Debriefing from WP5

Philip Kershaw, Klaus Zimmermann

IS-ENES3 1st General Assembly
25-27th March 2020
Toulouse, France

Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 0: Co-ordination of WP5/NA4***
  - *WP management transferred from IPSL to UKRI following departure of WP leader Sébastien Denvil*

- ***Task 1: Project management of ES-Doc***
  - *Focus development around pyessv Python library and the Errata service for CMIP6 documentation*
  - *Looking into extending Errata service so that users can submit issues on data following request from the WIP*
  - *Mark Greenslade contract extended (coordinated by IPSL)*
  - *ES-DOC session IS-ENES3 GA will focus on ES-DOC re-organization and governance within the project*
  - *Ongoing re-organize management between: development of core code base, pro-active liaison with modelling groups and relationship between ESMValTool*

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Debriefing from WP5

Philip Kershaw, Klaus Zimmermann

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Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 2: Defining an Architecture for Future of Data Services***
  - *Workshop on future architecture for ESGF hosted in the UK, 5-7 Nov 2019*
  - *Report on architecture completed: https://docs.google.com/document/d/1_h7ARXlYJnJvrqf3-Z6NmsB88uH0PRz_GFOX0flbS9s/edit?usp=sharing*
  - *Roadmap set out for implementation of future architecture by ESGF collaboration, first milestone – new version of installation and deployment system by end of March 2020*

- ***Task 3: Defining and Communicating European priorities for ESGF***
  - *Discussing and agreeing European ESGF priorities and ESGF related services in regular ENES Data Task Force (DTF) calls*
  - *Input and discussion of European perspective in regular ESGF XC calls*
  - *Agreement on new metrics collection procedure*

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Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 4: Defining requirement and establishing the roadmap of an innovative IS-ENES compute service***
  - *Coding sprints held for development groups working on downstream services*
  - *Co-organization of a Virtual Workshop on Compute and Analytics services (Dec 2nd, 2019), 25 participants from EU, US, Canada. Discussed user requirements, gaps and challenges for IS-ENES compute service*
  - *D5.1 Compute Service requirements and state of the art approaches – report delivered*

- ***Task 5: Technical standards and an architecture for plugin diagnostic tools***
  - *Run the ENSO metrics inside ESMValTool for a small test. We are now trying to improve it further, as the first test is not using any of ESMValTool capabilities outside the most basic data ones: find and check.*
  - *The GFDL cyclone tracker can be run using a recipe developed for PRIMAVERA and it is on its way to the trunk https://github.com/ESMValGroup/ESMValTool/pull/1369*
  - *Updating the version of CVDP used by ESMValTool https://github.com/ESMValGroup/ESMValTool/pull/1441*

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Debriefing from WP5

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Work progress - Main achievements (page 2)

Deliverables and Milestones: indicates the delayed ones, and the next ones to completed before RP1

- *Delivered*
  - *D5.1 Compute Service requirements and state of the art approaches (Task 4, mo 12) – report completed but delivery was delayed*

- *Next (mo18):*
  - *M5.1: Draft Architecture Design (Task 2) – preliminary work done in the form of ESGF Future Architecture Report*
  - *M5.2: :ESGF CMIP6 Summary (Task 3)*

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Debriefing from WP5

Philip Kershaw, Klaus Zimmermann

Next steps with focus on key issues to be addressed

Next steps and issues to be addressed by the end of RP1 (mo18 – June 2020)

- Develop draft architecture design and communicate this with partners. Use ESGF Future Architecture report and technical requirements for ENES CDI software stack as input.
- Co-ordinate with ESGF partners in the development of enhanced system as part of ESGF Future Architecture

Next steps and issues to be addressed during RP2 (July 2020 - December 2021)

- Further develop high level architectural plan, implement changes proposed from ESGF Future Architecture, further investigate cross-over with solutions from other European e-infrastructure (Copernicus, EOSC)
- Develop compute service roadmap describing the long-term strategic view about this architectural component.
- Progress work on technical standards for diagnostic tools with goal of better integrating of diagnostic packages with existing evaluation tools

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Debriefing from WP 7

Stephan Kindermann (DKRZ) and Wim Som de Cerff (KNMI)

IS-ENES3 1st General Assembly
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Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 1 ESGF data dissemination, long term archival, user support - VA***
  - *User support documentation maintenance and migration to github*
  - *Operational CMIP6 and CORDEX data publication and data ingest support (including QA), CMIP6 data citation support*
  - *Coordination of ESGF operations (CDNOT)*
  - *ESGF/CMIP6 statistics collection*
  - *Organization and Preparation of (new) CORDEX user support documentation*

- ***Task 2 Compute services – VA – access to derived data products and data processing web services***
  - *ESMValTool evaluation result distribution via pre-operational service (https://cmip-esmvaltool.dkrz.de)*
  - *new C4I deployment (ADAGUC server and WPS services) on the KNMI AWS cloud environment*
  - *WPS processing test services deployed at CMCC, DKRZ (based on Birdhouse WPS environment)*

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Debriefing from WP 7

Stephan Kindermann (DKRZ) and Wim Som de Cerff (KNMI)

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Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 3 (Virtual workspaces – TNA)***
  - *Virtual workspaces access documentation*
  - *TNA call dissemination, coordination, candidates evaluation, and support.*

  Successful projects:

  - *"High-Resolution Coupled Atmosphere-Ocean-Wave Regional Climate Projections: downscale CMIP6 datasets and ensemble analysis of CMIP6 datasets"*
    - *Ireland at the Irish Centre for High-End Computing (ICHEC), Ireland,*
    - *6400 CPU hours at DKRZ*
  - *"Evaluating future impacts of extreme weather systems in East Asia and Taiwan with CMIP6 archive"*
    - *Research Center for Environmental Changes, Academia Sinica, Taiwan, and the Geophysical Institute, University of Bergen, Norway,*
    - *6000 CPU hours at STFC UKRI JASMIN-CEDA.*

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Debriefing from WP 7

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Work progress - Main achievements

Significant results and activities for each task, including deviations from Description of Activities:

- ***Task 4 CF conventions and data request – VA***
  - *Updates of cf name list and CMIP6 data request*
  - *New python libraries: cfdm (CF data model) underpinning cf-python*
  - *CF convention and associated features now managed on github*

- ***Task 5 ES-DOC operational support***
  - *Latest CMIP6 CIM documents bundled*
  - *Enhanced model documentation spreadsheets*
  - *ES-DOC liaison/support with modelling groups*

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Debriefing from WP 7

Next steps with focus on key issues to be addressed

Next steps and issues to be addressed by the end of RP1 (mo18 – June 2020)

- *Improvement of TNA call dissemination and attraction of new users (activities started – various activities planned including webinars and testing/evaluation access possibilities to TNA resources)*
- *ES-DOC guidance to clarify after Sébastien Denvil left IPSL.*
- *Collection of service statistics etc. for reporting (KPIs,TNA and overall)*

Next steps and issues to be addressed during RP2 (July 2020 - Dec 2021)

Compute services (VA)

- *Operational deployment of ESGF compute web services at ESGF centers (DKRZ, IPSL, CEDA)*
- *Agreement on (initial) compute service functionalities and functionality roadmap for the future (together with data NA and JRA)*
- *Integration of WPS compute services with climate4impact*
- *ESMValTool compute service(s): operationalization, integration of viewer in C4I portal*
- *First external review*

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Debriefing from WP 7

Work progress - Main achievements (page 2)

Deliverables and Milestones: indicates the delayed ones, and the next ones to completed before RP1

Done:

- *M7.1 ENES CDI help desk, (mo8, Aug 19)*

Delayed:

- *M7.2 setup of review committee and user selection panel (mo12, dec 2019)*

Next:

- D7.1 1st KPI and TNA report for ENeS CDI services (mo18, june 2020)

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Debriefing from WP n°10

WPL and co-leader names

Work progress - Main achievements

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- ***WP10 general results***
  - *Technical requirements for the ENES CDI and preliminary architecture (linked to M10.1)*
  - *CMIP data request schema 2.0 (linked to M10.2)*

- ***Task 1: Core data distribution services***
  - *Consolidation: esgprep, synda (IPSL), ESGF scanner (LIU), testing/feedback reporting of ESGF components (UC)*
  - *New design and implementation of the ESGF to long term archive (WDCC) publisher (DKRZ)*
  - *ESGF Ansible upgrade 4.0.4 and streamlining the ESGF Docker development/test (UKRI)*
  - *New release of the data usage and publication metrics (back-end and front-end) (CMCC)*

- ***Task 2: Develop a compute layer for processing and analytics for CMIP6 and CORDEX***
  - *User requirements gathering (virtual meeting on Compute & Analytics CMCC/CERFACS)*
  - *Security proxy integration for compute services (DKRZ), new CWT release of ECAS (CMCC),*
  - *New icclim release (CERFACS, in collaboration with DARE)*

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Debriefing from WP n°10

WPL and co-leader names

Work progress - Main achievements (page 2)

- ***Task 3 Improve the user interface and functionalities of the C4I platform for the impact communities***
  - *2 Coding Sprints took place: 16-21 June 2019, 5-7 Feb 2020 (CERFACS/KNMI)*
  - *Redesigned C4I architecture, new collaborative development environment setup (gitlab, Visual Studio) (KNMI)*
  - *Wizard-like new very efficient and fast Search Interface, more in line with users' focus (KNMI)*
  - *Fully dockerized, micro-services, externalized WPS (Birdhouse or others), using ReactJS and MarkDown (KNMI)*

- ***Task 4 Integrate the newly developed data compute services for data analytics into the climate4impact platform***
  - *Prepare and design the C4I architecture to use external WPS deployments (CERFACS/KNMI)*

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Debriefing from WP n°10

WPL and co-leader names

Work progress - Main achievements (page 3)

Task 5 ES-DOC extensions for CMIP and other community projects

- *pyesdoc development for the ES-DOC, management of online resources used by CMIP6 modelling groups, development of "further info URL" to link ESGF CMIP6 data with ES-DOC (IPSL)*
- *Developing MIP and Experiment documentation protocols; GMDD paper on ES-DOC documentation of CMIP6 experiments (UKRI)*
- *Liaison with CMIP6 modelling groups; software design; developing documentation protocols (NCAS-READING)*

- ***Task 6 Tools, services, information models for data standards***
  - *Data request schema (draft milestone, SKOS/OWL representation of CMIP6 DRS CV and WS implementation) (UKRI)*
  - *Explore common concepts and terminology underlying a range of established climate indices (under CF framework) and development of associated Python libs (SMHI)*
  - *Update to ES-DOC information models as part of ES-Doc papers for publication, one accepted, one to be submitted Jan 2020 (UREAD-NCAS)*

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Debriefing from WP n°10

WPL and co-leader names

Deliverables and Milestones

Deliverables and Milestones: indicates the delayed ones, and the next ones to completed before RP1

- *M10.1 Technical requirements for the ENES CDI (M14, CMCC)*
  - *delayed by 4 weeks*
- *D10.1 (Tasks 1 to 6, mo 18): Architectural document of the ENES CDI software stack*
  - *expected on time*
- *M10.2 (Task 6, mo 18): CMIP data request schema 2.0*
  - *expected on time*

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Debriefing from WP n°10

Next steps with focus on key issues to be addressed

*Next steps and issues to be addressed by the end of **RP1** (mo18 – June 2020)*

- *Finalise the ENES-CDI stack design (D10.1) and CMIP data request schema 2.0 (M10.2)*
- *Develop a first prototype of C4I 2.0.*
- *Data usage metrics collected for the whole ESGF federation, IS-ENES3 KPIs for RP1*
- *Improved Compute Service layer with respect to access interface, security, and programmatic access*
- *Consolidation of ESGF software at data node, publication, data transfer level*

*Next steps and issues to be addressed during **RP2** (July 2020 - December 2021)*

- *Two official releases of the ENES CDI (D10.2 and D10.3)*
- *Improved capabilities offered at the Compute Service layer*
- *Deploy C4I 2.0 in operation. Multiple releases with increasing features will be issued.*
- *Climate indicators/indices and file metadata specifications and tools (M10.3)*
- *Integrate the ENES Compute Services as well as the Vocabulary Services with C4I.*

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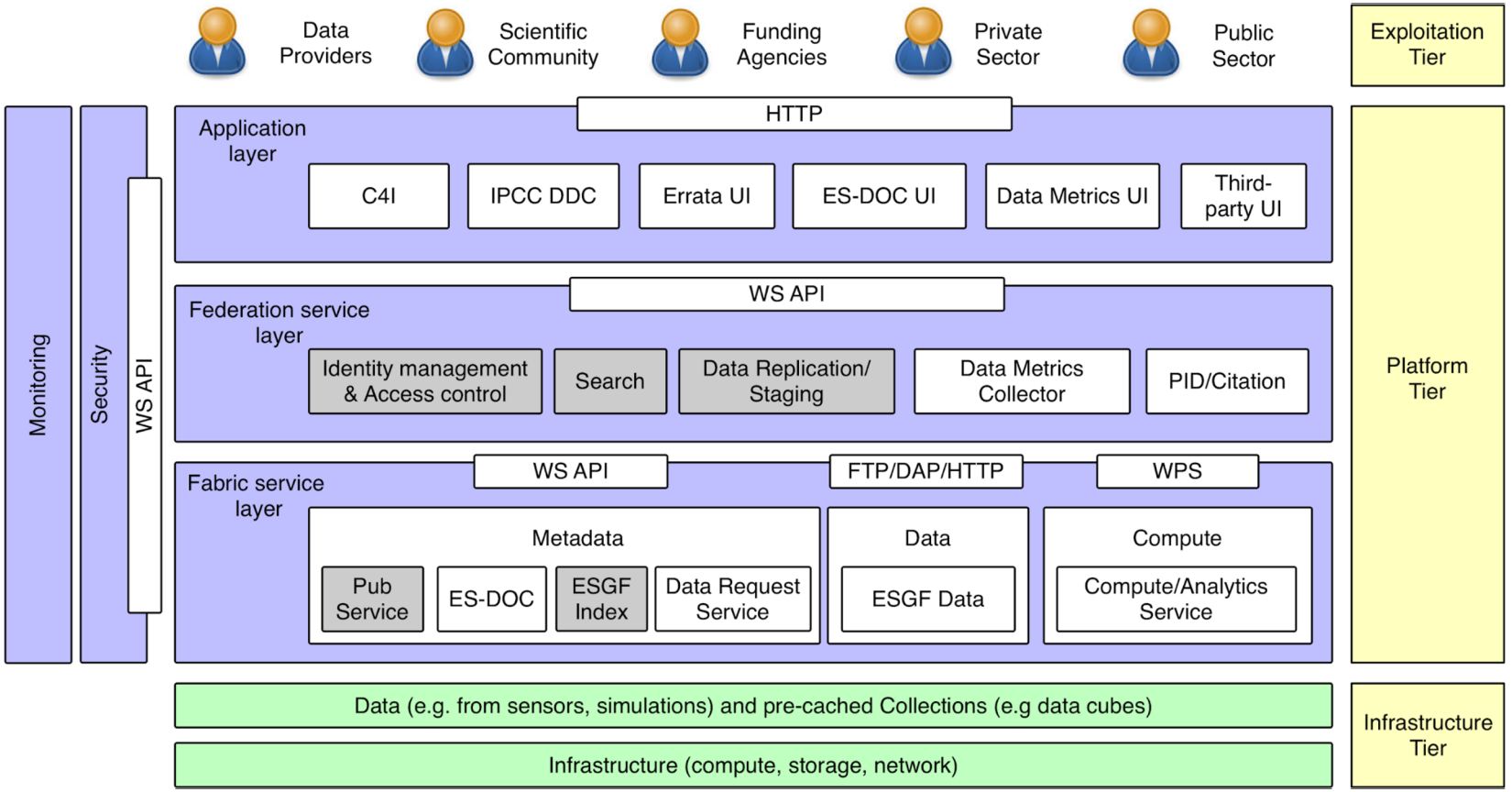
Debriefing from WP n°10

Preliminay architectural diagram of the ENES CDI Milestone M10.1



Still under discussion, it represents a first step towards the consolidated ENES CDI architectural design due by M18 (June 2020) in the Deliverable D10.1

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