



EMI SA2: Quality Assurance (EMI-SA2 Work Package)

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WP Leader

Outline

- What is EMI SA2
 - Description
 - Objectives
 - Deliverables
- SA2 Project Setup
 - Organization
- SA2 and the other EMI WPs
- Discussion
- Preparation for the Plenary

EMI Objectives

Consolidate

- Consolidate the existing middleware distribution simplifying services and components to make them more sustainable (including use of off-the-shelf and commercial components whenever possible)

Evolve

- Evolve the middleware services/functionality following the requirement of infrastructure and communities, mainly focusing on operational, standardization and interoperability aspects

Support

- Reactively and proactively maintain the middleware distribution to keep it in line with the growing infrastructure usage

EMI SA2 Objectives

- Define and establish a common software quality assurance process and metrics for all engineering activities
- Allow the EMI middleware to consistently pass the customer acceptance criteria and continually improve the software quality and the process itself
- Monitoring metrics value trends, reviewing quality control activities and related tests, providing support and consultancy in QA matters
- Enable a continuous integration and testing process by selecting and maintaining tools and resources for building and testing software either within the project or in collaboration with external resource providers

SA2 Partners

- CERN - European Organization Nuclear Research
- CESNET - Czech Republic NREN
- CINECA - Consortium Italian Univ, CNR, Min.Research
- JUELICH - FZJ Supercomputing Centre, Jülich
- GRNET - Greek Research and Technology Network
- INFN - Istituto Nazionale di Fisica Nucleare
- TCD - Trinity College, Dublin
- UPJS - Pavol Jozef Safarik University, Kosice

SA2 Tasks

Description of Work and Partners

- **SA2.1 – Work Package coordination (Task leader: CERN, all partners participate to the meetings and reviews)**

This task deals with the regular coordination of the Work Package, reporting and review of milestones and deliverables.

- **SA2.2 – Quality Assurance Process Definition and Monitoring (Task leader: CERN. Participants: CINECA, INFN, UPJS)**

This task deals with the definition of a standards-compliant software engineering process and the continual activity of monitoring its correct application within the activities of the EMI project. The success criteria of this task are the availability of an agreed, documented and regularly updated process and the minimization of deviation in its application by the project members

SA2 Tasks

Description of Work and Partners

- **SA2.3 – Metrics and KPIs Definition and Reporting (Task leader: CERN. Participants: TCD)**

This task deals with the definition and continual collection and reporting of software quality metrics according to the A-QCM model or other suitable models. This task provides information to the Project Executive Board and other project decisional bodies on the status of the software as an instrument to take corrective actions. The success criteria of this task are the regular production of reports and their use to identify improvement areas.

- **SA2.4 – Tools and Repositories Selection, Maintenance and Integration (Task leader: CERN. Participants: CINECA, GRNET, INFN, UPJS)**

This task deals with the definition and when necessary maintenance of the tools required to support the QA process. The task includes any supporting activity to software providers to integrate required information to and from other tools maintained outside the EMI project. The task also include the setup and maintenance of repositories for storing the EMI software packages, tests, build and test reports and metrics generated during all software development activities within EMI.

SA2 Tasks

Description of Work and Partners

- **SA2.5 – QA Implementation Review and Support (Task leader: UPJS. Participants: CERN, INFN, TCD, UPJS)**

This task includes review activities of the QA, test and certification implementations done by the Product Teams, such as sample review of test plans and tests, compliance with packaging and porting guidelines, validation of documentation, etc. The task also includes supporting the Product Teams in effective design and implementation of tests to be used with testing tools such as ETICS. The success criterion for this task is the correct usage of tools and procedures by all project members to be measured by regular surveys and verifications

- **SA2.6 – Testbeds Setup, Maintenance and Coordination (Task leader: INFN. Participants: CERN, CESNET, FZJ)**

This task consists in the setup and maintenance of distributed testbeds for the project continuous integration and testing operations and the coordination and provision of larger-scale testbeds from collaborating resource providers. The success criteria for this task are the availability and reliability metrics of the execution nodes.

SA2 Deliverables

- **DSA2.1 - Quality Assurance Plan:** This deliverable contains the definition of the global software QA processes, procedures, roles and responsibility and the related metrics and measurement methodologies. **[M1]**
- **DSA2.2.1 - QA Tools Documentation:** This document describes the software engineering tools and the repository management systems provided by SA2 to EMI and third-party users. This document is updated and revised regularly **[M2]**
- **DSA2.4 - Continuous Integration and Certification Testbeds:** This document describes the distributed certification testbeds for internal and acceptance certification and its access and usage requirements **[M3]**
- **DSA2.2.2 - QA Tools Documentation:** This document describes the software engineering tools and the repository management systems provided by SA2 to EMI and third-party users. This document is updated and revised regularly **[M10]**
- **DSA2.2.3 - QA Tools Documentation:** This document describes the software engineering tools and the repository management systems provided by SA2 to EMI and third-party users. This document is updated and revised regularly **[M22]**

SA2 Deliverables

Periodic QA Report

- **DSA2.3.1 - Periodic QA Reports:** A report on the compliance with and results of the quality assurance process is produced monthly by the activity manager and is reported every twelve months to the EC [M3]
- **DSA2.3.2 - Periodic QA Reports:** A report on the compliance with and results of the quality assurance process is produced monthly by the activity manager and is reported every twelve months to the EC [M12]
- **DSA2.3.3 - Periodic QA Reports:** A report on the compliance with and results of the quality assurance process is produced monthly by the activity manager and is reported every twelve months to the EC [M24]
- **DSA2.3.4 - Periodic QA Reports:** A report on the compliance with and results of the quality assurance process is produced monthly by the activity manager and is reported every twelve months to the EC [M36]

SA2 Milestones

Milestone name	Lead beneficiary number	Delivery date from Annex I ⁶⁰	Comments
MSA2.1 - Software development tools and software repositories in place	1	1	The early availability of QA tools for all project activities is required to have an efficient engineering process rapidly in place. This has to be used as the basis for the alignment of processes
MSA2.2 - Continuous integration and certification testbeds in place	1	3	The early availability of the internal continuous integration and certification testbeds is critical to implement the QA process.
MSA2.3 - Large-scale acceptance certification testbeds are in place	1	6	The large-scale testbeds are necessary to perform acceptance, interoperability and scalability tests
MSA2.4 - Software development tools aligned across activities, partners and middleware stacks	1	12	After a transition period all project must be aligned on the same procedures and tools.

SA2 KPIs

KSA2.1	SA2	Services Reliability	% uptime dependent on the services themselves (individual KPIs for test beds, repository, etc)	Participating monitoring tools	sites	99.9%
KSA2.2	SA2	Services Availability	Total % uptime including underlying suppliers (individual KPIs for test beds, repository, etc)	Participating monitoring tools	sites	97%

SA2 KPIs

KSA2.3	SA2	Distributed Testbed Size	Number of CPUs available for distributed testing through collaborations with external providers (NGIs, sites, commercial providers, other projects, etc)	Participating sites monitoring tools	Year 1: 50 CPUs Year 2: 200 CPUs Year 3: 500 CPUs
KSA2.4	SA2	Number of key process assessments	A process assessment is a periodic exercise to evaluate the efficiency of a process and identify weaknesses and areas for improvements	Periodic reports	One per year for the major processes (Release, Change, Problem), results to be reported in the QA report to be submitted at the end of every year).

SA2 KPIs

KSA2.5

SA2	Number of weaknesses detected and addressed: related to the assessment	A measure of how many of the weaknesses identified in the periodic assessments are addressed and their impact on the process efficiency	Periodic reports	One per year for the major processes (Release, Change, Problem), results to be reported in the QA report to be submitted at the end of every year for the preceding year assessment).
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KSA2.6

SA2	Number of Support Requests	Number of user request/tickets per quarter (categorized by services or type of request) for the SA2 services (tools and testbeds)	GGUS report or query, internal support tracker	Within QA Plan and agreed Operational level Agreements with the other WPs
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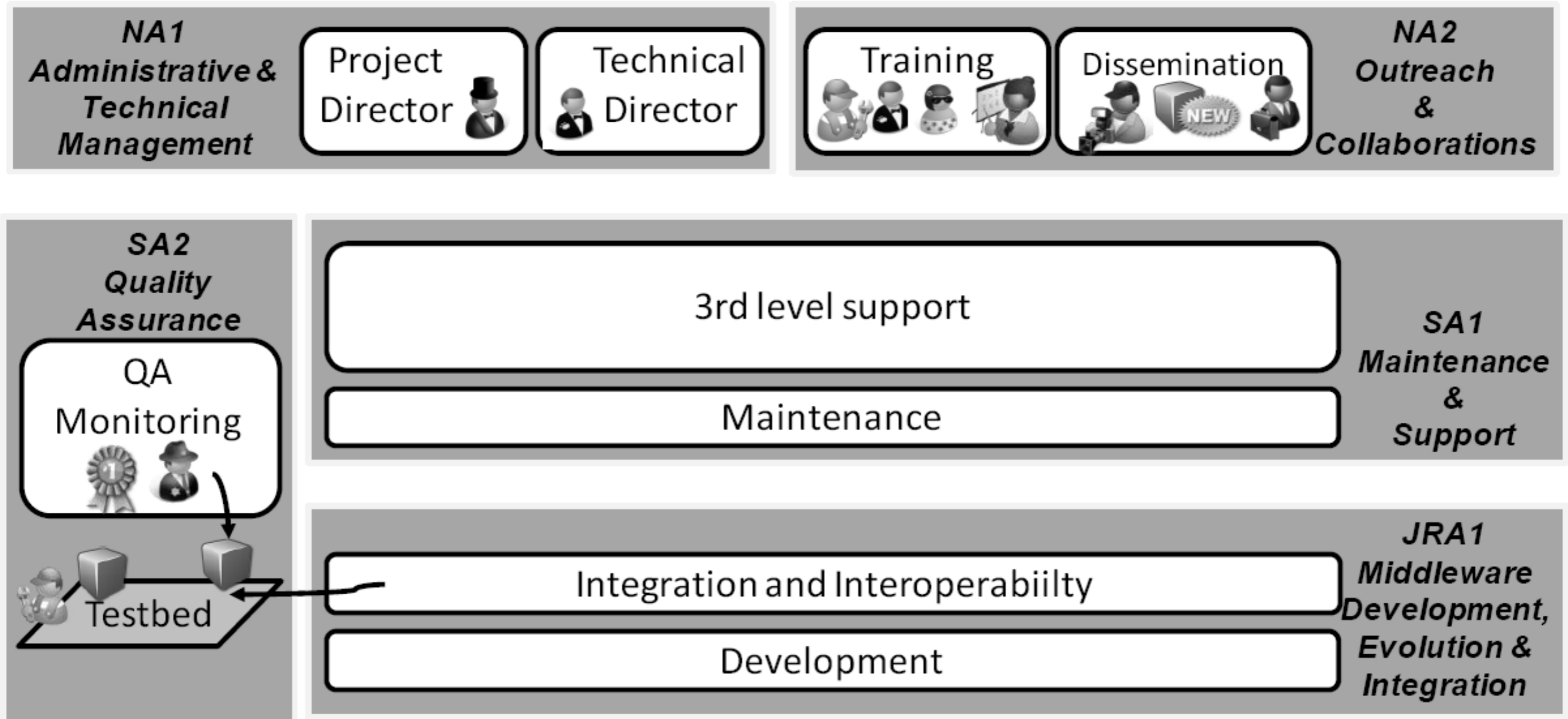
KSA2.7

SA2	Average Support Response Time	Average time to respond to a request/ticket: time to the first reply to the user (to see reaction	GGUS report or query, internal support tracker	Within QA Plan and agreed Operational level Agreements with the other WPs
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SA2 KPIs

KSA2.8	SA2	Average Support Request Life Time	Average life time of a request/ticket: time from start to end of a ticket (to see time needed to close the tickets, categorized by tickets types)	GGUS report or query, internal support tracker	Within QA Plan and agreed Operational level Agreements with the other WPs
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SA2 and Other Activities



SA2 Internal

SA2 Internal Wiki - Repository of the project

<https://twiki.cern.ch/twiki/bin/view/EMI/SA2-internal>

Nothing secret, but is not linked from outside

Could be made public

Internal documents, work in progress, meeting minutes, etc

Mailing lists, bug tracker, project management tool?

ITIL terminology for Services, SCRUM for development?

Weekly Meetings (Wednesday 10:30?)

Prepared in advance with a short summary of progress and issue

Minutes available meeting page

CERN audio conf. Everybody should participate will be a phone meeting

Action List specific to EMI SA2 Maintained in the Wiki?

Indico category for EMI SA2 meetings

Topics

FOR THE PRODUCT TEAMS

- Repository
- Platforms, virtual images
- Testbed(s) and worker nodes
- Build tools
- Tests tools
- Development tools and metrics
- Bug tracking, tickets systems
- Documentation tools
- QA metrics (ISO 9128)
- QA Tools
- QA processes

- Other Infrastructure (?)
- Processes and procedures

- SLA Agreements, acceptance criteria
- Reports and Reviews
- Monitoring
- Releases

IN ADDITION FOR SA2

- Planning, mgmt
- Organisation
- Wiki internal
- Public Wiki
- Users Support
- User feedback
- EGI contact, other customers
- Contacts, discussion with PTs
- Deliverables and Milestones

Next Steps

Discuss priorities (topic by topic)

Prepare a Service Catalogue

Setup infrastructure (wiki, tools)

Assign responsibilities

Prepare plans for each SA2 services

Provide initial imperfect solutions soon?

General plan for all SA2

Work in parallel

Maybe 2 meetings per week? Wedn and Fri?

What, who, where

MAIN URGENT Topics

FOR THE PRODUCT TEAMS

- **Repository**
- **Platforms, virtual images**
- **Testbed(s) and worker nodes**
- **Build tools**
- **Tests tools**
- Development tools and metrics
- **Bug tracking, tickets systems**
- Documentation tools
- **QA metrics**
- **QA Tools**
- QA processes
- Infrastructure (?)
- Processes and procedures

- SLA Agreements, acceptance criteria
- Reports and Reviews
- Monitoring
- Releases

IN ADDITION FOR SA2

- **Planning, mgmt**
- **Organization**
- **Wiki internal Public Wiki**
- **Users Support**
- User feedback
- EGI contact, other customers
- Contacts, discussion with PTs
- **Deliverables and Milestones**
DSA2.1, DSA2.2, MSA2.1,
MSA2.2



European Middleware Initiative

Thank you