

**EGEE All Activities meeting
March 17, 2004
CERN**

JRA1 Execution Plan

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Objectives of the activity

- Provide robust, supportable middleware components
 - Select, re-engineer, integrate identified Grid Services
 - Evolve towards Services Oriented Architecture
 - Adopt emerging OGSI standards*
 - Multiple platforms
- Selection of Middleware based on requirements of
 - The applications (Bio & HEP)
 - In particular requirements are expected from LCG's ARDA & HepCALII
 - The Operations
 - E.g. deployment, updates, packaging, etc..
- Support and evolve of the middleware components
 - Evolution towards OGSI*
 - Define a re-engineering process
 - Address multiplatform, multiple implementations and interoperability issues
 - Define defect handling processes and responsibilities

*: Now sort of obsolete given the WSRF announcement on January 20, 2004. The strategy is to use plain Web Services and review the situation towards the end of the year.

Partners

Location	Activity JRA1	Total Effort (FTE)	Total Effort (PM)	1st Year Effort (PM)
CERN	CERN	32	768	384
Italy	INFN	16	384	192
Italy	Datamat S.p.A.	6	144	72
Czech Republic	CESNET	4	96	48
United Kingdom	CCLRC	8	192	120
France	CNRS	2	48	24
USA	UChicago	0	0	0
USA	USC	0	0	0
USA	UW-Madison	0	0	0
	Total	68	1632	840

Note: all partners are responsive, regular meetings take place

Note: Two extra resources for non-CERN testing

Issue: American involvement still being clarified

Issue: JRA3 (KTH/PDC, Uva UH.HIP, UIB Parallab) ought to be in JRA1, close relationship is essential.

Key Individuals

Key Individuals			
CERN	Alberto Di Meglio	Maite Barroso Lopez	Erwin Laure
CERN	Alberto Aimar	Leanne Guy	Peter Kunszt
Italy	Francesco Prelz	Massimo Sgaravatto	Stefano Beco
United Kingdom	Steve Fisher	Robin Middleton	
Other	Predrag Buncic	Miron Livny	
Northern	Fredrik Hedman	David Groep	

Milestones and Deliverables for the *first year*

Month	Deliverables & Milestones	Item	Lead Partner
M03	MJRA1.1	Tools for middleware engineering and integration deployed	CERN
M03	DJRA1.1	(Document) Architecture and Planning (Release 1)	CERN
M03	MJRA1.2	Software cluster development and testing infrastructure available	CERN
M05	MJRA1.3	Integration and testing infrastructure in place including test plans (Release 1)	CERN
M05	DJRA1.2	(Document) Design of grid services (Release 1)	CERN
M09	MJRA1.4	Software for the Release Candidate 1	CERN
M10	MJRA1.5	Integrated Release Candidate 1 enters testing and validation period (Release 1)	CERN
M12	DJRA1.3	(Software) Software and associated documentation (Release 1)	CERN

Work Breakdown Structure

- Main components:
 - Integration
 - Testing
 - Middleware Re-engineering
 - User Access Service
 - As described in the ARDA RTAG
 - Workload Management, CE
 - Data Management
 - Information Services
 - Authentication/Authorization
 - Accounting

Software Clusters' Initialization Tasks

Task	Task Title	Artifact	Month Start	Month End	Effort CERN	Effort INFN	Effort Datamat	Effort CESNET	Effort CCLRC	Effort CNRS	Effort Uchicago	Effort USC	Effort UW-Madison	Total effort	Task explanation & comments
			m	m	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	
TJRA1.1	Initialisation tasks														
TJRA1.1.1	Define with other activities standards, tools, procedures, guides, methodologies (internal and cross-activity)	Procedures Catalogue	1	3	2.0	2.0	1.0	1.0	2.0					8.0	Related activities: JRA2 (Quality Assurance), SA1 (Operations)
TJRA1.1.1.1	CERN dev cluster		1	3	2.0									2.0	
TJRA1.1.1.2	UK dev. Cluster		1	3					2.0					2.0	
TJRA1.1.1.3	IT/CZ dev. Cluster		1	3		2.0	1.0	1.0						4.0	
TJRA1.1.2	Set up development testbed	Web page with description, instructions	1	3	1.0	1.0			0.5					2.5	
TJRA1.1.2.1	CERN dev cluster		1	1	1.0									1.0	
TJRA1.1.2.2	UK dev. Cluster		1	1					0.5					0.5	
TJRA1.1.2.3	IT/CZ dev. Cluster		1	3		1.0								1.0	
TJRA1.1.3	Set up development infrastructure: build system, CVS, webpages, documentation layout	Web page with description, instructions and links to all the modules	1	3	3.0	3.0		1.0	2.0					9.0	In collaboration with the integration group; CVS, autobuild are central services run by integration
TJRA1.1.3.1	CERN dev cluster		1	3	3.0									3.0	
TJRA1.1.3.2	UK dev. Cluster		1	3					2.0					2.0	
TJRA1.1.3.2	IT/CZ dev. Cluster		1	3		3.0		1.0						4.0	
TJRA1.1.5	Prepare and provide the initial training to newcomers (standards, tools, mw components)	Training	1	12	1.0	1.0	1.0	1.0	1.0					5.0	In collaboration with NA3 (User Training and Induction)
TJRA1.1.5.1	CERN dev cluster		1	12	1.0									1.0	
TJRA1.1.5.2	UK dev. Cluster		1	12					1.0					1.0	
TJRA1.1.5.3	IT/CZ dev. Cluster		1	12		1.0	1.0	1.0						3.0	
Total initial effort (PM)					7.0	7.0	2.0	3.0	5.5					24.5	
Total initial effort (FTE)					0.6	0.6	0.2	0.3	0.5					2.0	

Software Clusters' Recurrent Tasks

Task	Task Title	Artifact	Month Start	Month End	Effort CERN	Effort INFN	Effort Datamat	Effort CESNET	Effort CCLRC	Effort CNRS	Effort Uchicago	Effort USC	Effort UW-Madison	Total effort	Task explanation & comments
			m	m	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	
	Recurrent tasks														
TJRA1.2	Administration and support of development testbed		1	12	3.0	6.0		1.0	3.0					13.0	
TJRA1.2.1	CERN dev cluster		1	12	3.0									3.0	
TJRA1.2.2	UK dev. Cluster		1	12					3.0					3.0	
TJRA1.2.3	IT/CZ dev. Cluster		1	12		6.0		1.0						7.0	
TJRA1.3	Contribution to cross-activity tasks (integration, quality, architecture, security)		1	12	10.0	6.0	3.0	4.0	9.5					32.5	
TJRA1.4.1	Integration activities		1	12	2.0	3.0			1.5					6.5	
TJRA1.4.2	Quality activities		1	12	2.0	3.0		1.0	2.0					8.0	
TJRA1.4.3	Architecture		1	12	3.0		3.0		3.0					9.0	
TJRA1.4.4	Security		1	12	3.0			3.0	3.0					9.0	
TJRA1.4	Development		1	12	72.0	141.0	43.0	37.0	52.0					341.0	Full Development cycle: design, implementation, testing, documentation
TJRA1.4.1	CERN dev cluster		1	12	72.0									72.0	
TJRA1.4.2	UK dev. Cluster		1	12					48.0					48.0	
TJRA1.4.3	IT/CZ dev. Cluster		1	12		141.0	43.0	37.0						221.0	
TJRA1.5	Support		1	12	6.0	8.0	2.0	2.0	12.0					30.0	Support to testing team, end-user support, maintenance (reduced, since no LCG-2 maintenance)
TJRA1.5.1	CERN dev cluster		4	12	6.0									6.0	
TJRA1.5.2	UK dev. Cluster		1	12					12.0					12.0	
TJRA1.5.3	IT/CZ dev. Cluster		1	12		8.0	2.0	2.0						12.0	
TJRA1.6	External interactions		1	12	3.0	3.0	2.0	2.0	5.0					15.0	Standardization bodies, other projects, conferences
TJRA1.6.1	CERN dev cluster		1	12	3.0									3.0	
TJRA1.6.2	UK dev. Cluster		1	12					5.0					5.0	
TJRA1.6.3	IT/CZ dev. Cluster		1	12		3.0	2.0	2.0						7.0	
TJRA1.7	Task Management		1	12	30.0	27.0	11.0	4.0	21.0					93.0	Subtasks: Deliverables, reports, project meetings
TJRA1.7.1	Cluster Management		1	12	3.0	15.0	4.0		5.0					27.0	
TJRA1.7.2	Deliverables		1	12	12.0	3.0	2.0	1.0	6.0					24.0	
TJRA1.7.3	Reports		1	12	3.0	3.0	2.0	1.0	2.0					11.0	
TJRA1.7.4	Project meetings		1	12	12.0	6.0	3.0	2.0	8.0					31.0	
Total recurrent effort (PM)					124.0	191.0	61.0	50.0	102.5					524.5	
Total recurrent effort (FTE)					10.3	15.9	5.1	4.2	8.5					43.7	

Integration Tasks

Task	Task Title	Artifact	Month Start	Month End	Effort CERN	Effort INFN	Effort Datamat	Effort CESNET	Effort CCLRC	Effort CNRS	Effort Uchicago	Effort USC	Effort UW Madison	Total effort	Task explanation & comments
			m	m	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	
TJRA1.1	Initialisation tasks														
TJRA1.1.1	Define with other activities standards, tools, procedures, guides, methodologies	Procedures Catalogue	1	3										1.5	Related activities: JRA2 (Quality Assurance), SA1 (Operations)
TJRA1.1.2	Select and deploy software management tools for mw integration	Web page with description, instructions and links to all the tools	1	3										3.0	
TJRA1.1.3	Deploy integration infrastructure: automatic build system, automatic installation and configuration system, bug tracking tool	(MJRA1.3)	1	5										6.0	
TJRA1.1.4	Prepare and provide the initial training to newcomers (standards, tools, mw components)	Training	1	5										3.0	In collaboration with NA3 (User Training and Induction)
Total initial effort (PM)														13.5	
Total initial effort (FTE)														2.7	
Recurrent tasks															
TJRA1.2	Administration and support of integration distributed testbeds (including external sites)		3	12										9.0	
TJRA1.3	Software configuration and version control		3	12										6.0	source and version control scheme
TJRA1.4	Build management		3	12										9.0	automated continuous, nightly and weekly builds
TJRA1.5	Baseline and release management		3	12										9.0	
TJRA1.6	Deployment and installation management		3	12										12.0	Integration of baselines and releases into final product, installation and configuration handling
TJRA1.7	Configuration change control		3	12										6.0	
TJRA1.8	Configuration and process auditing		3	12										6.0	
TJRA1.9	Software defect tracking and troubleshooting		3	12										18.0	
TJRA1.10	Write release documentation: user and programmers guides, release notes		3	12										6.0	
TJRA1.11	Prepare external release to be delivered to SA1 (documentation, code, user and programmers guides, release notes, manual installation)		3	12										6.0	External release = candidate release to be given to Operations (SA1)
TJRA1.12	Tool support		3	12						9.0				9.0	
TJRA1.13	Task Management		1	12										6.0	
Total recurrent effort (PM)														102.0	
Total recurrent effort (FTE)														11.3	
Total effort (PM)														115.5	
Total effort (FTE)														14.0	

TA allocated effort

9 FTE integration+0.5
10.5 FTE integration and testing manager + 1 tools

Testing Tasks

Task	Task Title	Artifact	Month Start	Month End	Effort CERN	Effort INFN	Effort Datamat	Effort CESNET	Effort CCLRC	Effort CNRS	Effort Uchicago	Effort USC	Effort UW Madison	Effort NIKHEF	Total effort	Task explanation & comments
			m	m	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	
TJRA1.1 Initialisation tasks																
TJRA1.1.1	Define with other activities standards, tools, procedures, guides, methodologies	Documentation	1	3	3.0										3.0	Related activities: JRA2 (Quality Assurance), SA1 (Operations)
TJRA1.1.2	Select and deploy software management tools for mw testing	Web page with description, instructions and links to all the tools	1	3	3.0										3.0	
TJRA1.1.3	Put in place testing distributed testbeds (including external sites)		1	3	4.0										4.0	
TJRA1.1.4	Prepare and provide the initial training to newcomers (standards, tools, mw components)	Training	1	3	6.0										6.0	In collaboration with NA3 (User Training and Induction)
TJRA1.1.5	Deploy distributed testing infrastructure: automated testing framework		1	5	1.0										1.0	
TJRA1.1.6	Define test strategy and test plan		1	5	12.0										12.0	
Total initial effort (PM)															29.0	
Recurrent tasks																
TJRA1.2	Administration and support of testing distributed testbeds (including external sites)		4	12	3.0				3.0					3.0	9.0	
TJRA1.3	Update test plan, strategy and test case definitions		4	12	13.5										13.5	Includes also requirement management
TJRA1.4	Testing of external software		4	12	6.0										6.0	Just integration of the external sw (e.g. Globus, Condor) with the rest of the sw into the release baseline.
TJRA1.5	Internal release testing and validation (implementation, execution and analysis) of test cases		4	12	9.0				6.0					6.0	21.0	Continuous testing of every (internal) release produced by the integration team.
TJRA1.11	Prepare external release to be delivered to SA1 (documentation, code, user and programmers guides, release notes, manual installation)		4	12	3.0										3.0	External release = candidate release to be given to Operations (SA1)
TJRA1.8	Tool support		4	12						9.0					9.0	
TJRA1.9	Task Management		1	12	6.0										6.0	
Total recurrent effort (PM)															67.5	
Total effort (PM)															96.5	
Total effort (FTE)															8.0	

TA allocated effort

7 FTE testing + 1 FTE tool support + 0.5 FTE integration and testing manager

8.5

Effort Summary*

Implementation

	Effort CERN	Effort INFN	Effort Datamat	Effort CESNET	Effort CCLRC	Total effort
Total effort (PM)	131	198	63	53	108	553
Total effort (FTE)	10.9	16.5	5.3	4.4	9.0	46.1
TA allocated effort	10	12	6	4	8	40
Effective FTEs available to	7	16	6	4	9	42

Integration

	Effort CERN	Effort CNRS				Total effort
Total effort (PM)	106.5	9				115.5
Total effort (FTE)	13	1				14
TA allocated effort	9.5	1				10.5

Testing

	Effort CERN	Effort CNRS				Total effort
Total effort (PM)	87.5	9				96.5
Total effort (FTE)	7	1				8
TA allocated effort	7.5	1				8.5

*Note: numbers need to be finalized

WBS – Other Components

- A few more components need to be worked at, such as:
 - Access Services
 - Authentication/Authorization (JRA3)
 - Common Services
 - Messaging
 - Error Handling
 - Logging
 - WS Containers
 - Some of these components do not have a clear mapping in the software cluster organization

Resources indicators

EGEE Confidential
Middleware Resources Summary

Partner	FTE¹	MM	Assigned²	To Hire²	FTE from TA²	Deviation
CERN	32.2	386.4	32.2	0.0	32	100%
RAL (CCLRC)	9.0	108	8	1.0	8	89%
INFN	16.5	198	14.5	2.0	16	88%
DATAMAT	5.3	63	4	1.3	6	76%
CESNET	4.4	52.8	4.4	0.0	4	100%
CNRS	2.0	24	1	?	2	50%
Total effort	69.4	832.2	64.1	4.3	68	92%

Resource Plan indicator

Hired or assigned up now	64.1
Total FTE from TA	68.0
Recruitment indicator	94.3%
Still to hire	3.9

1: People planned & assigned to work

2: Head count

Risk Analysis

- Not being able to employ people by day 1
 - This is already happening – NA1, SA1 and JRA1 people decline offers, causing extra selection boards to take place and people only able to start on May 1st, 2004.
- Losing personnel in a two year project (6 months before)
- Tools: need to identify the CNRS contributed persons now
 - Milestone at PM3
- LCG/EGEE divergence
 - ARDA, Timescales, scope
- Architecture Team
 - Relation with ARDA Middleware team
- JRA1 not involved directly in LCG-2 support
 - New developers risk to develop code difficult to support and maintain
 - LCG relations/communications are very important
- Not getting clear requirements early enough
 - E.g. from Operations (SA1) or Other Sciences (NA4)
 - Platform requirements
 - Conflicting requirements
- New releases do not get used/tested enough by (SA1/NA4)
- Quality of 3rd party software
 - E.g. Axis, Tomcat, GTx
- Failure to deliver quality software acceptable to LCG or Applications
- Failure to comply to project quality guidelines required for higher quality software
 - This may have implications on people habits

Issues related to other activities

- Security JRA3
 - Development must be part of JRA1 structure
 - Security is not an orthogonal activity
- Same for JRA4
- Interaction with SA1
 - Support
 - Requirements and acceptance criteria gathering
 - Definition of responsibilities
 - Testing
 - Support
 - Packaging/Configuration/Distribution Mechanisms
- JRA2 documents (standards, templates) need to be available early
 - And relevant to the complexity of the activity

Training requirements

- Project Introduction
 - For newcomers
 - Can something be in place for April 1st, 2004?
- Internal Procedures
 - Needs to be organized by JRA1 itself
- Web Services
 - Essentially for newcomers

Progress on actions defined in January 2004

- Current Software - organize continued support for software currently deployed on LCG service by identifying the groups responsible for each module.
 - Discussed with SA1 and support clarified. Document has been prepared and has been circulated.
- Establish composition of engineering management board and architecture group
 - Architecture group being established within the ARDA context
- Assess the suitability of the GT3 as a OGSI implementation taking into account the list of selection criteria previously established.
 - Not relevant anymore. Strategy is to go for Web Services and re-assess the situation towards year-end
- Clarify plans for the suggested "pilot project" to investigate an OGSI based prototype grid Middleware suite
 - Plans being prepared. OGSI not relevant anymore, replace by Web Services.

Progress on actions defined in January 2004 (Cont.)

- Software Clusters (CERN, Italy, NEG, UK) to clarify plans for their development, integration and testing testbeds in terms of scale, sites and support.
 - Infrastructure for development, integration, and testing almost finalized.
 - Most clusters will take-over existing EDG infrastructure for development.
 - CERN, NIKHEF and RAL will be the main testing sites.
- Deployment: understand what tools and mechanisms will be used for software packaging and distribution
 - Depends on SA1 requirements; being discussed with SA1. Document has been produced; initial comments received; will be published soon.
- Clarify the relationship with fabric management software and what is expected from it compared to grid Middleware.
 - Discussions with SA1 ongoing
- Other progress
 - Many people hired
 - Resource plan established
 - Software Configuration & Management plan prepared; further discussions scheduled.
 - Test plan under preparation
 - Execution plan being finalized

High priority steps between now and Cork

- Define structure of the Architecture team and relationship with ARDA
- Define structure of the Quality Group(s) – project and middleware
- Define structure of the Security Group
- Alignment of ARDA and EGEE timelines (e.g. testing/integration)
- Identification of tools/components/platform/Web services, etc...
- Complete execution plan