Co-ordination & Harmonisation of Advanced e-Infrastructures for Research and Education Data Sharing

CHAIN-REDS - Last achievements

Federico Ruggieri – INFN/GARR

ICT2013-  7 November 2013 – Vilnius

Research Infrastructures – Grant Agreement n. 306819
Status

- Co-ordination & Harmonisation of Advanced e-Infrastructures for Research and Education Data Sharing
- Research Infrastructures – Support Action
- Grant Agreement n. 306819
- Total Costs of € 2.3 M
- Max. EC contribution: € 1.52 M
- Start date: 1 December 2012
- Duration: 30 Months
Partners and roles

- INFN (IT) – Coordinator
- CIEMAT (ES) – WP4 Leader
- GRNET (GR) – WP3 Leader
- CESNET (CZ) – WP5 Leader
- UBUNTUNET (MW) – Africa
- CLARA (UR) – Latin America
- IHEP (+CNIC, PKU, BUAA) – China
- ASREN (DE) – Arab States
- SIGMA-ORIONIS (FR) – WP2 Leader
- C-DAC (IN) – India
Distributed Computing Infrastructure

• Provide ongoing support of the DCI road-map for intercontinental DCI collaboration, specified within the CHAIN project

Regional Operation Centres

• Support stability of existing and emerging Regional Operation Centres. Cooperate with other projects & initiatives (e.g. AfricaConnect, TEIN3) to support the development of eInfrastructures and key VRCs in Africa, Asia, Latin America and the Middle-east

Clouds for Research and Education

• Support for coordination of Cloud developments for Research & Education with other regions (e.g. China, India, Latin America)
**Data**

**Infrastructures and Repositories**

- Extend the CHAIN Knowledge Base with information on Data Infrastructures: collecting issues, best practices and identifying data repositories of direct interest for VRCs
- Support the study of data infrastructures for a target subset of VRCs (e.g. Agriculture, Climate Change, Health, Biomedicine, etc.)

**Science Gateways (SG)**

- Promote the usage of Science Gateways as a means for attracting new communities and promote the use of eInfrastructures for every researcher

**Federations of Identity Providers (IDF)**

- Foster the creation of Identity Federations in cooperation with Certification Authorities; promote and coordinate their usage. Support integration of different AA approaches
Open Access Document Repositories (OADRs)

Red markers refer to data currently taken from the almost 2,500 Open Access Document Repositories (OADRs) of DRIVER, OpenAIRE, and OpenDOAR and currently refer to more than 30 million documents. Yellow markers refer to other OADRs, e.g. those of LA Referencia in Latin America, added thanks to the work done by CHAIN-REDS. Click on a marker to get more information on the corresponding OADR.

- ~2,500 repos
- >33 M docs

Red markers: info from DRIVER, OpenAIRE, and OpenDOAR

Yellow markers: new added by the project (e.g. LA Referencia in Latin America)
Data Repositories (DRs)

- ~ 600 repos
- Lots of data!

Roberto Barbera – INFN/Univ. of Catania
Multi-layered architecture

Linked-data search engine

Semantic-web enrichment

Harvester (running on grid/cloud)

Harvester (running on grid/cloud)

OAI-PMH

End-points

Data Repos.

OAI-PMH

Registry of Open Access Repositories (ROAR)

OAI-PMH

Databib

re3data.org

OAD

DataCite

CHAIN-REDS Workshop – 22 October 2013
Promote the Science Gateway model

Grid/Cloud Engine (based on SAGA)

Orchestrator (based on OCCI)

Cloud #1

Cloud #2

Cloud #n

Single logical domain

Users belonging to Identity Federations

Catania Science Gateway

Administrator

Scientist

Cloud tenant

Embedded Services

App. 1

App. 2

MyCloud

Use case #1

Use case #2

HPC Clusters

Grids

Clouds
CHAIN-REDS is a FP7 project co-funded by the European Commission (DG CONNECT) aiming at promoting and supporting technological and scientific collaboration across different e-Infrastructures established and operated in various continents, in order to define a path towards a global e-Infrastructure ecosystem that will allow Virtual Research Communities (VRCs), research groups and even single researchers to access and efficiently use worldwide distributed resources (i.e., computing, storage, data, services, tools, applications).
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Thank you!

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