



EGI Science Gateways Initiative

Delivering integrated, community-focused access to Europe's research infrastructure

Stephen Crouch, Stephen Brewer, EGEE Conference 2009, Barcelona, 22 September 2009 (with input from various colleagues and partners)

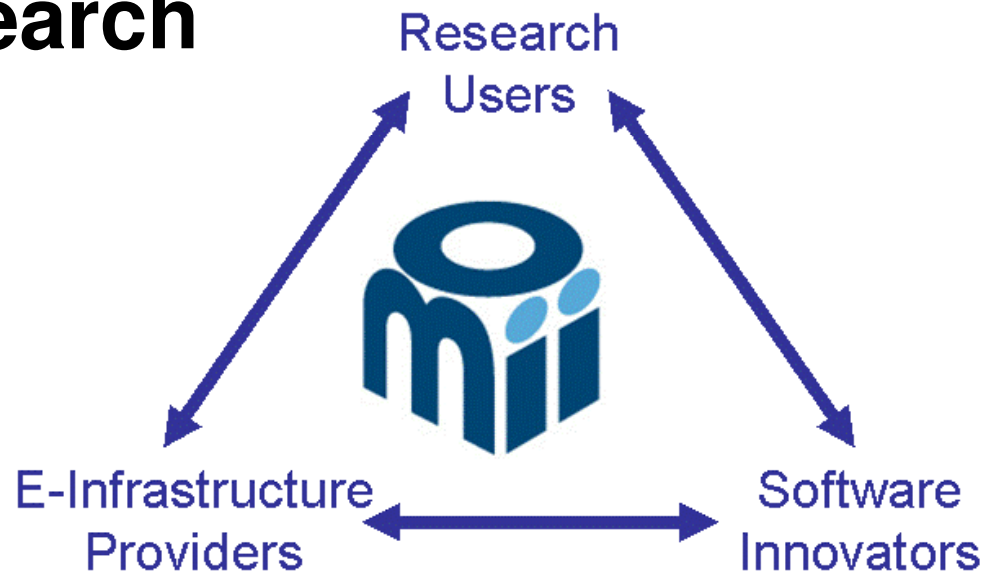
Understanding the EU Call

As part of the Topic INFRA-2010-1.2.1: Distributed computing infrastructure (DCI) there are five related sub-topics. This proposal addresses elements of the last three of these, namely:

- the creation of **SW-component repositories** for subsequent maintenance by EGI (1.2.1.3)
- easier access to DCIs through **science gateways** and support for workflows combining capacity and capability computing as well as access to data and networks (1.2.1.4)
- the **extension to existing DCIs** to incorporate remote operation of scientific instruments such as those in the **ESFRI roadmap projects** (1.2.1.5)

OMII-UK

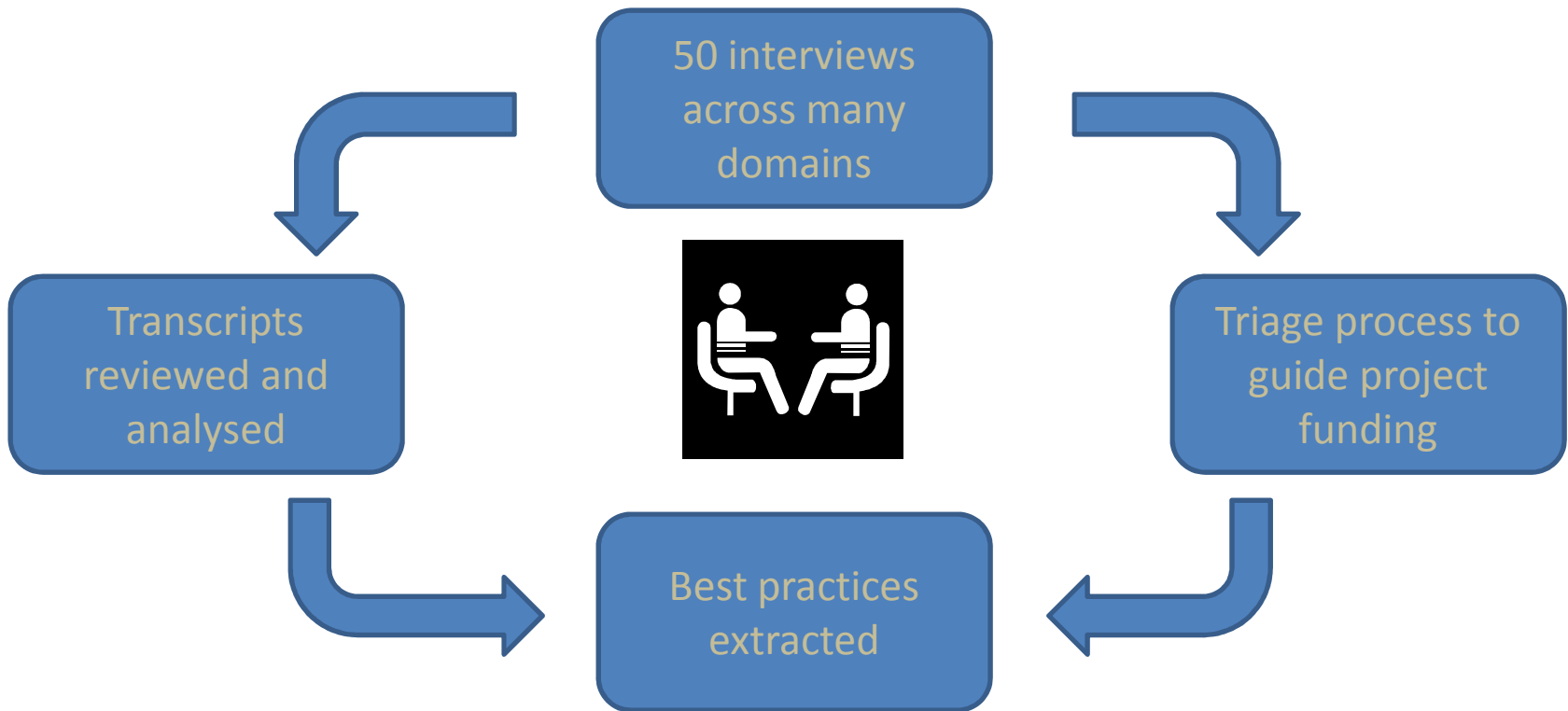
- OMII-UK's mission is to **cultivate** and **sustain community software** important to research



Facilitating mutual benefit between all participants

ENGAGE Initiative

How do scientists use computers?



Gateways: background and context

1. Used by many communities (lessons from Teragrid in US)
2. Researchers unversed in the complexities and formalities of the various middleware offerings can rapidly access EGI etc.
3. Rich collections of computational resources integrated within a portal tailored to a particular community's needs
4. Web now enables rich internet applications, DCI resources, workflows and vizualisation tools to be tightly but cleanly integrated with scientists' own specialist tools.

We propose to develop and refine a model that has a generic core that can be customized for specific domain communities that can provide access to DCIs.

EGI Science Gateways Initiative: concept

1. Establish and maintain a repository of reusable tools, plugins and components
2. Design and implement Science Gateways for science communities (across SSC,ESFRI etc.)
3. Rapidly assemble elements within repository to create new gateways
4. Collect, share and exploit knowledge and expertise

EGI Science Gateways Initiative: Benefits

- The knowledge and experience contained within the consortium will be exploited to identify, refine and link established components into community-focused portals and application suits
- The resulting gateways will provide access to profound computational capability, and an open architecture that is both flexible and extensible
- Empathetic user engagement model that can be refined and repeated across the EGI landscape as the EGI itself grows and develops.

Sustaining the DCI ecosystem

DCIs:

- inhabit a delicate and finely balanced ecosystem
- depend on technological foundations & user communities

The EGI Science Gateways Initiative will contribute to the sustainability of this ecosystem in three ways:

1. The science gateway lifecycle will be maintained
2. Essential gateway components will be cultivated, supported and maintained as appropriate
3. Knowledge and expertise will be captured and disseminated through repeated iterations

Science gateway lifecycle

