EUROPEAN MIDDLEWARE INITIATIVE

DNA2.2.3 - TRAINING PLAN

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Abstract:
This document presents the EMI training plan including the types of training, the training targets, the organization of training events, and the expected collaboration with other projects.

I. DELIVERY SLIP

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II. DOCUMENT LOG

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III. DOCUMENT CHANGE RECORD

Issue	Item	Reason for Change
1		
2		

IV. 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-organization not affecting the content and meaning of the document can be applied by the authors without peer review. Other changes must be submitted for 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.

V. GLOSSARY

Acronym	Long Name
CDS	CERN Document Server
CERN	European Organisation for Nuclear Research
EGI	European Grid Infrastructure
EGI-CF	EGI Community Forum
EGI-TF	EGI Technical Forum
EMI	European Middleware Initiative
EMI-1	EMI Middleware release version 1
EMI-2	EMI Middleware release version 2
EMI-3	EMI Middleware release version 3
NA2	Networking Activity 2: Outreach and Collaborations
NGI	National Grid Initiative
OGF	Open Grid Forum
PEB	Project Executive Board
QA	Quality Assurance
SA2	Service Activity 2: Quality Assurance
VRC	Virtual Research Community (within EGI)

The complete EMI glossary is available at https://twiki.cern.ch/twiki/bin/view/EMI/EmiGlossary .

VI. COPYRIGHT NOTICE

TABLE OF CONTENTS

1. INTRODUCTION

1.1. EXECUTIVE SUMMARY

<High-level summary of the content of this document. It should provide the reader with enough information about the most important elements of its content in the same order as they appear in the rest of the document.>

1.2. PURPOSE AND SCOPE

This document presents the second year update on the training activities for the European Middleware Initiative with respect to the previous Training Plans DNA2.2.1 (M6) [R1] and DNA2.2.2 (M18) [R2] and includes an updated plan for the remainder of the project.

1.3. DOCUMENT ORGANIZATION

This document is organized as follows:

Chapter 1 Introduction: this chapter includes the executive summary, purpose, scope and organization of the document.

Chapter 2 Training Strategy: this chapter describes the overall strategy of the EMI training activities.

Chapter 3 Status Report on Training Plan: this chapter outlines the progress over the last year in line with the plans set out in the previous training plan DNA2.2.2.

Chapter 4 Measuring Success and Metrics: this chapter discusses the outcome of the training activities and measures progress against the stated metrics. It also looks at the breath of coverage of the training activities in terms of the EMI products covered.

Chapter 5 Future Plans: this chapter outlines plans for further training activities up to and beyond the life-time of the project.

Chapter 6 Conclusions: a brief description of the outcome, consequences or further work to be done beyond the work described in the document.

Chapter 7 References: articles, books, papers and other materials cited in this document.

2. TRAINING STRATEGY

As outlined in the description of work, NA2 will coordinate a comprehensive training program organized in three main levels:

- training and knowledge transfer activities within the EMI project itself or "in-reach"
- user training on EMI technologies for a wider audience
- on-line training courses and self-paced training activities

The EMI project aims to coordinate and integrate several different middleware products to produce a unified European middleware distribution. This makes training and knowledge transfer potentially more complicated than might be the case in other projects focused on a single product. There are a total of 29 distinct product teams, managing roughly 100 components in the project. Each team works on their own software, but also has a need to understand the interactions with a range of other products developed in other product teams.

The Technical Knowledge Management task in EMI NA2 must, therefore, not only focus on training end-users of the software, but a significant effort must be put into in-reach, or knowledge transfer within the project, in order to ensure that the developers understand how their software will interact with the applications from other product teams and other middleware solutions.

User training in EMI aims both to increase the user base of the EMI product suite and to train existing users, introducing new features and increasing the depth of their knowledge of the products. It therefore incorporates induction level courses and materials aimed at new users as well as more in-depth training. All materials produced must be kept up-to-date to ensure that users can update their skills when new versions of software are made available. Training sessions will include hands-on workshops as well as lectures and presentations.

It should be noted at the outset that the training effort within the EMI project is not particularly large by comparison with projects such as EGEE in the past. It is not envisaged, therefore, that EMI will directly run a significant amount of user training.

Instead, NA2 will coordinate training activities, and facilitate technical areas in organising their own training activities. NA2 will also edit and publish training materials to the wiki and website based on materials supplied by the technical areas.

All project partners should aim to have an involvement in training, whether that takes the form of participating in in-reach discussions, giving formal talks and training workshops to project members or end-users, or production of manuals and training materials which can be adapted by the NA2 work package to form part of the repository of self-paced on-line training materials. Apart from this, good documentation of the products itself are expected to be provided by the product teams of EMI.

At the same time, NA2 will pursue collaborations with other projects and leverage the training resources of projects such as EGI (and through them the National Grid Infrastructure (NGI) of each partner country), Schools of Computing, User Communities and others to run training on the EMI middleware. To facilitate this, NA2 will publish training materials to public repositories and encourage other projects to make use of these.

2.1. USERS

User training for EMI needs to consider two main categories of users

- End users – researchers and members of the scientific communities who will use resources running the EMI middleware to do their jobs

- Technical users – technical experts within the user communities, site managers and system administrators who manage infrastructures running EMI software, and application developers writing software which relies on EMI middleware components

The main focus will be on this second category of users. This decision has been taken due to practical constraints (it is simply impossible for EMI to undertake to train all user communities due to the limited training resources available) and because it is the application developers, system administrators and site managers who are seen as the main customers of EMI, due to its nature as a middleware provider for distributed computing infrastructure.

It is envisaged that the wider user community will be reached through the project's collaborations with other partners. For example EGI has a role in coordinating training across the NGIs and has developed a programme of accredited Virtual Research Communities (VRCs) who are the scientific communities using the EGI infrastructure, and EMI will work with EGI to ensure that the training which is provided to these users meets our aims.

2.2. GOALS

The main goal of EMI training activities is to enlarge the base of expert developers and engineers knowledgable in EMI technologies through comprehensive training programs and materials. It is translated to the following tangible objectives:

1. Produce training materials and resources for the EMI product suite based on the documentation produced by the product teams, at the same time changing the granularity of training from "middleware training" to "product training"

2. Facilitate knowledge transfer within the EMI project by coordinating in-reach events and producing in-reach training materials

3. Run a limited number of user-training events, focused mainly on communicating changes in the middleware to the application developer, system administrator and site manager communities

4. Disseminate EMI training materials to trainers within the user communities such as EGI and the VRCs, and collaborate with external projects to have the EMI products included in their training activities

3. STATUS REPORT ON TRAINING PLAN

3.1. IN-REACH TRAINING

3.1.1 Third In-reach Training Session

3.1.2 Fourth In-reach Training Session

3.2. RESOURCE ADMINISTRATOR, APPLICATION DEVELOPER AND END-USER TRAINING

3.2.1 EGI Community Forum / EMI Technical Conference 2012

3.2.2 GridKa School 2012

3.2.3 EGI Technical Forum 2012

3.3. SUMMARY OF FEEDBACK RESULTS

Training Session	Event	Location	Date	Feedback rating
Overall Average Feedback Score				

Table 1: In-reach Training Average Feedback Scores

Training Session	Event	Location	Date	Feedback rating
Overall Average Feedback Score				

Table 2: User Training Average Feedback Scores

3.4.   ONLINE DOCUMENTATION AND TRAINING MATERIALS

3.4.1   Documentation

3.4.2   Online Tutorials

3.4.3   EMI website

3.4.4   FutureGrid

3.4.5   Remote Tutorials

3.5.   TRAINING COLLABORATIONS

3.5.1   European Grid Infrastructure

3.5.2   GridKa School

3.5.3   FutureGrid

3.6.   TRAINING INFRASTRUCTURES

3.6.1   EMI Infrastructures

3.6.2   FutureGrid Infrastructure

4. MEASURING SUCCESS AND METRICS

4.1. SPECIFIC METRICS

Description of metric	Year 1		Year 2		Year 3	
	Achieved	Target	Achieved	Target	Achieved (so far)	Target
Number of training events organised directly by EMI	5	2	1	2		2
Number of training events organised jointly or collaborations in the training events of other projects	1	3	2	3		3
Number of in-reach events	2	2	0	1		1
Number of people trained on EMI middleware	100[1]	50	>40	50		50
Learner feedback (from 1 to 6)	4.48	>4	4.73	> year 1 score		> year 2 score

Table 3: Metrics

4.2. COVERAGE OF EMI COMPONENTS IN TRAINING

Product	User Training	Resource Administrator Training
AMGA		
APEL Parsers		
APEL Publisher		
ARC CE		
ARC Clients		

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1 This figure is based on the number of participants in the training sessions, although some did not complete the hands-on exercises

ARC Core		
ARC gridftp server		
ARC InfoSys		
ARGUS		
ARGUS-EES		
BDII core		
BDII site		
BDII top		
BLAH		
CEMon		
CREAM		
CREAM LSF module		
CREAM TORQUE module		
dCache		
Delegation Java		
DGAS-sensors		
DPM		
EMI UI		
EMI WN		
FTS		
GFAL/lcg_util		
gLExec		
gLite CLUSTER		
gLite MPI		
gLite-gSoap/gss		

glite-proxyrenewal		
glite-yaim-core		
GridSite		
L&B		
LCAS		
lcg-info-clients		
LCMAPS		
LCMAPS-plugins-c-pep		
LFC		
RAL-SAGA-SD		
StoRM-SE		
TORQUE server config		
TORQUE WN config		
Trustmanager		
UNICORE Client		
UNICORE Gateway		
UNICORE HILA		
UNICORE Registry		
UNICORE Services Environment		
UNICORE TSI		
UNICORE WS		
UNICORE XUUDB		
UVOS		
VOMS		
VOMS Admin		

WMS		

Table 4: Training coverage by product

5. FUTURE PLANS

5.1. ONLINE DOCUMENTATION AND TRAINING MATERIALS

5.2. IN-REACH TRAINING

5.3. USER TRAINING

5.4. TRAINING COLLABORATIONS AND DISSEMINATION OF MATERIALS

5.5. TRAINING INFRASTRUCTURE

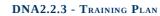### 5.6. LIST OF SPECIFIC PLANNED ACTIVITIES

Event/Title	Details	Audience	Location	Date	Status

Table 3: Specific Training Activities for the Coming Period

6. CONCLUSIONS

<The conclusion is not a repetition or summary of the content. It should not be again an executive summary. The conclusion is a brief description of the outcome, consequences or further work to be done beyond the work described in the document>.

7. REFERENCES

R1	https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDNA221
R2	https://twiki.cern.ch/twiki/bin/view/EMI/DeliverableDNA222

8. ANNEX

8.1. USER FEEDBACK SURVEY

8.2. DETAILED FEEDBACK RESULTS

PUBLIC