Report for Italy (focusing on the 3 items)

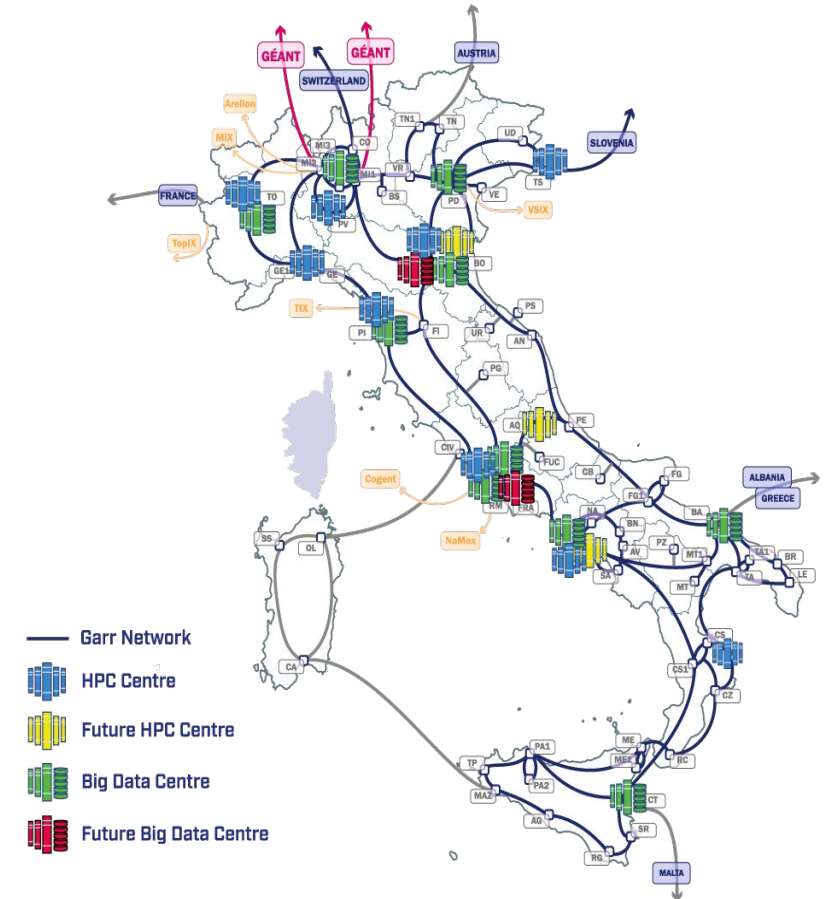E-IRG Workshop under Hungarian EU Presidency

Nov 25th 2024

Enzo Valente – Tommaso Boccali

Topic #1 "Continued national and EU investments on EU e-Infrastructures (long-term sustainability)"

- The Italian computing e-Infrastructure ecosystem has been upgraded recently, under the NRRP Project (and in particular via the 320 Meur National Center for Big Data, HPC and Quantum Computing) – 2022 → 2025

- The project boosted resources, network and trained a cohort of "computing savvy" researchers

- What happens after 2025?
  - Studying sustainable models for the center
  - Involving (more) the productive system is essential
  - The Italian government is deciding on a strategy

- Other funds? Examples:
  - The Center is candidate to host the EOSC National node
  - The Center is posing itself as a partner for EU projects (then including all its participants as third parties)
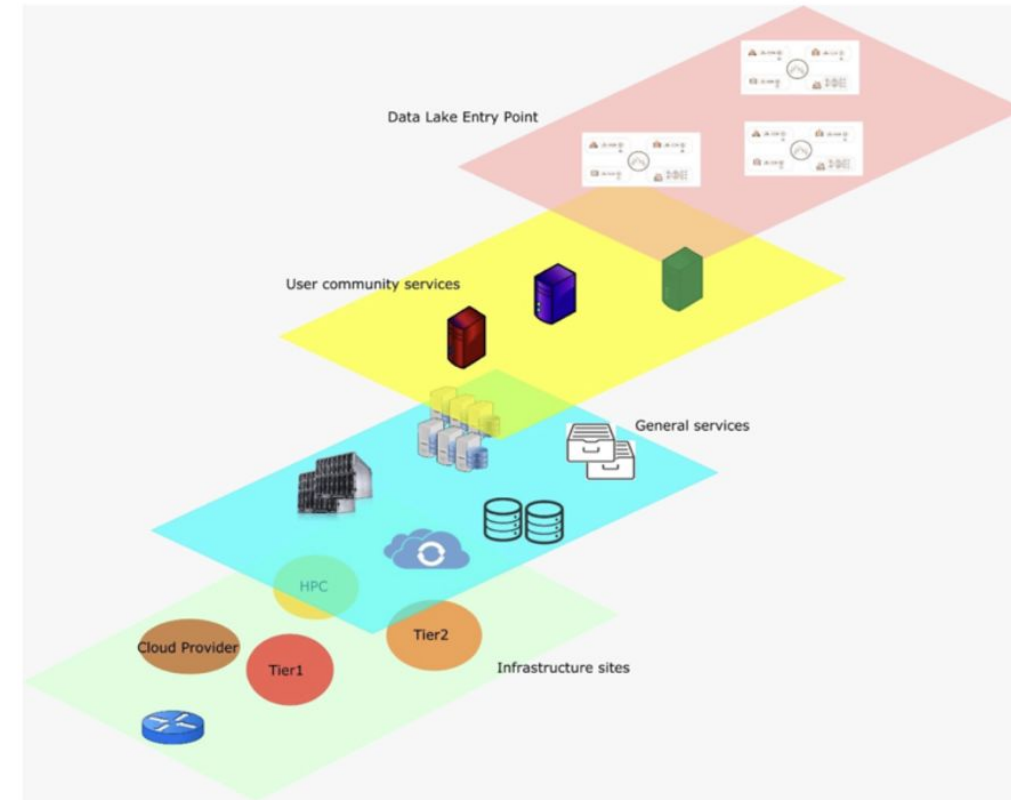

0   SUPERCOMPUTING CLOUD INFRASTRUCTURE

Garr Network
HPC Centre
Future HPC Centre
Big Data Centre
Future Big Data Centre

Resources, network and middleware

Topic#2 Major e-Infrastructure developments at the national or EU levels (connectivity, computing (HPC/HTC/AI), FAIR data/open science)

- Again about the National Center: it deploys
  - HTC (INFN WLCG Tiers + CNR, CINECA, CMCC, SISSA, ENEA, INAF + …)
  - HPC (funding in part the CINECA/Leonardo extension: LISA + …)
  - AI optimized systems: CINECA/LISA, INFN HPC bubbles, …
  - Storage Centers (INFN, CNR, CINECA, CMCC, SISSA, ENEA, INAF + …)
  - Networks (GARR multi Tbps backbone, now reaching also islands)
  - Quantum Systems (R&D and "production" level)

- The center has a comprehensive DMP, covering also ISO2700x use cases (from medicine and radiomics, for example)

- The center builds on a number of existing / new facilities, logically accessible via the "ICSC Datalake"

Topic#3 Preparation for EOSC Federation
- Interest in EOSC node

- Italy, via the Italian Computing and Data Infrastructure (ICDI), proposed the National Center as the national EOSC Node to be handled by ICSC

- It has been endorsed by some 20 italian institutions
  - Passed first evaluation (29 out of 121)

- Services exposed: under definition

- At this point no EU funding; not clear the process can be successful without them in the long run
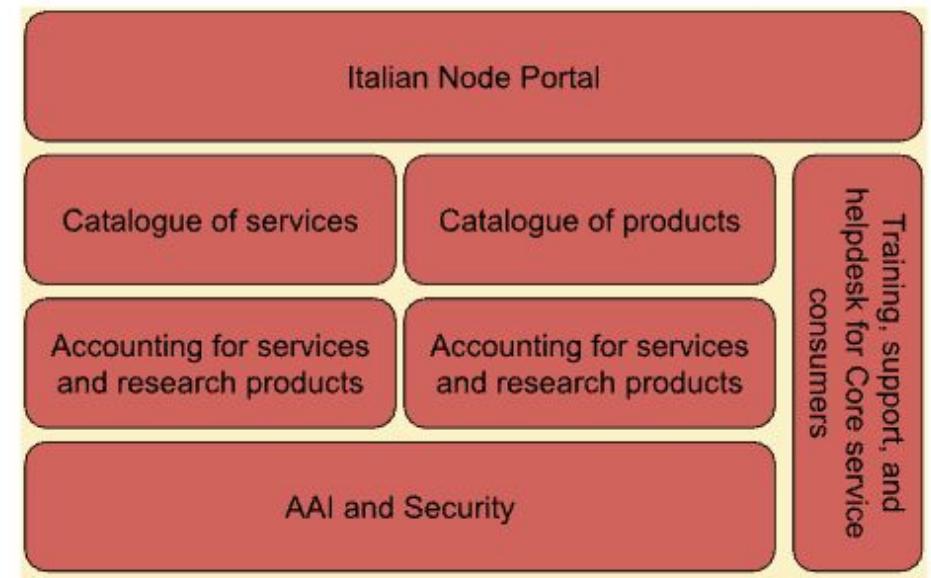

Figure 1. Core service functional areas

Potential Candidate Nodes (first wave) invited to participate in first-stage dialogue meetings

First-stage dialogue Meeting 1	First-stage dialogue Meeting 2	First-stage dialogue Meeting 3	First-stage dialogue Meeting 4
ACTRIS ERIC	[DE] NFDI	[AT] ACOnet / EOSC Support Office Austria	BBMRI ERIC
CNR (Blue-Cloud)	[FR] CNRS (Data Terra)	[DK] DeiC	Elixir Hub
ESRF (PaNOSC)	[HU] HUN REN	[FI] CSC – IT Centre for Science	EMBL
CNRS-LAPP (ESCAPE)	[IT] Foundation ICSC	[HR] SRCE	Euro-BioImaging ERIC
CERN	[LU] Lux NDS	[NL] SURF	Instruct ERIC
ARIADNE RI	[PL] NCN	[NO] NRIS	
CLARIN ERIC	[SK] CVTI SR	[SE] SND	
	[UA] BITP	[SI] ARNES	
		[FI] EUDAT	