omii europe

open middleware infrastructure institute

Project Overview

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Outline

- **OMII-Europe project overview**
- **Infrastructure integration (JRA3)**
  I. Common Security Infrastructure
  II. Infrastructure Integration
- **Discussion (GIN without TONIC)**

What is OMII-Europe?

- **EU funded FP6 project (Research Infrastructure)**
  - Starting May 2006, initial 2 year duration
  - 16 partners (8 European, 4 USA, 4 Chinese)
- **Open Middleware Infrastructure Institute for Europe**
  - Complimentary to existing national programmes (OMII-UK, NMI, C-OMEGA, OMII-China…)
- **Goal is to provide key software components for building e-infrastructures**
- **Project will demonstrate "proof of concept" with expectation for a follow-on project in FP7**

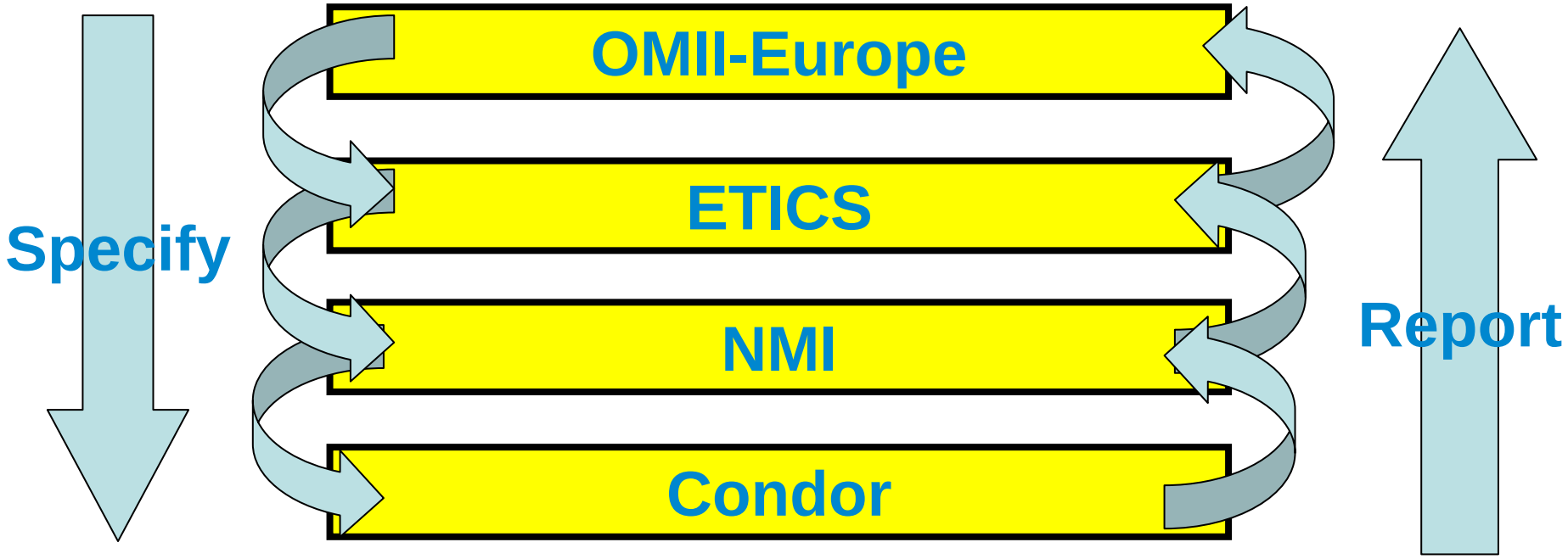
What will OMII-Europe do?

- **Initial focus on providing common interfaces and integration of major Grid software infrastructures**
- **Common interoperable services:**
  - Database Access, Virtual Organisation Management, Portal, Accounting, Job Submission and Job Monitoring
  - Capability to add additional services
- **Infrastructure integration**
  - Initial EGEE/UNICORE/Globus **interoperability**
  - **Interoperable** security framework

OMII-Europe guiding principles

- **Committed to standards process**
  - Implementing agreed open standards and working with standards process (GGF/Oasis)
- **Quality Assurance**
  - Published methodology and compliance test
  - All software components have public QA process and audit trail
  - Working with similar projects and organisations to agree policies
- **Impartiality**
  - OMII-Europe is “honest broker” providing impartial advice/information on e-infrastructures

Leveraging existing projects



What will OMII-Europe deliver?

- **Repository of open-source, quality assured software services for EGEE, Globus, UNICORE and CROWNgrid**
  - Some services bundled with major grid distributions
  - Initial integration work with EGEE, UNICORE and Globus
- **Public reports on grid infrastructures**
  - Initial benchmark results
  - Impartial advice and information
- **Evaluation infrastructure to “test” services**
  - User support and training for services

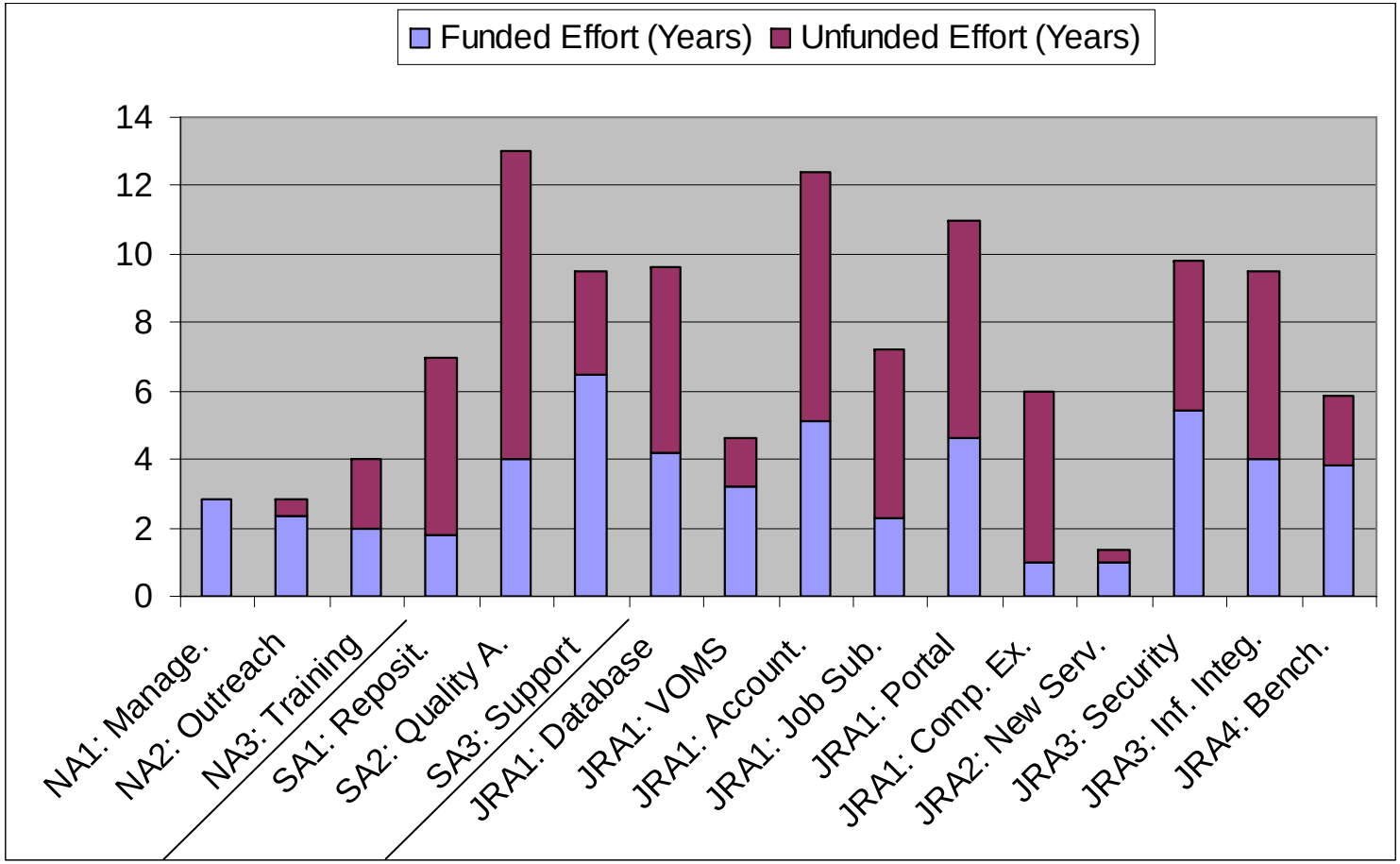
Who benefits from OMII-Europe?

- **E-infrastructure providers**
  - Choice of grid software to deploy can be determined by selecting the most appropriate system to manage resources.
  - Achieved through common interfaces and interoperability of grid systems
    - **Decisions not constrained by membership of a particular VO**
    - **Not required to deploy and manage multiple grid distributions**
- **E-science users**
  - Access to resources beyond the immediate e-infrastructure running a specific grid distribution
  - Achieved through low level interoperability of Grid distributions
    - **Users not restricted to a specific, fixed set of resources**
- **E-science application developers**
  - Applications can be deployed and run on multiple grid environments through adherence to common services
    - **Not required to develop different solutions for different grids**

Project Structure and Effort Allocation

- **Networking activities**
  - Management, Outreach, Training
  - 8% Person Effort
- **Service Activities**
  - Repository, QA, Support
  - 25% Person Effort
- **Joint Research Activities**
  - Re-engineering, new services, integration, benchmarking
  - 67% Person Effort

Effort (Person Years) per Activity



OMII-Europe Project Partners

114 person years over 2 years, 5 million Euro, 4 major Grid infrastructures

University of Southampton UK **(coordinator)**	University of Chicago **USA**
Fujitsu Laboratories Europe **UK**	NCSA, University of Illinois **USA**
Forschungszentrum Juelich **Germany**	University of Southern California **Los Angeles USA**
Kungl Tekniska Högskolan **Sweden**	University of Wisconsin-Madison **USA**
Istituto Nazionale di Fisica Nucleare **Italy**	Beihang University **China**
Poznan Supercomputing & Networking Center **Poland**	China Institute of Computing Technology **Beijing China**
University of Edinburgh **UK**	Computer Network Information Centre **Beijing China**
CERN, European Organisation for Nuclear Research **Switzerland**	Tsinghua University **China**

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EU project: RIO31844-OMII-EUROPE

OMII-Europe Vision

To demonstrate that interoperable Grids can be built from standards-compliant Web Services and to deliver a set of quality-assured services, sourced from open source repositories, able to be used on the principal Grid infrastructures in use in Europe today.

Common Security Infrastructure

- Common security base or ’profile’
- Where, when and how should ’profile’ be deployed? (JRA1)
- Other necessary security developments (auditing, privacy, accounting)?

- Credential managment for end-users (X.509+MyProxy+PURSE)
- Security infrastructure provisioning (MyProxy)
- Credential provisioning to applications (method and service interface)

Infrastructure Integration

Job exchange between gLite and UNICORE; primarily from gLite to UNICORE.

- Requirements analysis for a multi-platform Grid infrastructure
- Analyze atomic services, integrate in interoperability layer
- First a prototype, integrate atomic services
- Mature and harden basic platform focusing on robustness and resilience
- Get feedback, iterate towards final version of multi-platform Grid infrastructure
- Integrate into OMII-Europe framework

Common Security Infrastructure

Profile Philosphy

- Modular: update system by plugging in new modules
- Agnostic: remain indifferent of specific AuthN/AuthZ
- Standard: use standards, community effort to make them happen

Attributed to?

Different from architecture, but how?

Central Use Case