Enabling Grids for E-science in Europe

EGEE All Activities meeting
January 13-14, 2004
CERN

JRA1 Execution Plan

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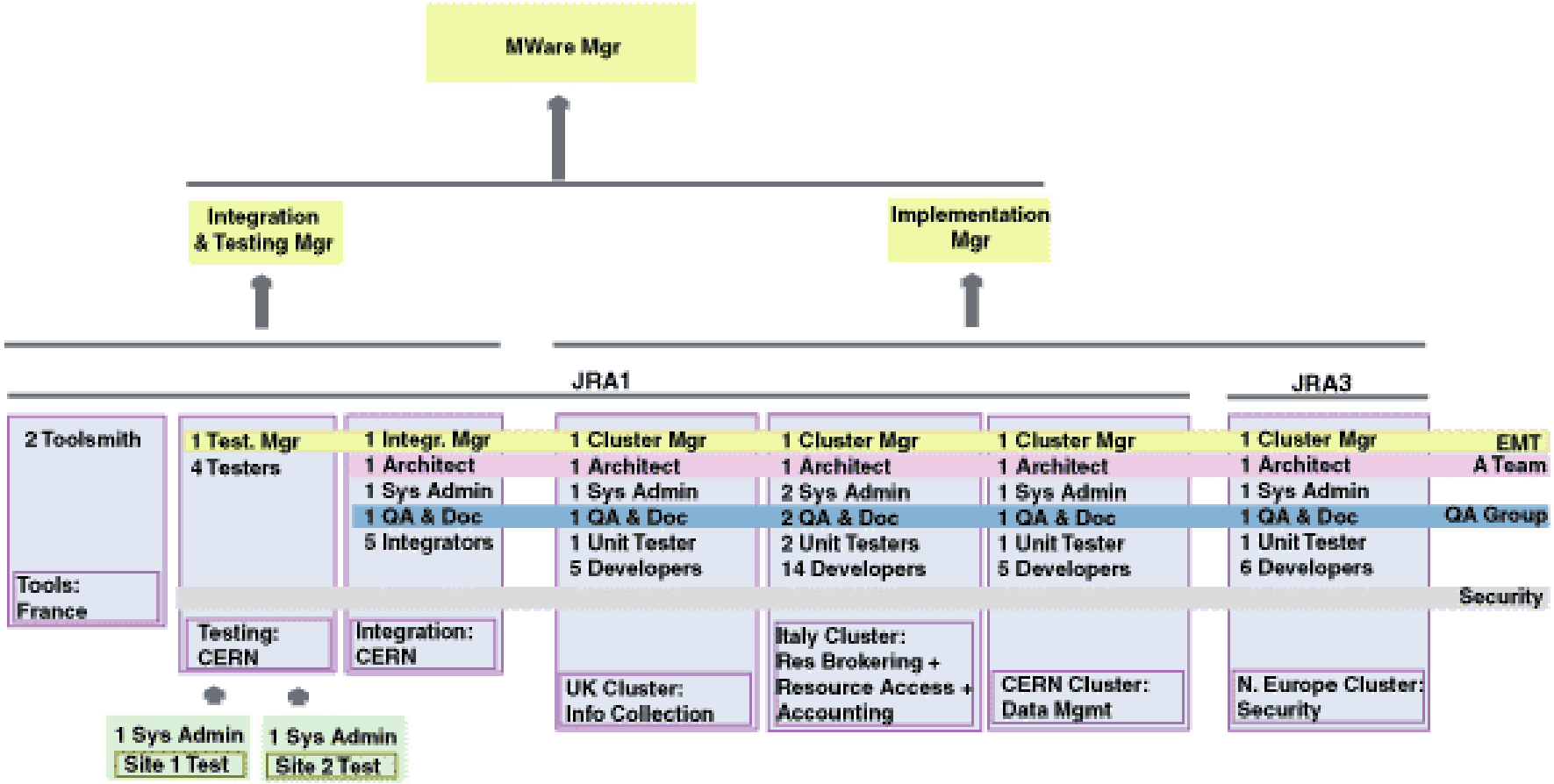
Preamble

- JRA1 is not yet in a position to deliver a proper execution plan at this point in time because of
  - ARDA
    - PBS & WBS are going to be heavily influenced by the ARDA prototype work
    - ARDA design document in preparation will impact the overall architecture
    - ARDA timeline
      - November 2, 2003: ARDA RTAG document received
      - December 3-4, 2003: Initial bootstrapping meeting with Middleware providers from Alien, EDG, VDT & EGEE
      - January 21-22, 2004: ARDA Workshop
      - February 2004: ARDA prototype document should be available
      - From then on we can refine the Execution plan
  - Clarification needed concerning the LCG-2 support model
    - LCG-2 Grid Deployment group intends to ensure their own support model and take ownership of the CVS repository. This was unexpected by the JRA1 middleware providers, some of which already prepared a work plan
    - Discussions only started yesterday
    - More discussion needed and already scheduled for February 2004
  - Not enough time available given
    - EU DataGrid final review preparation
    - Unforeseen events such as ARDA
    - Hiring round effort needed now so that people start on April 1st

Objectives

- 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

JRA1: Organization



Partners

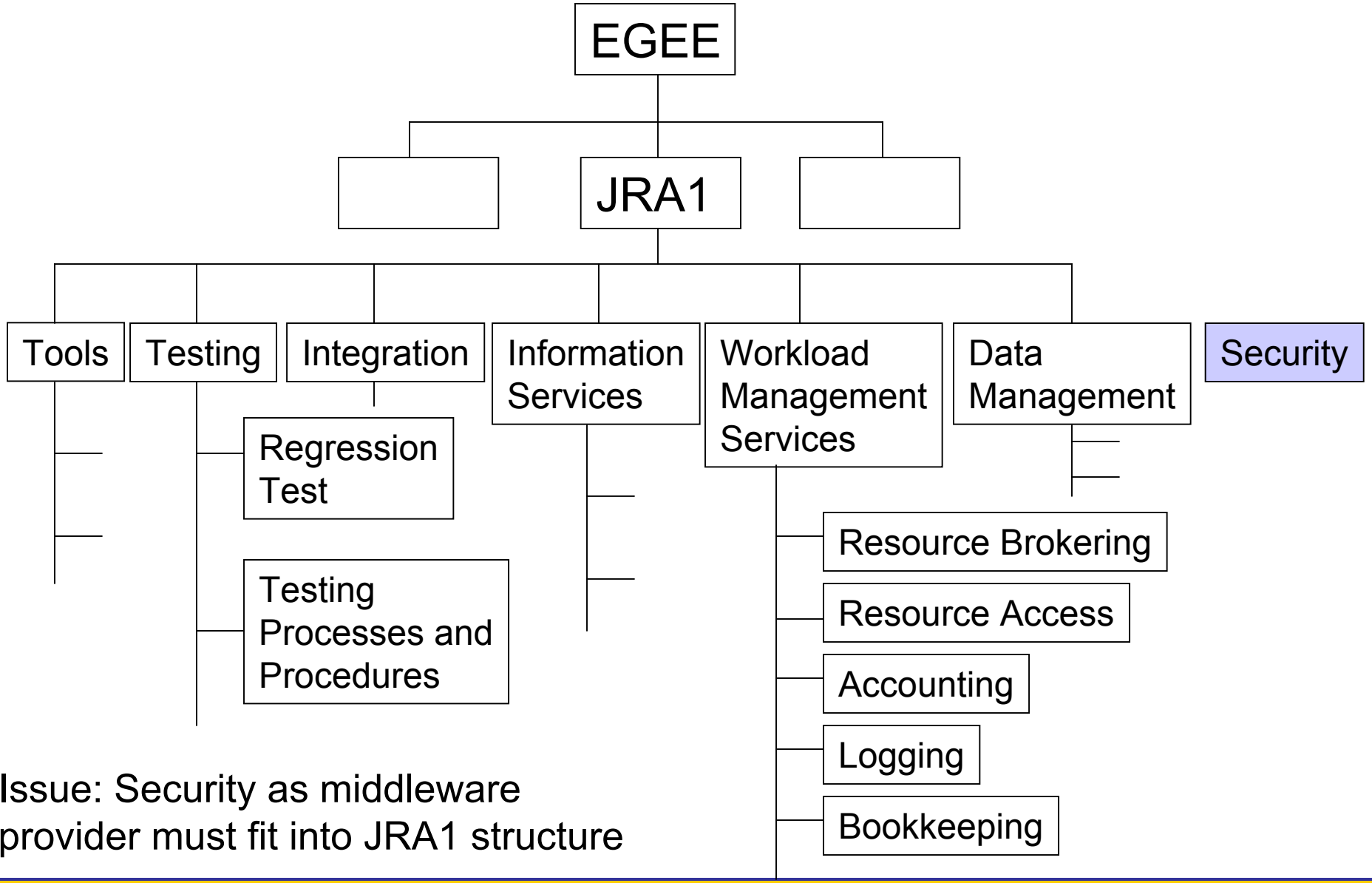
Activity JRA1	Total Effort (FTE)	Total Effort (PM)	1st Year Effort (PM)	2nd Year Effort (PM)
CERN	32	768	384	384
INFN	12	288	144	144
Datamat S.p.A.	6	144	72	72
CESNET	4	96	48	48
CCLRC	9.5	228	120	108
CNRS	2	48	24	24
UChicago	0	0	0	0
USC	0	0	0	0
UW-Madison	0	0	0	0
Total	65.5	1572	792	780

Issue clarify American involvement

Milestones and Deliverables for the first year

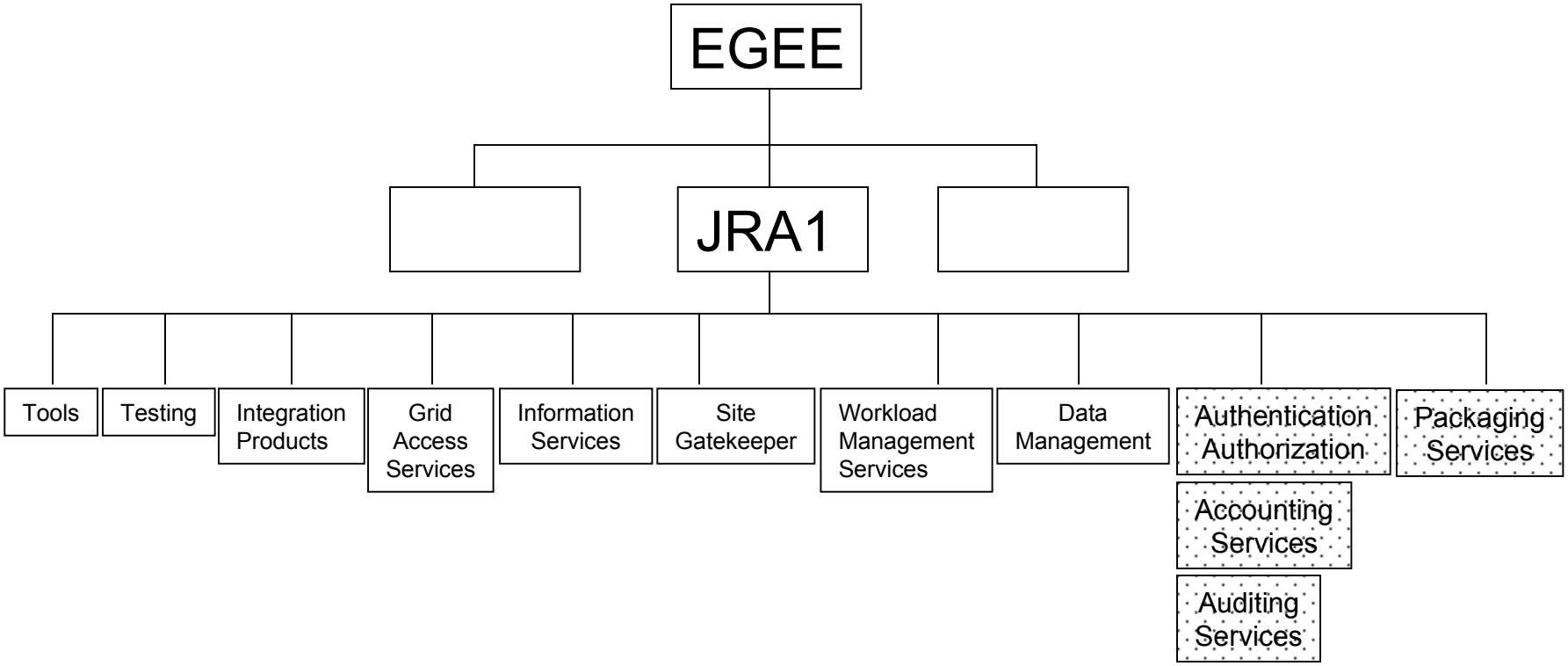
Month	Deliverables & Milestones	Item	Lead Partner
M03	MJRA1.1	Tools for middleware engineering and integration deployed	CERN
M03	DJRA1.1	(Document) Architecture and Planning (Release 1)	CERN
M03	MJRA1.2	Software cluster development and testing infrastructure available	CERN
M05	MJRA1.3	Integration and 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

Product Breakdown Structure (TA)



Issue: Security as middleware provider must fit into JRA1 structure

Product Breakdown Structure (ARDA)



- This will further be detailed based on preparation of the prototype

Task Breakdown (Testing & Integration) Preliminary

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	Select and prepare software management tools for mw enginering, integration and testing		1	3											
TJRA1.1.2	Define with other activities standards, tools, procedures, guides	Procedures Catalogue	1	3											
TJRA1.1.3	Put in place integration and testing distributed testbeds		1	3											
TJRA1.1.4	Prepare and provide the initial training to newcomers (standards, tools, mw components)	Training	1	3											
TJRA1.1.5	Put in place integration and testing distributed infrastructure: automatic build system, automatic installation and configuration system, automated testing framework, bug tracking tool		1	6											
TJRA1.1.6	Prepare automated test plan for core components		1	6											
	Recurrent tasks														
TJRA1.2	Integration/testing distributed testbeds administration and support		1	12											50 deliverables (1d/del)
TJRA1.3	Release management		1	12											3QR+1PR
TJRA1.4	Software integration into baseline release		1	12											0,25 FTE
TJRA1.5	System integration (integration of grid services with standard management and configuration mechanism of underlying OS)		1	12											1 FTE
TJRA1.6	Testing of external software		1	12											3d/month
TJRA1.7	Release testing and validation		1	12											2 training
TJRA1.8	Update automated test plan		1	12											2 audits
TJRA1.9	Write release documentation: user and programmers guides, release notes														
TJRA1.10	Prepare release to be delivered to SA1 (documentation, code, user and programmers gides, release notes)		1	12											
TJRA1.11	Tool support		1	12											5%
Total effort (PM)															
TA allocated effort					***#REF!***	***#REF!***	***#REF!***	***#REF!***	***#REF!***	***#REF!***				***#REF!***	

Nb day/month 18.5

Task Breakdown (Data Management) Preliminary

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		1	3											
TJRA1.1.2	Set up internal testbed for DM cluster development		1	3											
TJRA1.1.3	Prepare and provide the initial training to new comers (standards, tools, mw components)		1	3											
TJRA1.1.4	Set up DM infrastructure: cluster automatic build system, CVS, webpages and documentation layout		1	3											
TJRA1.1.5	Prepare cluster process plan: processes for design, testing, internal reviews, etc		1	1											
	Recurrent tasks														
TJRA1.2	Production Testbed support		1	12											LCG, others for EDG WP2 codebase
TJRA1.3	Architecture Group membership		1	12											
TJRA1.4	Quality assurance group membership		1	12											
TJRA1.5	Security group membership		1	12											
TJRA1.6	External interactions: standardization bodies, collaborators, other grid projects		1	12											GGF, GridPP2, OGSA-DAI..
TJRA1.7	Documentation maintenance		1	12											All documents, website
TJRA1.8	Middleware Development		1	12											Cannot detail yet. Most of the activity is here. Includes detailed design and unit testing.
TJRA1.9	Testing														Additional testing to unit tests, functional tests
TJRA1.10	Management		1	12											
Total effort (PM)															
TA allocated effort					***#REF!***	***#REF!***	***#REF!***	***#REF!***	***#REF!***	***#REF!***				***#REF!***	

Effort needed and responsibilities

Participant	Middleware Task/Activity	Professional FTE (EU funded + unfunded)
CERN		
CERN	Data Management, testing and integration, overall coordination	16+16
Italy/Czech Republic		
INFN	Resource Access Resource Brokering Accounting	6+6
Datamat S.p.A.	Resource Brokering Accounting	6+0
CESNET	Logging and Bookkeeping	2+2
UK-Ireland		
CCLRC	Information Collection & Retrieval	4+4
France		
CNRS	Test tools support group	0+2

Training Requirements (first ideas)

- For newcomers
  - Project Introduction
  - Grid Introduction
- Once processes/guides defined and in place
  - Training on these
- More general technology related training such as
  - Web Services
  - XML/SOAP/WSDL/XSD/Etc..
  - OGSA/OGSI – GT3 et al.
- *What can be expected from NA3 for all the above?*

Risk analysis (preliminary)

- Not being able to employ people by day 1
- Loosing personnel in a two years project (6 months before)
- Tools: need to identify the 2 CNRS contributed persons now
  - Milestone at PM3
- LCG/EGEE divergence
  - Timescales, scope
- 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 or other sciences
- New releases do not get used/tested enough by (SA1/NA4)
- ARDA gets delayed
  - essential input to architecture
  - ARDA Backup plan needed (backup architecture)
- Quality of 3rd party software
  - E.g. GT3

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

Changes to Technical Annex

- JRA1 activity has been described generally enough that we do not think major changes are needed
- Minor changes such as
  - LCG-2 replaces LCG-1
  - ARDA and HEPCal II have now completed

Steps needed before project startup

- Finalize hiring and
  - Complete table 4.5 of the EP for all partners
- Define training needs
- Identify tools people from CNRS
  - There is milestone et PM3
- Identify testing sites
  - NIKHEF expressed interest
  - RAL is interested
- Setup Engineering Management Team
- Define membership into Security group
- Define membership in QA Group
- Define membership in Architecture Team & Chief Architect
- Write development and implementation guides
- Complete the ARDA services document
  - Check compatibility with non-Physics applications
  - Validate security model
- Start the ARDA prototyping activity (with EGEE unfunded effort)
- Understand the support model as proposed by SA1
- Define a process to obtain SA1 requirements
- Clusters to come with a task breakdown