E-Infrastructure for Science in Europe - EGI

Steven Newhouse
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Extracting Knowledge from the Data Deluge
Infrastructure is the basic physical and organisational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function.

The Enterprise for us is the European Research Area

EGI provides a service infrastructure that exposes and federates a resource infrastructure.
A Virtuous Service Cycle

National Resource Providers

MoUs & OLAs

MoUs & SLAs

Technology Providers

European Grid Infrastructure

Ecosystem

Current User Communities

MoUs

New User Communities

EGI.eu

Current User Communities
EGI-InSPIRE Project

Integrated Sustainable Pan-European Infrastructure for Researchers in Europe

A 4 year project with €25M EC contribution
- Project cost €72M
- Total Effort ~€330M
- Effort: 9261PMs

Project Partners (50)
EGI.eu, 38 NGIs, 2 EIROs
Asia Pacific (9 partners)
Project Objectives

• A sustainable production infrastructure
  – Resource providers in Europe and worldwide
  – With new technologies as they mature

• Support structured international research
  – Sustain current domain specific services
  – Attract new international user communities

  • e.g. ESFRI - European Strategic Forum on Research Infrastructures
Logical CPUs (cores)
- 239,840 EGI (+24.9%)
- 338,895 All

102 PB disk and 89 PB tape

Resource Centres
- 338 EGI
- 345 All (+6.8 %)
- 96 supporting MPI (+6.8%)

Countries (+11.5%)
- 51 EGI
- 57 All (+18.75)

38 NGIs providing resources
- 22 National Operations Centres
- 16 NGIs in 5 Federated Operations Centres

1 EIRO providing resources
18 countries in 4 non-European Operations Centres
A Virtualised Ecosystem

VO Specific Operations Staff

EGI-InSPIRE

StratusLab

VENUS-C

EMI & IGE
How does this help?

• No ‘big-bang’ migration
  – Gradual change transparent to the end-user
• Clearly identifies the role of the expert
  – Already residing in the NGIs and VRCs
• Increases the flexibility of the infrastructure
  – Allows experts to configure resources
  – Meet the immediate needs of their users
• Experts from other communities have access
  – Demonstrate resources accessible to all
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