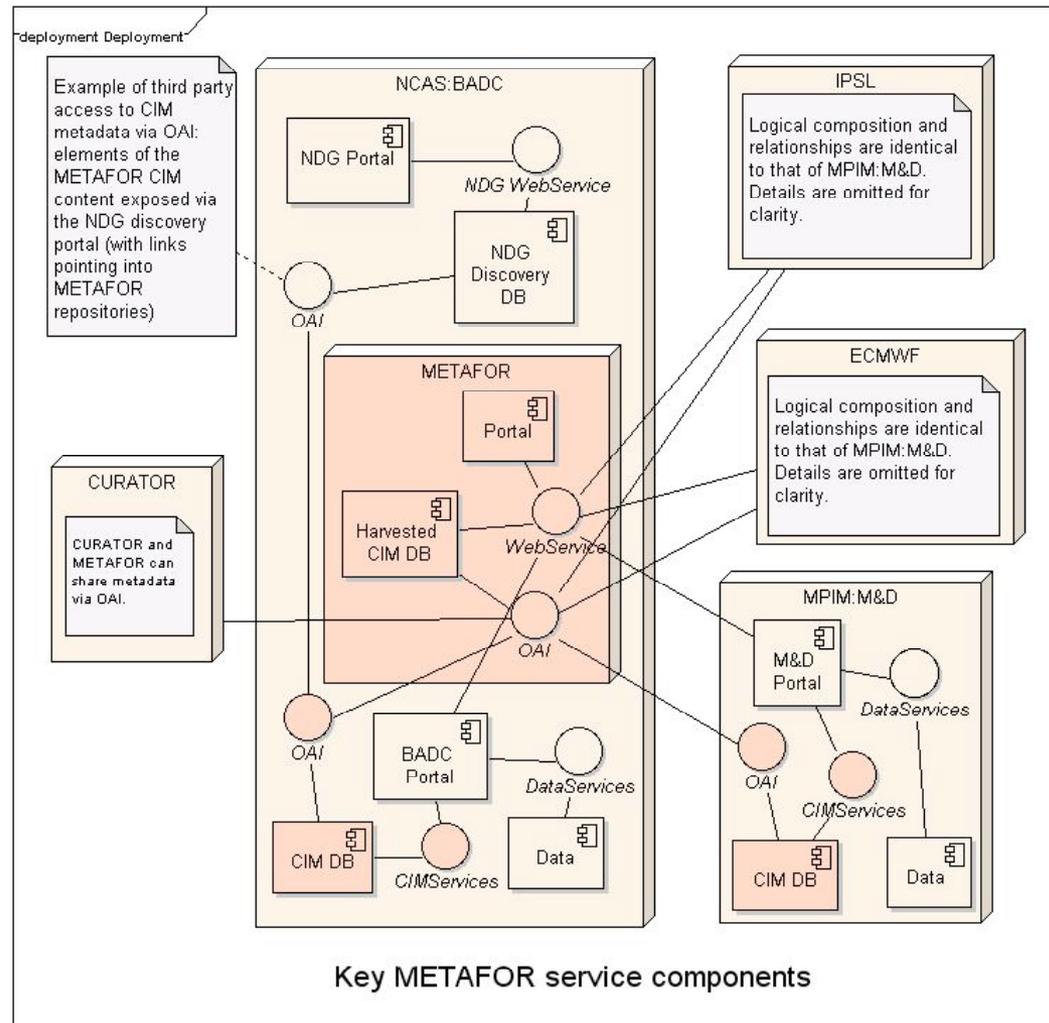


Project structure



Integrated Infrastructure Initiative (I3)

METAFOR services



METAFOR partners

Univ. Reading / NCAS (UK)	Eric Guilyardi & Lois Steeman-Clark
BADC (UK)	Bryan Lawrence
CERFACS (FR)	Sophie Valcke
MPI-M/M&D (G)	Michael Lautenschlager
IPSL (FR)	Marie-Alice Foujols & Laurent Fairhead
Univ. Manchester (UK)	Rupert Ford
Met Office (UK)	Allyn Treshansky & Mick Carter
ECMWF (EU)	Tim Stockdale & Paco Doblas_Reyes
Meteo France (FR)	Serge Planton, Michel Déqué
ANM (RO)	Roxana Bojariu
Climpact (SME - FR)	Harilaos Loukos
Curator (USA)	Balaji

Coordination & CIM definition

CIM def., **TNA services**

CIM def.

CIM def. + req., **CIM creation tools**

CIM def. + req., **CIM population**

CIM def.

CIM def. + req., **CIM manip. Toolkit**

CIM def. + requirements

CIM def. + requirements

CIM end user testing

CIM end user testing

CIM def. + requirements

In bold: WP/activity leader (6 WPs)

All component model development groups in EU represented as they provide requirements

METAFOR time line

- May 2nd project submitted (2.2 M€)
- Evaluation until end July 2007
- Negotiations summer/autumn 2007
- Start 2008

Messages from WGSIP

Tim Stockdale & Ben Kirtman

- APCC (Korea) will also host the TFSP data (expected to be in ENSEMBLES netCDF format)
- Grads software is being worked on to handle ensemble dimension