

# EUROPEAN MIDDLEWARE INITIATIVE

## REVIEW ON THE SOFTWARE RELEASE SCHEDULE

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**Abstract:**

This document describes the status and performance of the quality control task with details on the availability and execution of regression tests for the supported EMI components, the test unit availability and coverage and various static and dynamic metrics on released components.

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## 1. INTRODUCTION

### 1.1. PURPOSE

The Quality Control (QC) verifies the application of Quality Assurance (QA) processes and procedures and, through the execution of period reviews, reports the status and performance of the SA1 work. Quality Control report is meant to provide an aggregated view of quality inspection results and performance measurements, and to highlight which changes are necessary to correct anomaly or nonconformity discovered during the review. The change requests are submitted to the QA board that, on the base of project's priorities, determines which can be approved and then applied, which require further evaluations and which are discarded.

### 1.2. REFERENCES

<b>R1</b>	<b>Quality Assurance Plan</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA21">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA21</a>
<b>R2</b>	<b>Quality Assurance Metrics</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/TSA23">https://twiki.cern.ch/twiki/bin/view/EMI/TSA23</a>
<b>R3</b>	<b>Quality Assurance Wiki Page</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SQAP">https://twiki.cern.ch/twiki/bin/view/EMI/SQAP</a>
<b>R4</b>	<b>Software Release Plan</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA12">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA12</a>
<b>R5</b>	<b>Software Maintenance and Support Plan</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA11">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDSA11</a>
<b>R6</b>	<b>Technical Development Plan</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDNA131">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDNA131</a>
<b>R7</b>	<b>Release Management Wiki Page</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/TSA13">https://twiki.cern.ch/twiki/bin/view/EMI/TSA13</a>
<b>R8</b>	<b>Configuration and Integration guidelines</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2ConfigurationIntegrationGuidelines">https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2ConfigurationIntegrationGuidelines</a>
<b>R9</b>	<b>Certification and testing guidelines</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2CertTestGuidelines">https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2CertTestGuidelines</a>
<b>R10</b>	<b>Change management guidelines</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2ChangeManagementGuidelines">https://twiki.cern.ch/twiki/bin/view/EMI/EmiSa2ChangeManagementGuidelines</a>
<b>R11</b>	<b>DSA2.2.1 - QA Tools Documentation</b> , <a href="https://twiki.cern.ch/twiki/bin/edit/EMI/DeliverableDSA221?topicparent=EMI.EmiDeliverables;nowysiwyg=1">https://twiki.cern.ch/twiki/bin/edit/EMI/DeliverableDSA221?topicparent=EMI.EmiDeliverables;nowysiwyg=1</a>
<b>R12</b>	<b>Certification report Template</b> , <a href="https://twiki.cern.ch/twiki/bin/edit/EMI/EMICertificationReportTemplate">https://twiki.cern.ch/twiki/bin/edit/EMI/EMICertificationReportTemplate</a>
<b>R13</b>	<b>Software Verification and Validation Template</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SoftwareVerAndValTemplate">https://twiki.cern.ch/twiki/bin/view/EMI/SoftwareVerAndValTemplate</a>
<b>R14</b>	<b>Quality Control Report PM6</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SA1QC6">https://twiki.cern.ch/twiki/bin/view/EMI/SA1QC6</a>
<b>R15</b>	<b>Software Quality Assurance Plan Documentation</b> , <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SQAP#SQAP_Documentation">https://twiki.cern.ch/twiki/bin/view/EMI/SQAP#SQAP_Documentation</a>
<b>R16</b>	<b>Firs Principles Vulnerability Assessment</b> , <a href="http://www.cs.wisc.edu/mist/VA.pdf">http://www.cs.wisc.edu/mist/VA.pdf</a>
<b>R17</b>	<b>Review of the Software Release Plan</b> ,

	<a href="https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSRP">https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSRP</a>
<b>R18</b>	<b>Review of the Software Release Schedule,</b> <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSRS">https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSRS</a>
<b>R19</b>	<b>Review of the Software Maintenance and Support Plan,</b> <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSMSP">https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSMSP</a>
<b>R20</b>	<b>Review of the Security Assessments,</b> <a href="https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSA">https://twiki.cern.ch/twiki/bin/view/EMI/SA1QCRSA</a>

## DOCUMENT AMENDMENT PROCEDURE

This document can be amended by the authors further to any feedback from other teams or people. Minor changes, such as spelling corrections, content formatting or minor text re-organisation not affecting the content and meaning of the document can be applied by the authors without peer review. Other changes must be submitted to peer review and to the EMI PEB for approval.

When the document is modified for any reason, its version number shall be incremented accordingly. The document version number shall follow the standard EMI conventions for document versioning. The document shall be maintained in the CERN CDS repository and be made accessible through the OpenAIRE portal.

## 1.3. TERMINOLOGY

<b>ABI</b>	Application Binary Interface
<b>API</b>	Application Programming Interface
<b>CDS</b>	CERN Document Server
<b>DCI</b>	Distributed Computing Infrastructure
<b>DMSU</b>	Deployed Middleware Support Unit
<b>EGI</b>	European Grid Infrastructure
<b>EMT</b>	Engineering Management Team
<b>ETICS</b>	eInfrastructure for Testing, Integration and Configuration of Software
<b>FPVA</b>	First Principles Vulnerability Assessment
<b>GGUS</b>	Global Grid User Support
<b>ITIL</b>	IT Infrastructure Library
<b>KPI</b>	Key Performance Indicator
<b>kSLOC</b>	Kilo Source Lines Of Code
<b>MCB</b>	Middleware Coordination Board
<b>NGI</b>	National Grid Initiative



EUROPEAN MIDDLEWARE INITIATIVE

<b>PEB</b>	Project Executive Board
<b>PTB</b>	Project Technical Board
<b>QA</b>	Quality Assurance
<b>QC</b>	Quality Control
<b>RfC</b>	Request for Change
<b>SLA</b>	Service Level Agreement
<b>SQAP</b>	Software Quality Assurance Plan
<b>SU</b>	Support Unit

## 2. EXECUTIVE SUMMARY

Performing Quality Control is specifically concerned with monitoring work results to see whether they comply with the standards set out in the SQAP defined in SA2 [R1]. Operating throughout the project, it aims to identify and remove the causes of unacceptable results from a product and a release schedule perspective. Basically, all the releases of EMI components need to satisfy well-defined certification and validation criteria before being included in a stable EMI distribution, sufficient to guarantee to a high degree of confidence that all EMI products meet the requirements set by our direct customers and that no regression is introduced in the software code.

At the time of writing (PM6) there is no official EMI release available and no real measurements and checks can be effectively collected or executed. Nevertheless, the change requests present in the following paragraphs are intended to be effective and for each of them a response, according to the review procedures established in the SQAP, is expected. The change requests, corrective and preventive, can contribute to the improvement of the project quality and should be noted in the project's documentation for ensuring their traceability.

### 2.1. REVIEW OF THE SOFTWARE RELEASE SCHEDULE

The Review of the Software Release Schedule should check that the priorities of the project are taken into account and reflected in the scheduled releases.

The Software Release Schedule is accessible at [R4].

#### 2.1.1 Preamble on the EMI-0 release

According to the DoW, the first EMI release (EMI-1) will be delivered in March 2011. The product teams are currently working on an “exercise” release designed to understand how to apply the agreed procedures, find any problem about tools and processes and in general fine tune the EMI software engineering process before the EMI-1 release. The outcome of this exercise release, called EMI-0, is not expected to be made available to external users. Its main goal is to prepare a consistent, coherent repository of non-conflicting packages by the end of October 2010 without any specific commitment on functionality. For further information about the status of the EMI-0 release, please refer to [R7].

#### 2.1.2 Input

##### Checklists

- *Checklist for the Review of the Software Release Schedule [R19].*

##### Metrics

- *Delay on the release schedule (ID: DELAYONTHERELEASE).*

##### Approved change requests

- *No previous approved changes defined for this review.*

##### Deliverables

- *Software Release Schedule [R15], [R4].*

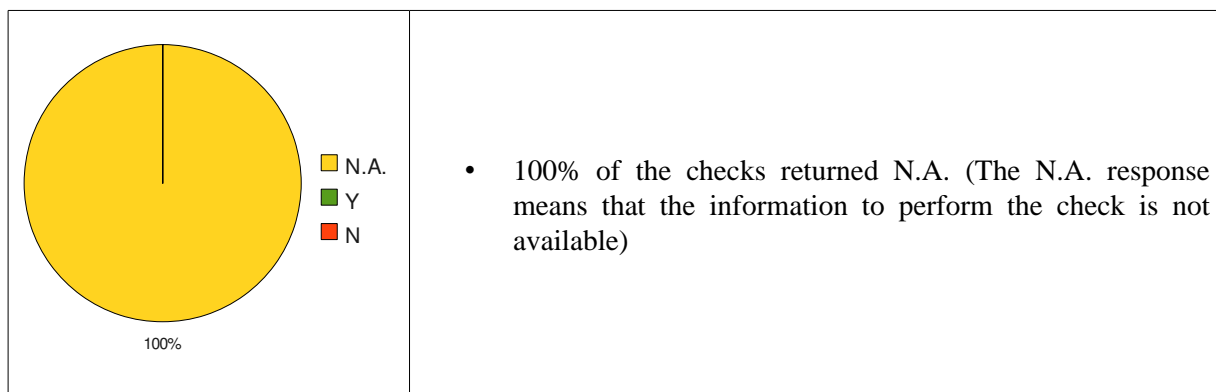


### 2.1.3 Output

#### Completed Checklist

Check Number	Question	Response
1	Has the previous schedule been kept?	N.A.
	see [R4], par. 4.6	
	see [R7]	
2	Does the new schedule take into account what wasn't accomplished in the previous schedule?	N.A.
	see [R7]	
3	Is the new schedule aligned to the Software Development Plan and the priorities of the project?	N.A.
	see [R6]	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA111">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA111</a>	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA121">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA121</a>	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA131">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA131</a>	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA141">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA141</a>	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA151">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA151</a>	
	see <a href="https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA161">https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDJRA161</a>	

Table 1: Review the Software Release Schedule (N.A. = Not Available)



#### Measurements

In the following, the metrics list defined for this review is reported.

<b>ID</b>	DELAYONTHERELEASE
<b>Name</b>	Delay on the release schedule
<b>Description</b>	This metric could be provided as a histogram showing the delay time (in days) for each release, weighted using the release time
<b>Unit</b>	$(\text{release delay})/(\text{release time}) * 100$
<b>Measurement</b>	N.A.
<b>Thresholds/target value</b>	Ideally the release deadlines should be always met, leading to 0 delays for each release. Proper thresholds have to be defined. The trend of the delays over time could provide useful hints for process optimization.
<b>Comment</b>	The first EMI release will be made available at the end of March 2011 and thus no measurements can be collected for this metric.

**Table 2: Delay on the release schedule – Metric**

### Comments

The table below reports specific comments on the check results.

Check Number	Question
1	Since no EMI components have been release yet, the check cannot be performed. The information that is necessary to make the comparison is not available.
2	It is not clear how changes or modifications across different releases are tracked, for instance to verify that what was not accomplished in previous releases has been included in the release under review. The adoption of a change tracking system is strongly encouraged.
3	In the Technical Development Plan [R6] and in the various sub plans, there is no evidence of the development road-map. GANTT charts or progress tables will certainly help the Quality Control activity in elaborating more accurate review. At the moment only sparse pieces of information, scattered among various paragraphs, are available. In some cases the reported information is too vague (i.e. expression like "during the first year") making the execution of check difficult to perform. Moreover, even when deadlines are mentioned, there is no reference to any official document that might consent the QC to verify that those deadlines are met or not.

**Table 3: Review the Software Release Schedule - Comment**

As mentioned before, starting from the next review, the information needed to perform review's checks will be **exclusively** collected from the Software Release Schedule and no other information sources, or external documents, will be considered. Each QC review should also refer to a specific version of the Software Release Schedule to avoid that any non-documented change to the plan could invalidate the review outcomes.

### Validated changes

There are no previous change requests that require to be validated for this review.

### Validated Deliverables

None.

### Variations from previous review

There are no variations to report from the previous review.

### Change requests

The list of the changes suggested/requested for this report follows:

- *to make the review more effective, **define** the tolerance range of positive checks for considering the associated EMI deliverables accepted. If the results fall within the range, the deliverable is accepted. Alternatively, the deliverable might be rejected because it does not meet the quality standards set for the project;*
- to facilitate the tracking of changes across different releases, it is strongly encouraged the adoption of a change management system to track changes life-cycle (see comment n. 2).