Joint Service Catalogue for Research
state of the art

Sergio Andreozzi

Strategy and Policy Manager, EGI Foundation

sergio.andreozzi@egi.eu

@digitalities

eInfraCentral Kick-Off Meeting
30 January 2017
Brussels, Belgium

- Why "a Joint Service Catalogue for Research"
- Work done so far
  - e-Infrastructure Catalogue of Services (CoS)
- Next steps
  - e-InfraCentral project
- Future perspectives
  - e-Infrastructure Commons
  - European Open Science Cloud

- **Structured information about all services**
  - including those available for deployment
- **From independent service providers**
  - Focus on e-Infrastructures
- **Captured from the customer/user viewpoint**
  - To help them understanding functionalities, value, payment models, contact points, ordering and request processes, etc
- **That support the production or dissemination of research outputs**
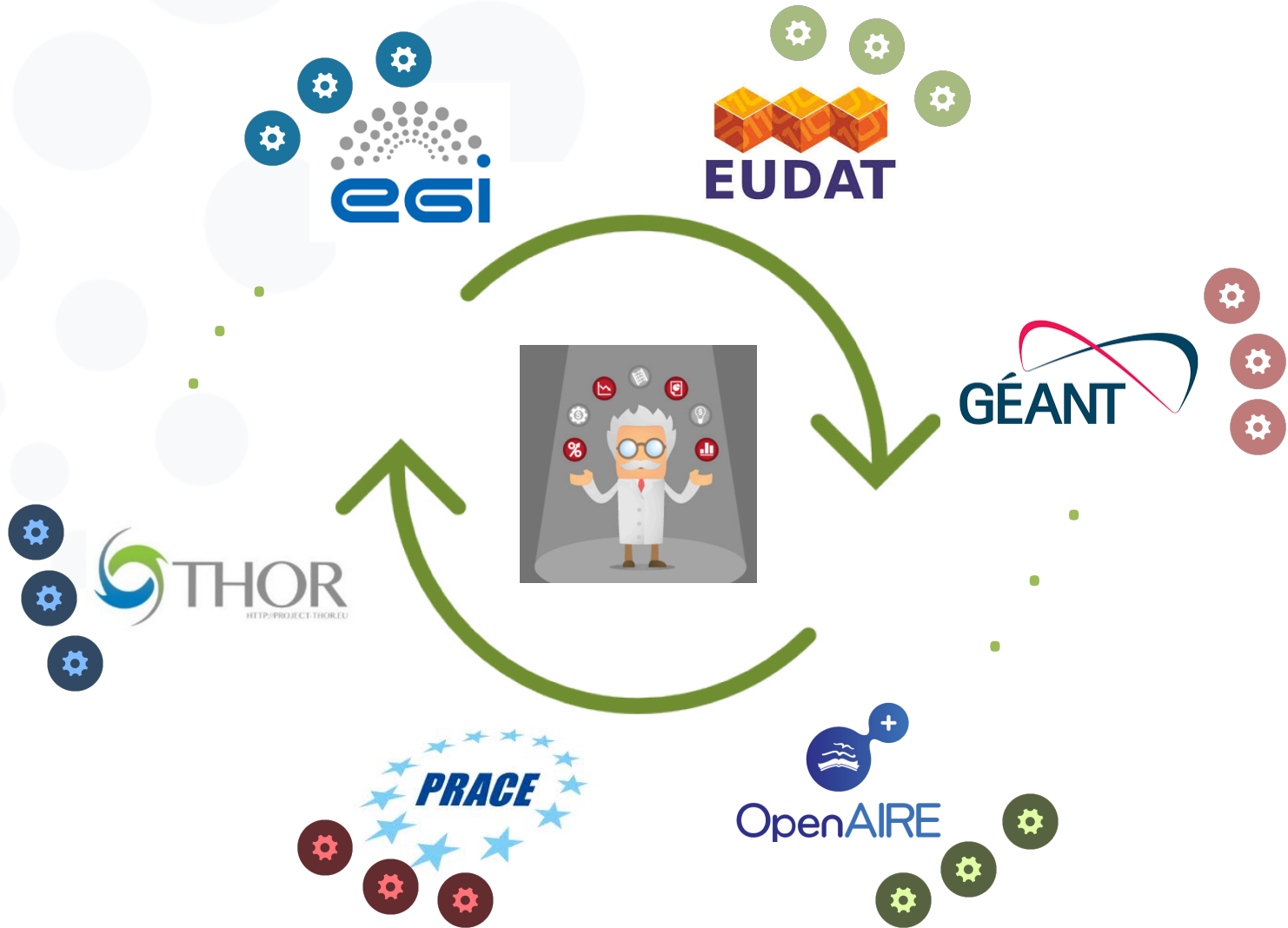
service

- For customers & users
    - Simplify discoverability of services
    - Better understand their relevance
    - Identify similar offerings or gaps

- For service providers
    - Provide shared language for service descriptions
    - Increase visibility of service offerings

- For funding agencies
    - Improve communication of what they support
    - Supports evaluation of policy impact

- Various service offerings from different (federated) e-infrastructure providers

- Different ways to define/describe a service

- Different vocabulary about service management

- Different processes to manage service portfolios

- Different standards/frameworks available
  - ISO20K, ITIL, FitSM, …

- Different tools not interoperable

Report on work to create a framework to describe a catalogue of services for e-Infrastructure (bottom-up and best effort initiative)

Main phases

- Dec 2015 – Mar 2016
  - Working group created, several calls organised
- April 2016
  - Workshop at EGI Conference
    - https://indico.egi.eu/indico/event/2875/session/15/?slotId=0#20160406
  - Presenting service offerings
  - Sharing best practices on service portfolio management
  - Discussing a common model
- October 2016
  - Session at DI4R Conference
    - https://www.digitalinfrastructures.eu/content/joint-service-catalogue-research
  - Disseminating the work done
  - Discussing the way forward with related initiatives (e.g. MERIL) and other stakeholders
- November 2016
  - Presentation at the e-IRG workshop http://e-irg.eu/workshop-2016-11-programme

- ## Understand the baseline
  - Current practices and processes in place to manage service offerings

- ## Reusing existing conceptualisations
  - FitSM: standard for lightweight ITSM
  - ISO 20000: Service management system requirements
  - UK Government Service Design Manual

- ## Validate with examples
  - From the following initiatives:
    - THOR, EGI, EUDAT, GEANT, OpenAIRE, BlueBRIDGE

Conceptual model

e-Infrastructure Catalogue of Services

Document Information

Date: 04/04/2016

Authors: Sergio Andreozzi, Donatella Castelli, Angela Dappert, Tiziana Ferrari, Małgorzata Krakowian, Johannes Reetz, Andres Steijaert

Abstract: This document outlines a framework for creating a Catalogue of Services (CoS), primarily intended for e-Infrastructure services. It describes services at a high level and makes them discoverable. It can also be used to identify overlapping efforts or gaps in the catalogued service landscape.

The goal of this document is to define a framework that can be used to specify and implement a concrete catalogue. It is not a catalogue itself and does not list or describe services.

DOI 10.5281/zenodo.165467

https://doi.org/10.5281/zenodo.165467

Examples to test the model

Example Instantiations of the e-Infrastructure Catalogue of Services

Date: 04/04/16

Authors: Sergio Andreozzi, Angela Dappert, Johannes Reetz, Andres Steijaert

DOI: 10.5281/zenodo.16546

Service name	Cloud compute	Assign Persistent Identifier	B2SAFE
Service ID			
Service webpage	https://www.egi.eu/services/cloud-compute/	https://www.datacite.org/	https://eudat.eu/services/b2safe
Service provider	EGI	DataCite	EUDAT
Service contact	support@egi.eu	https://www.datacite.org/contact	https://eudat.eu/support-request?service=B2SAFE
Service description	Cloud Compute gives you the ability to deploy and scale virtual machines on-demand. It offers guaranteed computational resources in a secure and isolated environment with standard API access, without the overhead of managing physical servers. Cloud Compute offers the possibility to select pre-configured virtual appliances (e.g. CPU, memory, disk, operating system or software) from a catalogue replicated across all EGI cloud providers.	A service to assign persistent identifiers to data sets backed-up by a governance structure	Highly available multi-purpose service that allows community and departmental repositories to implement data management policies on their research data across multiple administrative domains. The service provide an abstraction layer which virtualizes large-scale data resources e.g. to • guard against data loss in long-term archiving and preservation • Optimize access for users from different regions • Bring data closer to powerful computers for compute-intensive analysis One usage example is the safe replication.

https://doi.org/10.5281/zenodo.165466

Service Model

Target groups
- Customer group
- User group

Provider
- Service Provider

Classification
- Service Area
- Service Function
- Service Type

Identif. & contact
- Service Name
- Service ID
- Service Contact
- Service Webpage
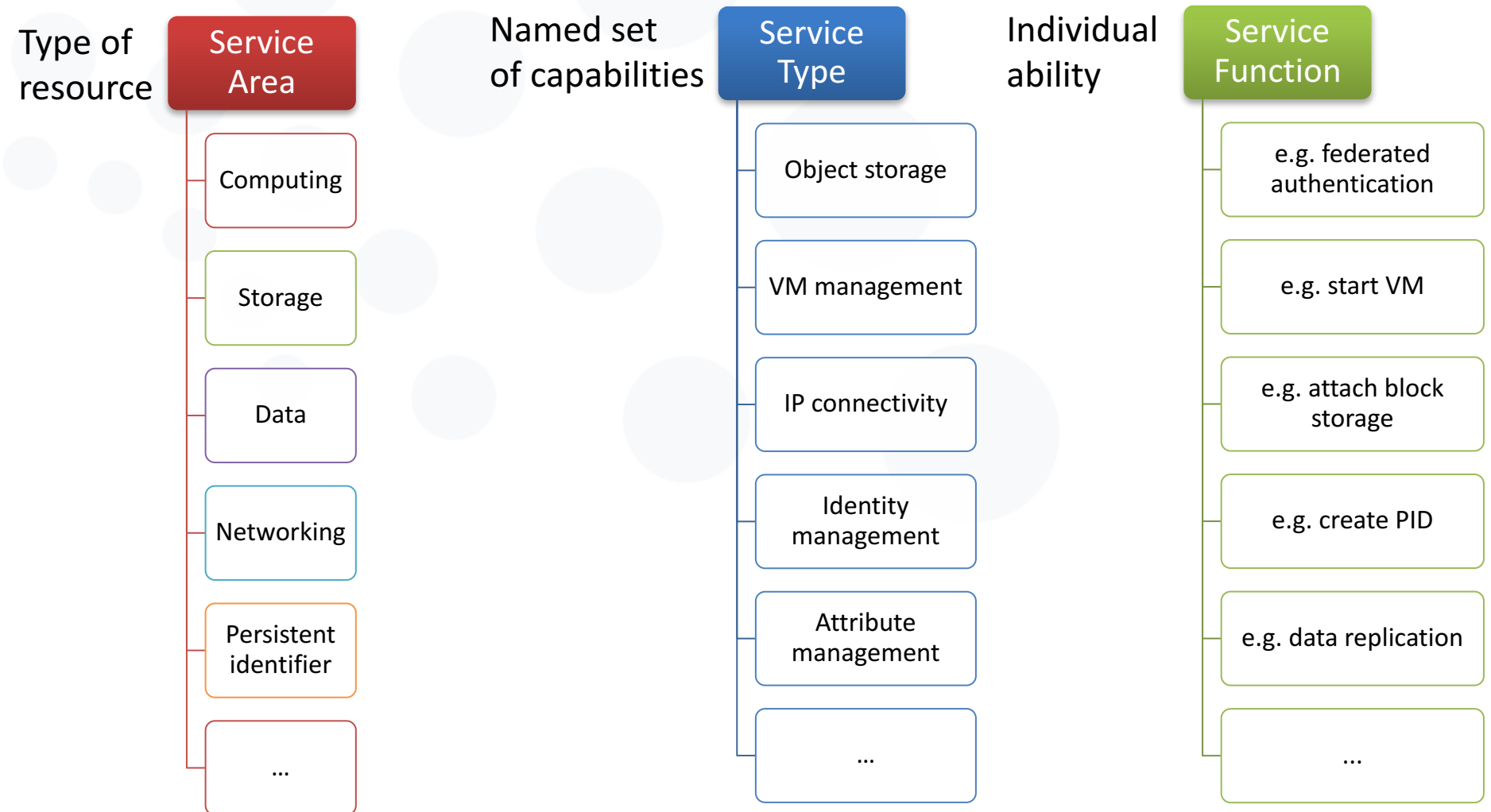
Agreement
- Terms of Use
- SLA
- Service Condition
- Payment Model

Description & Value
- Service Description
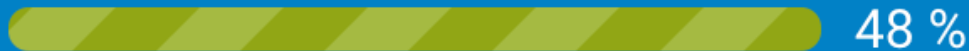- Service Value
- Service Phase

Classification

Type of resource → **Service Area**
- Computing
- Storage
- Data
- Networking
- Persistent identifier
- …

Named set of capabilities → **Service Type**
- Object storage
- VM management
- IP connectivity
- Identity management
- Attribute management
- …

Individual ability → **Service Function**
- e.g. federated authentication
- e.g. start VM
- e.g. attach block storage
- e.g. create PID
- e.g. data replication
- …

European e-infrastructures
88 %

National/Regional e-infrastructures
48 %

Research infrastructures/communities
48 %

Commercial providers
32 %

Answers from the audience: 25 replies
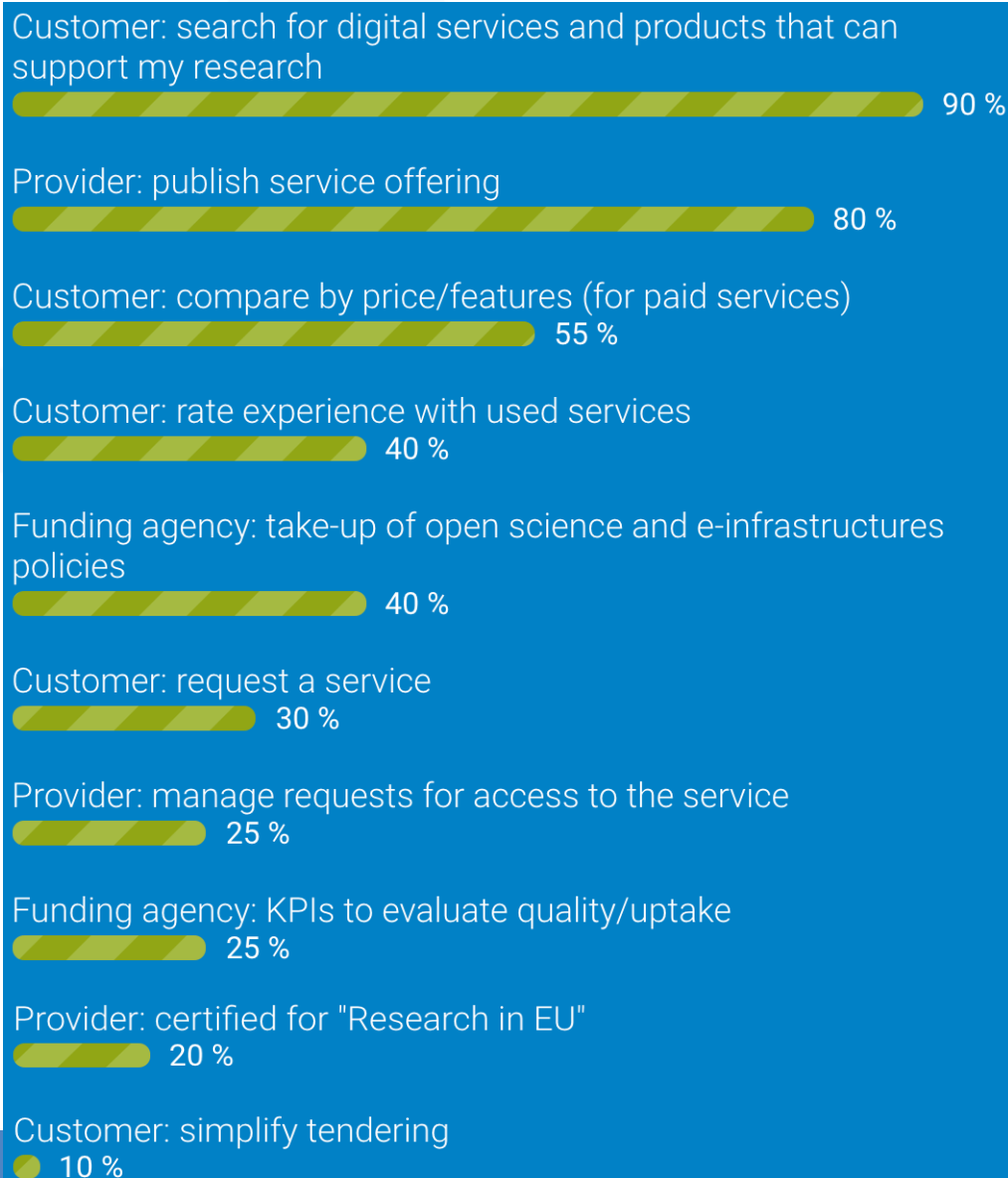
Answers from the audience: 20 replies

Customer: search for digital services and products that can support my research

90 %

Provider: publish service offering

80 %

Customer: compare by price/features (for paid services)

55 %

Customer: rate experience with used services

40 %

Funding agency: take-up of open science and e-infrastructures policies

40 %

Customer: request a service

30 %

Provider: manage requests for access to the service

25 %

Funding agency: KPIs to evaluate quality/uptake

25 %

Provider: certified for "Research in EU"

20 %

Customer: simplify tendering

10 %

Open questions

- Governance
  - How to decide who is eligible to be listed
  - How to resolve conflicts

- Management
  - Who is responsible to ensure quality and freshness of information
  - How to integrate service catalog management processes

- Conceptual model
  - How to capture interoperability aspects in services
  - Ensure that metadata cover the needs of community-specific services
  - Choice between federated service vs. concrete instances from individual provider

- Tool functionalities
  - Functionalities to be supported in the tool (e.g., search, request, …)
  - Programmatic API (e.g. https://www.tmforum.org/resources/standard/catalog-management-api-rest-specificationrestspec_-_catalog_management_v1-3-3/)
  - Automatic filtering of services based on policy limitations
    - (e.g. if there are geographical limitations, then it should be visible only to those eligible)

Future Perspectives

Relationship to other projects

- EOSCPilot project: service catalogue activity

- EINFRA-12.a:
  - EGI, EUDAT and Indigo-DataCloud are developing a joint proposal to address the current fragmentation of the data and computing e-Infrastructure landscape
  - Will reuse results from previous projects to develop a marketplace for the services
  - e.g. EGI-Engage developed a marketplace tool (prototype)
    - Federated authentication and user profiling
    - Service discovery
    - Order management (in progress)
    - SLA/OLA management (future)
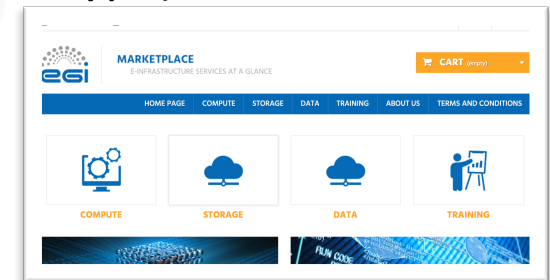
Important to ensure synergies with related projects

From the e-IRG roadmap 2016 (http://e-irg.eu/roadmap)

- *"One way to combine different types of e-Infrastructures is to use the metaphor of a "marketplace" for the provision of a single access to all the services and tools"*

- *"The marketplace can use among others … **a searchable service catalogue** …in this way users can have access to a one-stop-shop, i.e. a place where all eInfrastructure services are available, either directly accessible or redirected elsewhere"*

> The work on the Joint Service Catalogue can be an essential building block of the searchable catalogue for the e-Infrastructure Commons

Joint Service Catalogue and the European Open Science Cloud

- *"EOSC: federated, globally accessible environment where researchers, innovators, companies and citizens can **publish, find** and **re-use** each other's **data** and **tools** for research, innovation and educational purposes"*
  - *"P4: Frame the EOSC as the EU contribution to an Internet of FAIR Data and Services underpinned with open protocols"*
  - *"G4: Federate the gems"*

  https://ec.europa.eu/research/openscience/pdf/realising_the_european_open_science_cloud_2016.pdf

The work on the Joint Service Catalogue can be expanded to include the services of the EOSC that comply with the Rules of Engagement

- Joint service catalogue for research
  - Integrated customer view of service offerings from multiple e-infrastructures providers
  - Simplify finding services
- "e-Infrastructure Catalogue of Services"
  - Common conceptual service model
  - Alignment of language & thinking about services
- eInfraCentral project
  - From concept to implementation
- Future perspectives
  - Synergies/Interaction with related projects (e.g. EOSCPilot/EINFRA-12.a)
  - e-Infrastructure Commons
  - European Open Science Cloud

Many thanks to all who have contributed this work, in particular:

- EGI: Sergio Andreozzi, Tiziana Ferrari, Sy Holsinger, Małgorzata Krakowian
- EUDAT: Rob Baxter, Alexis Jean-Laurent, Johannes Reetz
- GEANT: Annabel Grant, Matthew Scott, Andres Steijaert
- OpenAIRE/BlueBRIDGE: Donatella Castelli, Pasquale Pagano
- PRACE: Giovanni Erbacci
- THOR project: Angela Dappert
- EFIS: Alasdair Reid
- MERIL: Julija Baginskaite, Ana Helman
- FitSM: Owen Appleton

Thank you for your attention

sergio.andreozzi@egi.eu
@digitalities