

EGEE Middleware Activities Overview

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Middleware Re-engineering Goals and 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 & HepCAL
 - Bio are expected to deliver reports at the end of EDG
 - The Operations (i.e. LCG)
 - E.g. deployment, updates, packaging, etc..
- Support and evolve of the middleware components
 - Define a re-engineering process
 - Address multiplatform, multiple implementations and interoperability issues
 - Define defect handling processes and responsibilities

EGEE Middleware Activity

- Activity concentrated in few major centers
- Key services:
 - Information Collection and Accounting (UK)
 - Resource Brokering (Italy)
 - Data Management (CERN)
 - Quality Assurance (France)
 - Security (Northern Europe)
 - Middleware Integration (CERN)
 - Middleware Testing (CERN)



- Middleware Integration and Testing Centre
- Middleware Re-engineering Centre
- Quality and Security Centres

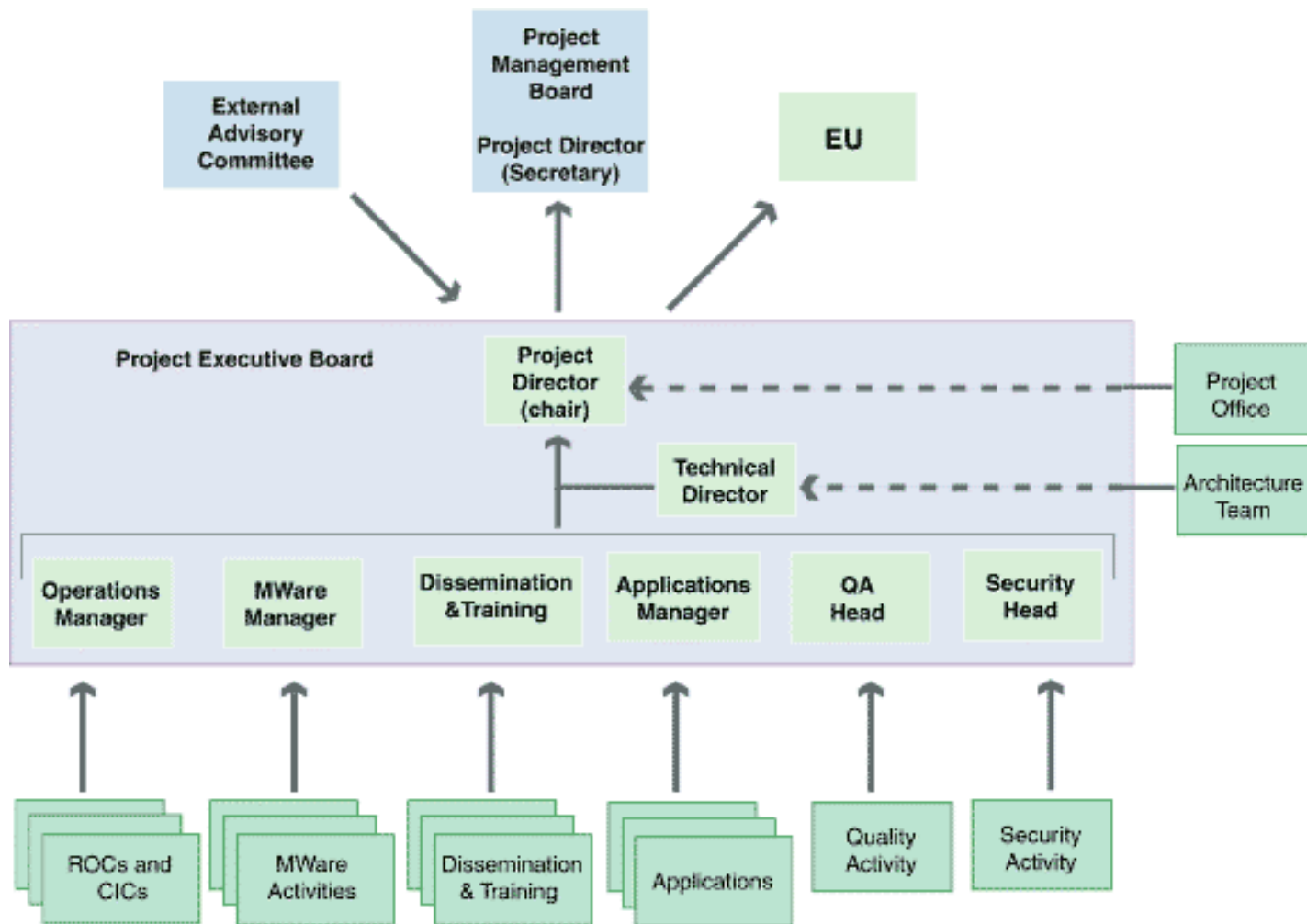
Overall Approach

- Support the components from PM 0
 - Start with LCG-2 code base as used in April'04
 - Evolve towards OGSi
 - Allow for component per component deployment
- Aim at continuous Integration and Testing
 - Avoid big-bang releases
 - Allow for selected components to be deployed and used
- Leverage on [SPI](#) Tools
 - Common Tools with LCG
 - Nightly Builds
 - Nightly Tests
- The two major software release deliverables are snapshots
 - Defined base for reviews
- Quality Assurance
 - Use Q&A processes and methods as defined by the Quality Assurance Joint Research Activity

Some issues to be addressed

- Reliability and resilience
 - Allow for failure free operations for long periods
 - Avoiding manual interventions
- Robustness
 - Be able to handle abnormal situations
 - Ensure some level of fault tolerance
- Security
 - Restricted access to resources including data
 - Comply to security infrastructure
- Scalability
 - Scale up to requirements defined by Operations (i.e. LCG)
- Maintainability, usability, supportability
 - Configuration Management
 - Documentation, packaging, defect handling processes,....
- Standardization and service orientation
 - Comply to OGSA/OGSI
 - Ensure interoperability with other implementations

Overall EGEE Project Management



Summary



- The EGEE middleware activity will provide a middleware package
 - satisfying requirements agreed with LCG (HEPCAL, ARDA, etc.)
 - and equivalent requirements from other sciences
- Very tight timescales
 - Hiring should happen soon to ensure project fully staffed from start-up in April 2004
 - For CERN boards have been organized on December 15 & 17, 2003 and January 27 & 30 2004.
 - Plans are less clear for other partners
 - Essential to have processes in place before project start up
- Essential to ensure close LCG-EGEE collaboration
 - Management structure have been adapted
 - LCG-2 as a base for EGEE Middleware as of April 2004

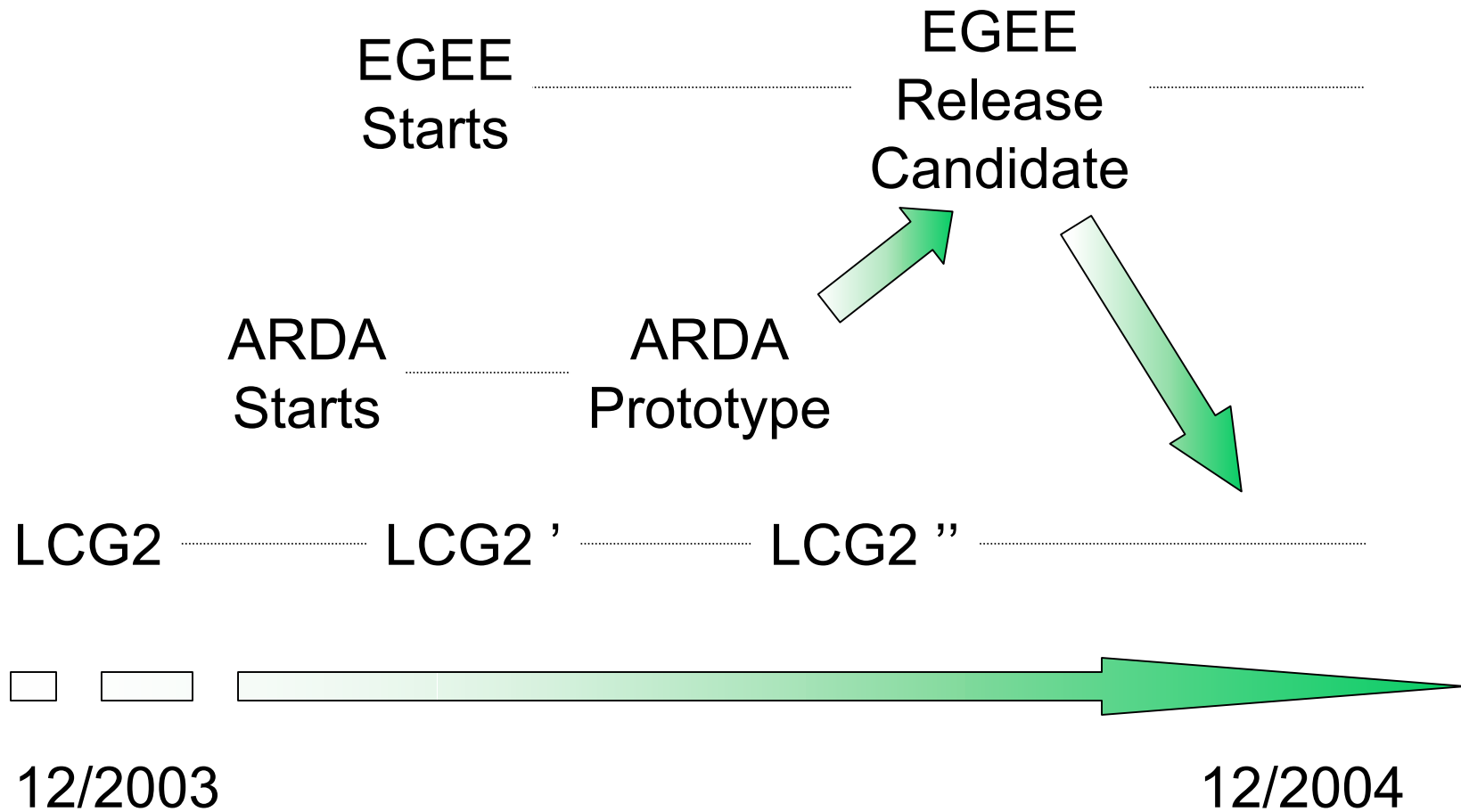


ARDA & relations to LCG & EGEE

ARDA: getting started



- Initial workgroup composed of middleware providers
 - From Alien, EDG, EGEE/LCG, VDT
 - Tasked to
 - Propose OGSI-compatible components with clear interfaces
 - Propose an implementation plan of “re-factored” services
 - Provide priorities & timescales for a fast prototype
 - Identify available and requested resources (personnel & material)
 - Planned for December 3-4 2004
- Initial workshop with experiments, EGEE and other interested parties
 - Ensure plan compatibility with experiments requirements & expectations
 - Agree on what is generic middleware, HEP specific and experiments specific
 - Define source for the middleware components
 - Confirm experiments participation & timescales
 - Define milestones and priorities
 - Planned for week of January 19, 2004
- Compliance with EGEE
 - Needs to be checked, in particular with Biomedical applications
 - Not yet planned, but can be done in parallel with HEP
- Submit plan to SC2 by January'04 end





- LCG-2 in 2004
 - Needs to be highly stable
 - Allowing for experiments to carry over work needed for Computing Models & TDRs
 - May need to be upgraded incrementally
 - E.g. to overcome deficiencies in GRAM
- ARDA prototype
 - Activity only about to start
 - Will be highly dynamic
 - May introduce immature OGSI components
- EGEE
 - Activity is not fully staffed before April 2004
 - Highly structured
 - Introducing inevitable overheads
 - But very clear benefits (documentation, tutorials, reviews, etc.)
 - Short timescales



- ARDA prototype offers an opportunity to
 - Validate experiments computing models for distributed analysis
 - Bring together experience developed by several Grid projects
 - Validate what is generic middleware, what is HEP specific, what is experiment specific
- ARDA, LCG and EGEE may converge by end of 2004
 - Although time scales are short
 - Provided the prototype is successful
- Work is need real soon now