EMI
European Middleware Initiative

European Middleware Initiative – RI

Summary: The European Middleware Initiative brings together the major middleware providers in Europe – in particular ARC, gLite, UNICORE and dCache - to deliver a consolidated set of middleware components for deployment in EGI, PRACE and other Distributed Computing Infrastructures (DCIs); extend the interoperability between grids and other computing infrastructures; strengthen the reliability of services; and establish a sustainable model to maintain and evolve the middleware for the benefit of its user communities.

Objectives:

O1. Simplify and organize the different middleware services by delivering a streamlined, coherent, tested and standard-compliant distribution for the DCIs and their user communities.
O2. Increase the interoperability, manageability, usability and efficiency of the services by developing or integrating new functionality as needed.
O3. Support efficient, reliable operations of the DCIs by reactively and proactively managing the middleware distribution and providing users with increasingly user-friendly, stable, and scalable software
O4. Strengthen the participation and support for user communities in the definition and evolution of middleware services by promoting and obtaining feedback on EMI achievements and plans, and expanding the collaboration with national and international research agencies, scientific research programmes and commercial providers.

Action plan: EMI will work to lower the technological barriers still preventing resource owners from federating and simplifying the provision of resources, and research communities from using grids as a commodity tool in their activities. It will focus on improving usability and accessibility for scientific users and interoperability and manageability for service providers by seamlessly integrating existing stable and secure services with emerging dynamic computing models.

EMI will work closely with commercial software providers to make the middleware part of standard open-source distributions; it will work to define a similar business model for its product to increasingly exploit commercial opportunities.

Networking activities: EMI will implement a lively communication strategy with all its stakeholders via **NA2: Outreach and Collaborations**. This activity is responsible for dissemination, events, branding, training, collaboration programs, usability studies and relations with commercial partners. NA2 will organise the EMI website to provide interactive features which engage the visitor and at the same time collect feedback on the usefulness of the information provided.

Service activities: the EMI production releases and associated transition and support procedures are managed by **SA1: Maintenance and Support**. SA1 provides coordination of the EMI user support activities (3rd-level support), and is responsible for the reactive maintenance (software defects fixes) of the EMI services and components. SA1 works closely with **SA2: Quality Assurance** to implement and execute the release configuration management process, the acceptance criteria validation process and the correct application of Service Level Agreements. SA1 contributes to the dissemination

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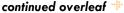tel.: +41 22 767 2389
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CSIC	ES
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GRNET	GR
INFN	IT
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NIIFI	HU
STFC	UK
SWITCH	CH
TCD	IE
TUD	DE
UCPH	DK
UH.HIP	FI
UIO	NO
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UU	SE
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EGI-InSPIRE, PRACE, EDGI, VENUS-C, Stratuslab, IGE

and training activities defined by NA2 by providing technical expertise, especially in the use of the project results by third-parties, such as users, system and service administrators, application developers and operating systems maintainers. **SA2** defines and monitors the software engineering and quality assurance process for all EMI engineers and developers and for external interested third parties. SA2 works in close relationship with the other technical Work Packages to make sure that the QA processes and procedures are shared, understood and applied by all members of the project. It has explicit endorsement from the EMI management to identify actual or potential issues and make sure that adequate corrective actions are taken by the development teams. SA2 works in collaboration with EGI (via the EGI SA2 - Middleware Unit Work Package and the MCB) and other DCIs technical personnel to identify and monitor acceptance criteria used to establish and enforce Service Level Agreements. SA2 is also responsible to coordinate the availability of testbeds for software build and test operations using resources provided by the project beneficiaries or with collaborating resource providers (NGIs, third-party projects, etc).

Joint Research activities: **JRA1: Middleware Development, Evolution and Integration**: is responsible for implementing the project development plans, by consolidating and standardizing the middleware components, performing proactive maintenance to improve reliability, performance and usability of components according to agreed requirements, and developing the new functionality required to achieve the project technical objectives. JRA1 is also responsible for defining and implementing the integration, interoperability and standardization specifications, receives overall technical guidance from the Project Technical Board and interacts with SA2 for the execution of the QA procedures.

User communities: EMI will continue to serve the user communities supported by the European DCIs and their international partners, and all the scientific communities that are currently using its middleware.
Furthermore, EMI will establish specific collaborations with the large scientific infrastructures within the ESFRI roadmap, by means of particular collaborating projects as well as targeted usability studies.

International aspects: EMI will maintain a close collaboration with non-European infrastructures like OSG and with the software providers delivering middleware (for example VDT) used on those infrastructures. Major collaborative initiatives in interoperability and standardization either directly or through established bodies like OGF will be put in place by EMI at the beginning, seamlessly inheriting expertise from EGEE, UNICORE and NorduGrid.