



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

Alberto Aimar (CERN)

WP Leader

Outline

EMI SA2 Summary

- Objectives and Tasks

- Deliverables and Milestones

SA2 Setup

- Organization

SA2 and the other EMI WPs

- Services and Tools

Next Steps

- Issues and concerns

- Plans for Q1st quarter, deliverables, milestones, events/meetings to organise/ participate

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

EMI SA2 Objectives

1. Define and establish a **common software quality assurance process and metrics** for all engineering activities
2. Allow the EMI middleware to consistently pass the **customer acceptance criteria** and continually **improve the software quality and the process itself**
3. Monitoring **metrics** value trends, **reviewing quality** control activities and related tests, providing **support and consultancy in QA matters**
4. 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 Tasks

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)

Definition of a standards-compliant software engineering process
Continual activity of monitoring its correct application within the activities of the EMI project.

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

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

Definition and continual collection and reporting of software quality metrics according to suitable QA models.

Provides information to the PEB and other project bodies on status of software as an instrument for corrective actions.

Success criteria are the regular production of reports and their use to identify improvement areas.

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

Definition and when necessary maintenance of tools required to support the QA process.

Support software providers to integrate required information to and from tools maintained outside the EMI project.

Setup and maintenance of repositories for storing EMI software packages, tests, build and test reports and metrics generated during all software development activities within EMI.

SA2 Tasks

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

Review activities of QA, test and certification implementations done by the Product Teams

Sample review of test plans and tests, compliance with packaging, porting guidelines, validation of documentation, etc.

Support Product Teams in effective design and implementation of tests to be used with testing tools such as ETICS.

Success criterion for is the usage of tools and procedures by all project members to be measured by surveys and verifications

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

Setup and maintenance of distributed testbeds for the project continuous integration and testing operations

Coordination and provision of larger-scale testbeds from collaborating resource providers.

Success criteria for this task are the availability and reliability metrics of the execution nodes.

SA2 Deliverables

DSA2.1 - Quality Assurance Plan: 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: 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: Describes the distributed certification testbeds for internal and acceptance certification and its access and usage requirements **[M3]**

DSA2.2.2 - QA Tools Documentation: Describes the software engineering tools and the repository management systems provided by SA2 to EMI and third-party users. Updated and revised regularly **[M10]**

DSA2.2.3 - QA Tools Documentation: Describes the software engineering tools and the repository management systems provided by SA2 to EMI and third-party users. **[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%
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).
------------	--	---	------------------	---

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
------------	----------------------------	---	--	---

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
------------	-------------------------------	---	--	---

SA2 Internal

- SA2 Internal Wiki - Repository of the WP

Nothing secret, but is not linked from outside, could be made public

Internal documents, work in progress, meeting minutes, etc

- Mailing lists (all and by service contacts)
- Bug tracker, project management tool
- ITIL for Services, SCRUM for development, ISO for QA
- Weekly Meetings (Wednesday 10:30?)

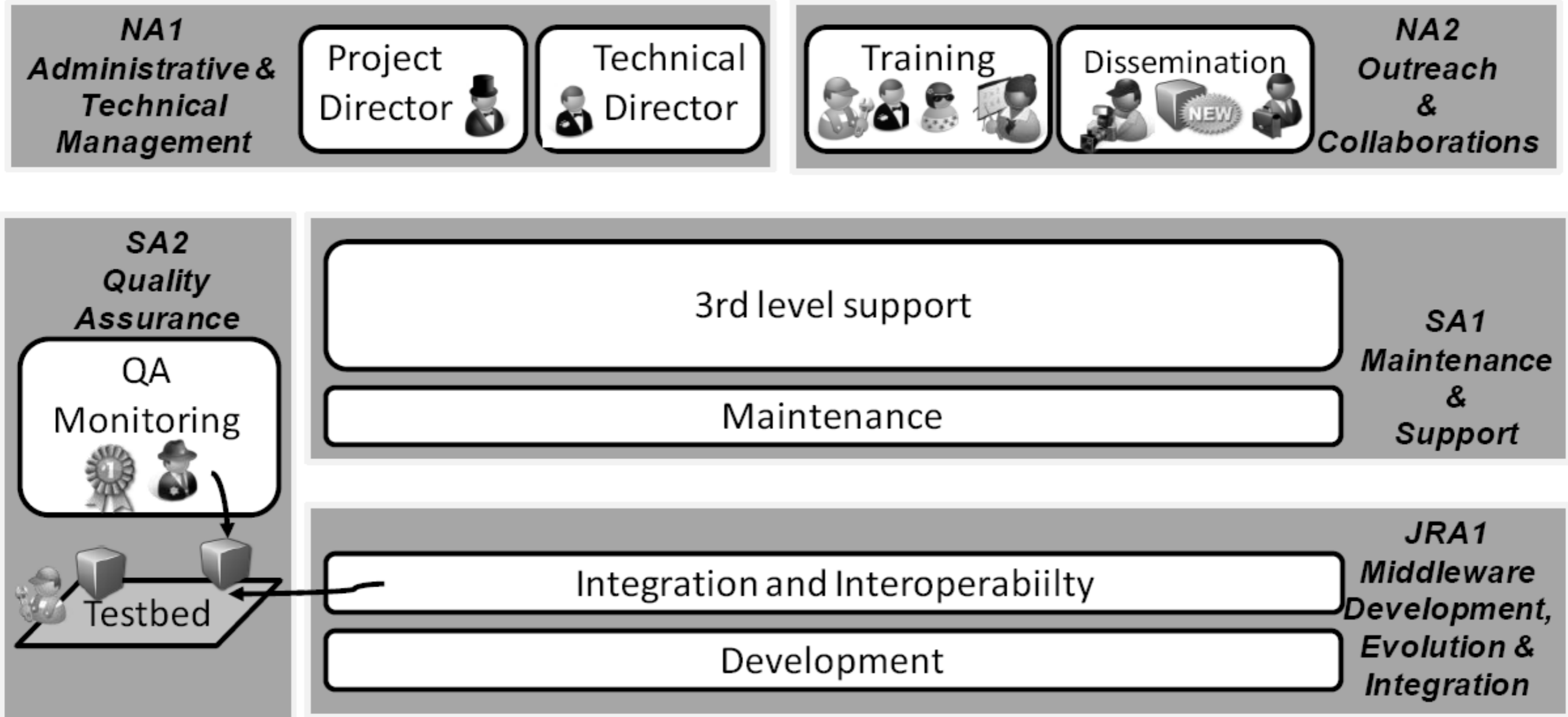
Prepared in advance with a short summary of progress and issue

Minutes available on the 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
(or what will be set by NAX)

SA2 and Other WPs



Many 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

Q1 Plans

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

Q1 Plans

Deliverables and Milestones

DSA2.1 - Quality Assurance Plan: 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: 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]**

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.

Q1 Plans

Next Steps

Discuss priorities (topic by topic)

Setup infrastructure (wiki, tools)

Assign responsibilities within SA2

Prepare plans for each SA2 Services

Prepare a Service Catalogue

Provide initial tools and services ASAP

Provide initial documentation ASAP

Constant interaction with PTs for tools and services

→ Need contacts with the PTs (via area QA representatives)

→ Via the SA2 members near the PTs (ARC, gLite, UNICORE)

→ Start ASAP, phone conf on specific topics (SA2, then Area reps)



European Middleware Initiative

Thank you