Sustainability of EMI Results

Morris Riedel (JUELICH)
Alberto Di Meglio (CERN)

EGI Technical Forum
Lyon, 19-24 September 2011
The European Middleware Initiative (EMI) project represents a close collaboration of the major European middleware providers - ARC, gLite, UNICORE and dCache - to **explore and implement sustainable models to support, harmonise and evolve the distributed computing and data management middleware** for deployment in EGI, PRACE and other distributed e-Infrastructures.
EMI Middleware Evolution

Before EMI

Applications Integrators, System Administrators
- Standard interfaces
- Specialized services, professional support and customization

3 years

EMI Reference Services
- Standard interfaces

After EMI

Standards, New technologies (clouds)
Users and Infrastructure Requirements

20/09/2011
EMI Sustainability
Complementary to Technology Strategies

• Understand and define ‘EMI value proposition’ far beyond the DCI space
• Sustainability: Inspire and confirm commitment from key stakeholders/users
• Adopt lesson learned from industry and successful open source models
• Contribute to open standards to enable re-use of EMI components ‘outside the DCI ecosystem’
• Expand usage ‘beyond traditional users’
Sustainability Drivers

- Expansion of the user base
- Decrease of costs
- Commercial activities
Examples: Open Source Models

Community model
Apache, Eclipse

Support contracts or Subscription model
Red Hat, Canonical

Dual-licensing or Commercial model
MySQL, Zarafa

Macro R&D Infrastructures model
EMI and other publicly funded projects (“unstable” future)

From Open Source to long-term sustainability: Review of Business Models and Case studies, Chang et al.
Open Source Models

Incubation in the right condition becomes

- Community model
- Support contracts or Subscription model
- Dual-licensing or Commercial model

Macro R&D Infrastructures model
• Specific concrete advice for an open source community
  – Clearly have an idea/plan what you offer; who would pay for this? What is the “EMI value”?
  – Identify active and strong team leaders – they are the key in the open source community
  – Stop “free” support model of today, it is an important income on support models (week, premium) to fund the core set of people

With thanks to Francois Lucatelli (~10 years in RedHat)
EMI Value for Technical Users

• A streamlined middleware distribution available from a well-defined place
  – Regularly published service releases
• Better integration with Fedora/EPEL (and compatible OSs) and Debian
• Open to external contribution
  – Source packages fully available
  – A single patch submission channel (GGUS)
EMI Value for End Users

• Stable middleware services delivered with standard Operating Systems
  – EMI products from different technical areas (compute, data, security, infrastructure) work seamlessly together, well tested
  – 10 years experience of ‘cutting edge HPC and HTC’

• Open Source model allows
  – More rapid and transparent improvement of quality; contributions from different sources
  – Value-added services from experts
  – Open competition brings better quality
EMI Value for EGI[-InSPIRE].eu

• Open, transparent software releases
  – EMI Inter-product ecosystem, well-tested
• Possibility to implement revenue streams from value-added professional services (support, customization, outsourcing) via commercial SLAs
• Possible involvement of commercial companies in the provision of services, thanks to the standard open source approach
Points to stimulate the discussions

• Scientific institutes miss the organizational structure and capabilities to ‘go business’
  – ‘Business-oriented legal departments’: patents, trust insurances, IPR issues
  – ‘Marketing departments’: influence $1000^x$ at the same time instead of $10-100$ per community
  – ‘Maintenance vs. research’: software stability vs. scientific innovation conflicts; different careers

• Two possibilities now
  – Institutes establish necessary departments/skills
  – Let commercial companies do support and focus on research
Next Steps

• Strategic planning (new NA3 work package)
  – Work plans in current deliverable and include new activities; also ‘products and scientific results’
  – ‘Change’ the way we work towards described models; implement initial ideas in project lifetime
  – Concrete EMI product factsheets of services including key usage models, maturity, etc.
  – Talk, but more important – listen – to the community; what they want; who would pay?
  – Align with the broader (scientific) community
  – EMI products in EPEL; case studies; ‘Works with EMI’, address ‘market’ (i.e. users) requirements...
Thank you

EMI is partially funded by the European Commission under Grant Agreement INFSO-RI-261611