DataGrid
Quality Assurance

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Outline

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- Quality deliverables & related deliverables
- Main Process description
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  - Document management and deliverables review procedure
  - Software release procedure
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  - Standards and tools
- Plan for the next year
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Quality objectives (1/2)

- Merge Scientists from research environment with conventional industrial Quality Assurance activity.
- Provide Quality assurance taking in to account the main DataGrid project characteristics:
  - Large software development (about 200 persons working on the project)
  - Long life cycle development (36 months)
  - Distributed development of software (21 partners)
  - Large scale integration (several Testbed sites)
  - Software portability (Linux, Solaris, …), ….

Quality objectives (2/2)

Overall quality plan:

- Year 1 - Focus on:
  - Quality of the deliverables
  - Project monitoring and reporting
  - Software infrastructure
- Year 2 - Focus on:
  - Quality of the software production
  - User support
  - Software distribution and Testbed infrastructure
- Year 3 - Focus on:
  - Global Quality of Services provided.

Quality deliverables & related deliverables

- Quality Plan (D12.1)
  - Quality organisation - Project organisation - Risk management
  - Document management - Document templates
  - Software quality Assurance - Methods and tools used
  - Configuration Management - Code repository, autobuild and bug tracking management
- Software Release Policy and Software release Plan (D12.3)
  - Policy for iterative software releases including milestones, time-scales and supporting techniques and tools to be employed.
- Naming conventions (D12.2)
  - Naming conventions, project directories organisation and comments conventions, that should be applied to all DataGrid middleware packages. The use of these conventions is strongly encouraged for Java, C++ and C.
- Configuration management and Build conventions (D6.2)
  - Conventions for CVS module structure, naming and tagging, as well as package organization.

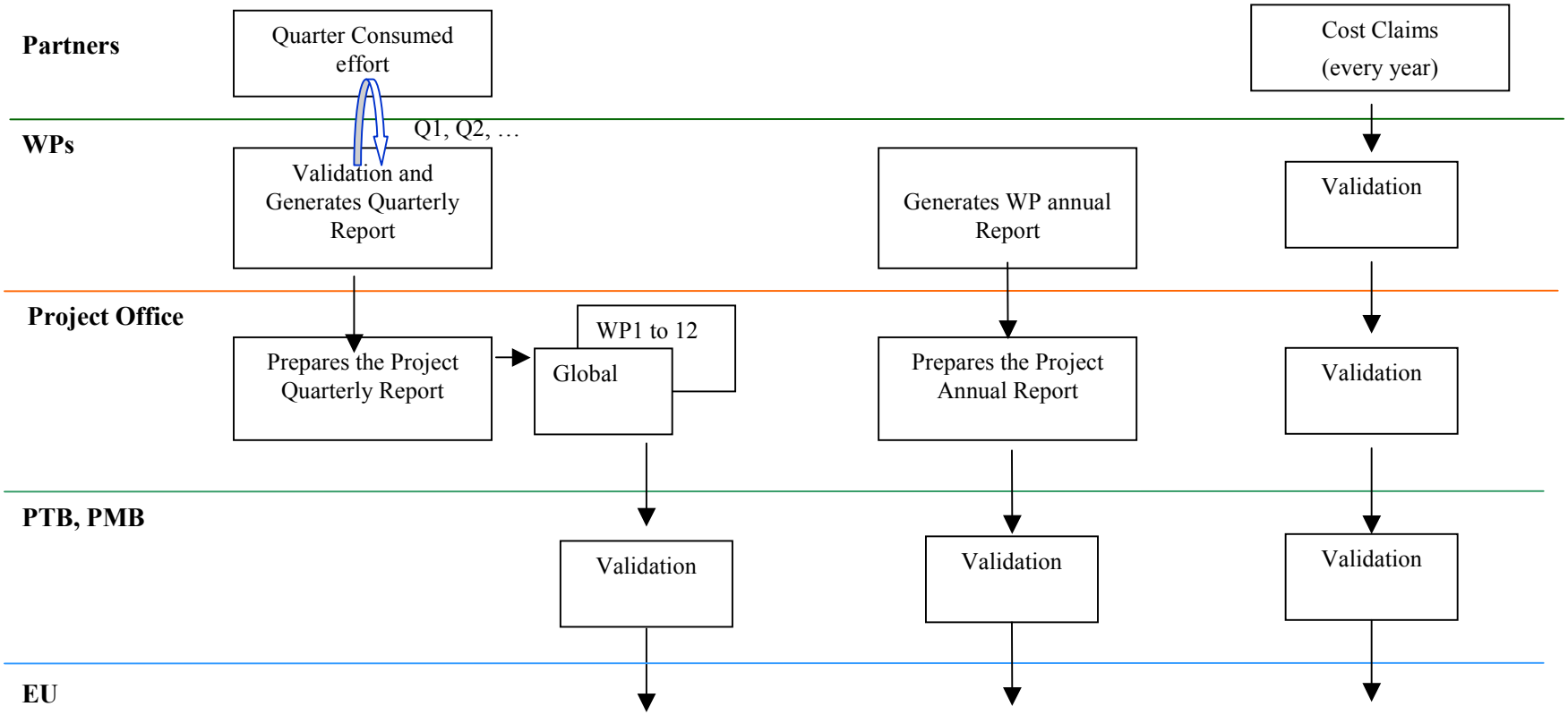
Main Process Description

Project Monitoring and reporting (1/3)

- Main project monitoring mechanisms:
  - WP Managers weekly meeting (Weekly phone conference calls)
  - Project Technical Board meeting (every 2 months)
  - Project Management Board meeting (every quarter)
  - Quarterly and Annual Reports
- Agenda
  - Achievements
  - Status of milestones
  - Deviations
  - Issues, Risks
  - Meetings/Conferences/Papers/Dissemination
  - Resources

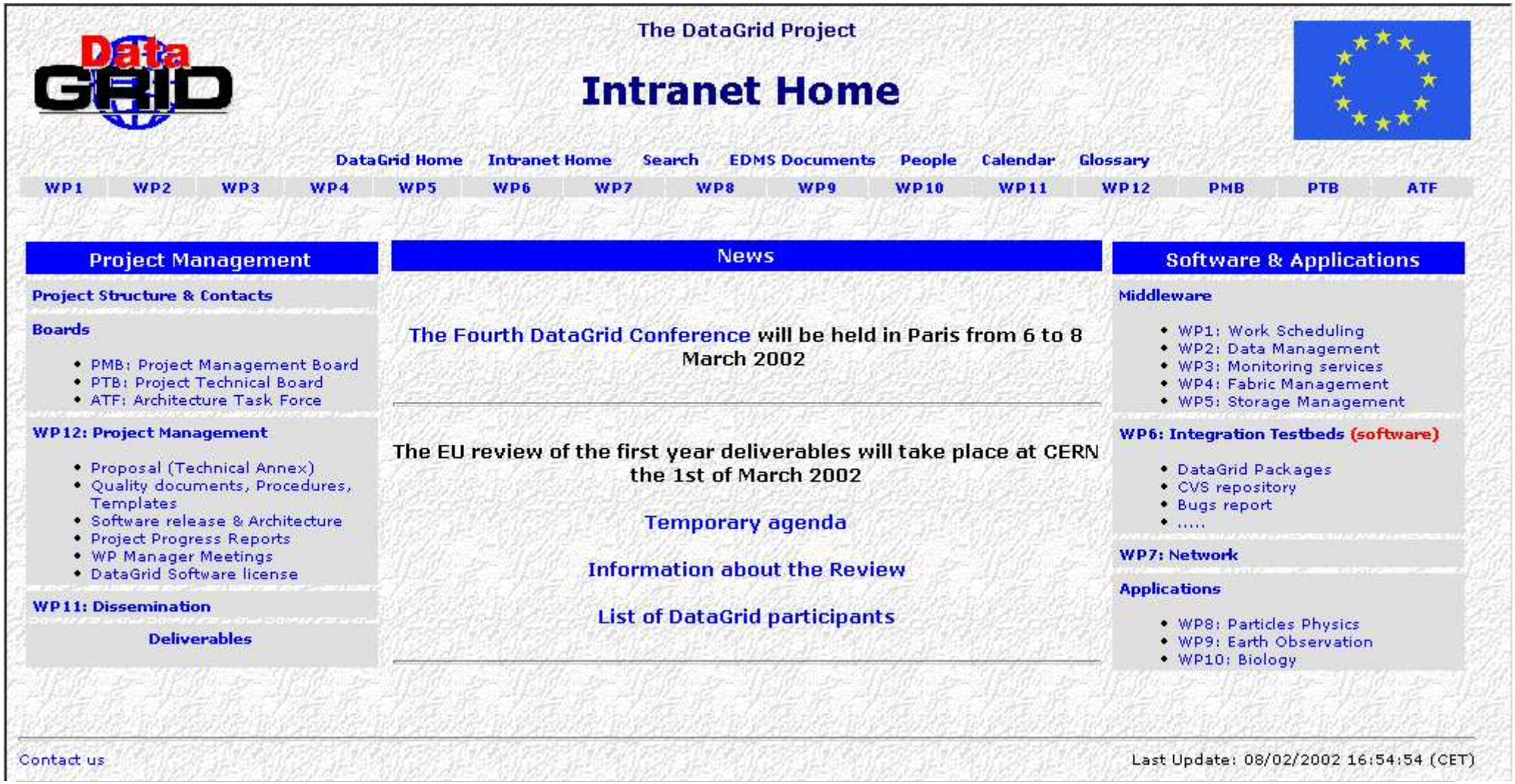
Project Monitoring and reporting (2/3)

- Quarterly/Annual reports & Cost Claims process



Project Monitoring and reporting (3/3)

- DataGrid website: Project management and technical part



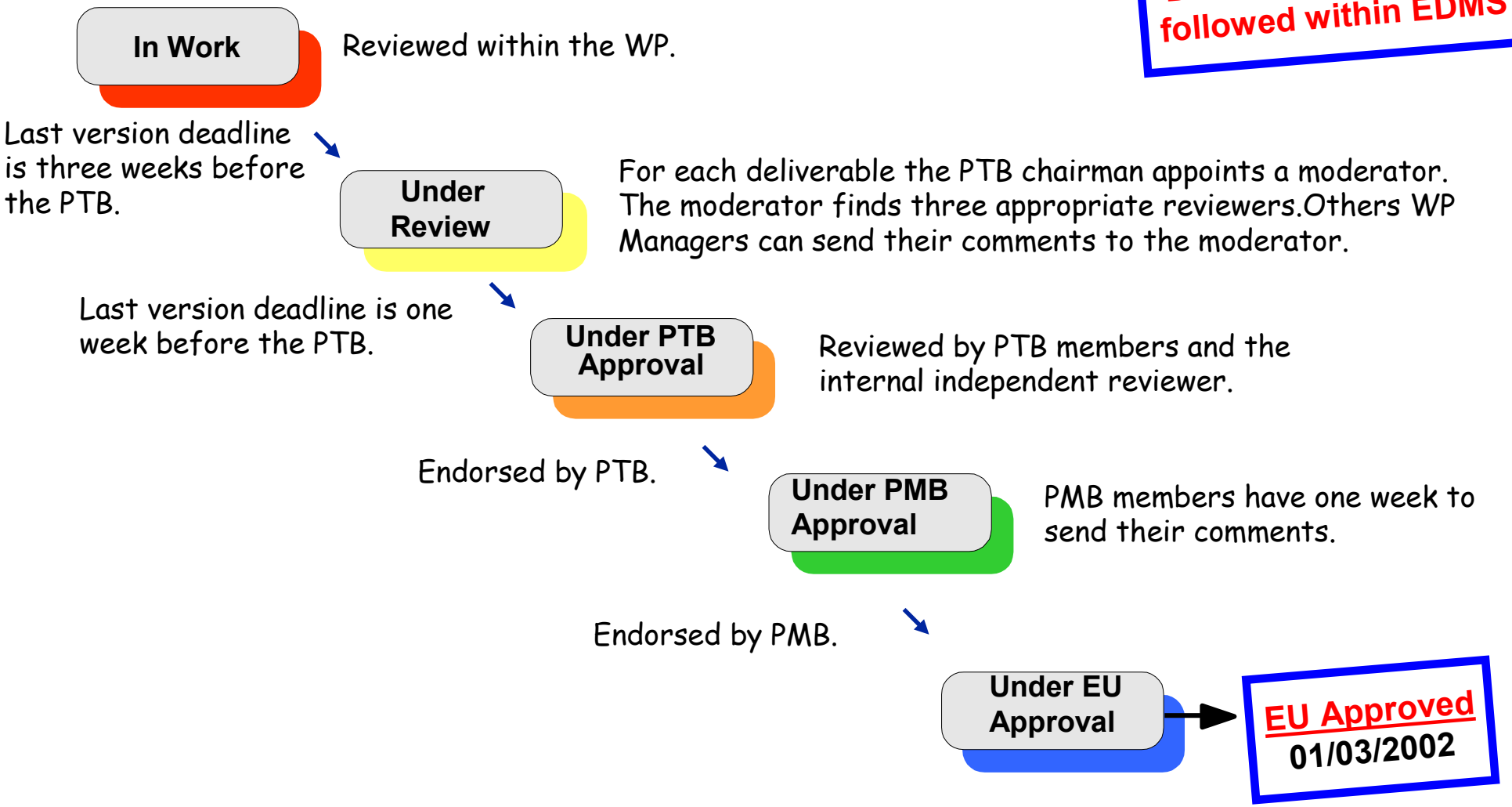
Document Management

- EDMS: Cern Document Management Tool

- Document identification conventions
- Document Templates
- Deliverables review procedure
- Standardised document production tools: Word, Latex, pdf
- Standardised document management tool: EDMS

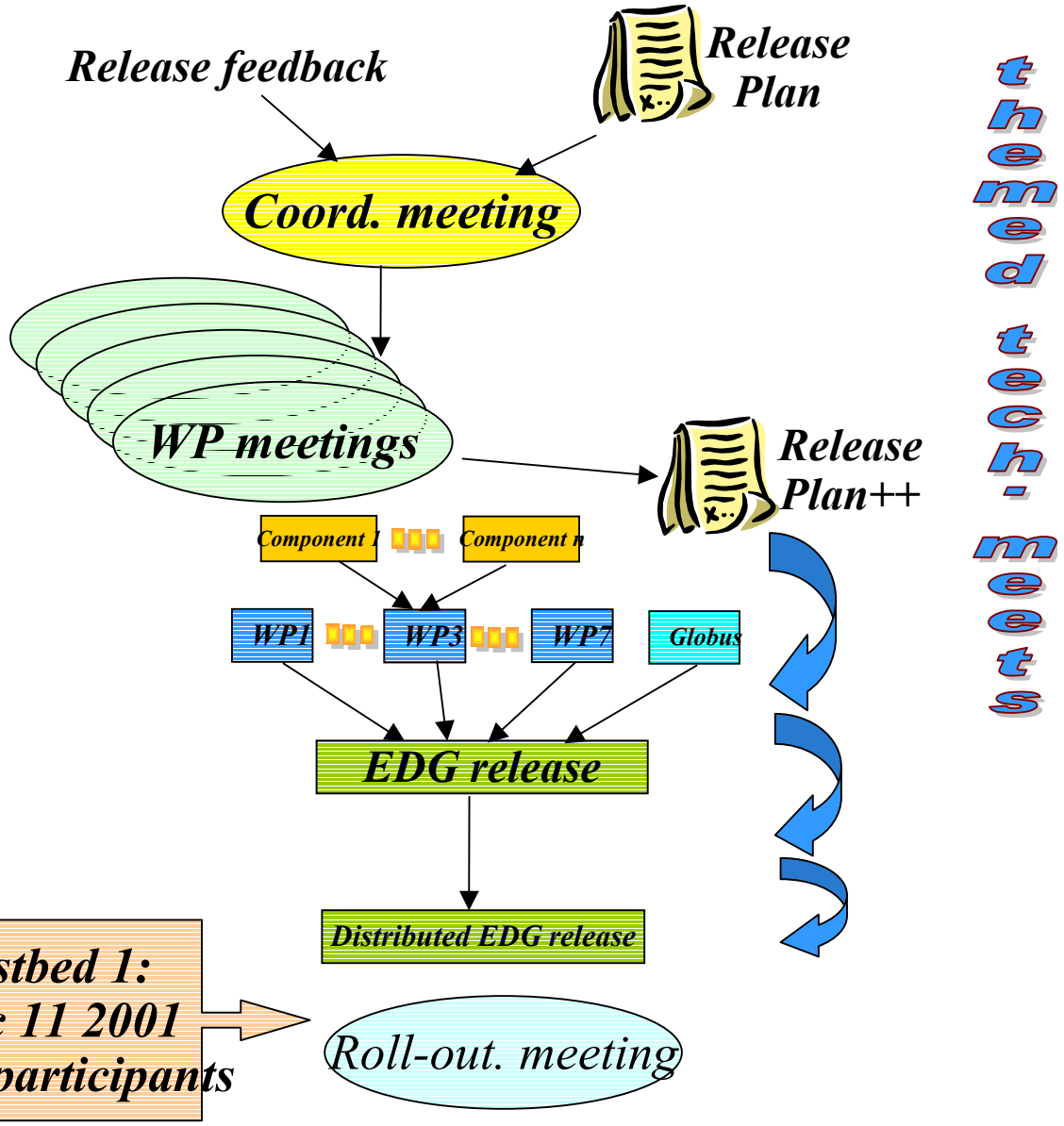
Deliverables Review Procedure

Document Workflow followed within EDMS



Software Release Procedure

- Coordination meeting
  - Gather feedback on previous release
  - Review plan for next release
- WP meeting
  - WPs elaborate their specific work-plans for the next release.
- Software Release work-plan coordination
  - Establishment of an overall plan for the next release.
- Sw development
  - Performed by WPs in dispersed institutes and run unit tests
- Software integration
  - Performed by WP6 on **frozen** sw
  - Integration tests run
- Acceptance tests
  - Performed by the validation team.
- Roll-out
  - Present sw to application groups
  - Deploy on testbed



Configuration Management, code repository, autobuild and bug tracking management

- Central repository
  - DataGrid code is managed within a central repository. This repository consist of a CVS server for source code and a package repository to distribute the packaged code. The repository is hosted by WP6.
- Autobuild system
  - Performs nightly rebuilds of the DataGrid code (based on build conventions D6.2)
  - Reports on results on a web page
  - API documentation is generated from source code and published on the website
  - An autocheck procedure will perform basic functionality tests
- Bug reporting and tracking
  - Centralised via Bugzilla

Standards and tools

- Documentation production: Ms Office, Latex, pdf
- Documentation Management: EDMS
- Code Management: CVS
- Build tools: autoconf, automake, ant
- Bug tracking: Bugzilla
- Auto-documentation tools: Javadoc, Doxygen
- Coding rules checking tool: Code Checker
- Testing: junit, cppunit

Plan for the next year

- Year 2: Focus on Quality of the software production, user support, software distribution and Testbed infrastructure
  - Improve and extend the infrastructure and toolset to facilitated software development, integration and distribution: Automatic build, autocheck, result notification, test plan.
  - Empower Iteam to control quality of contributed software and documentation.
  - Refine requirements priorities and coverage tests plan.

Summary

From the quality point of view,

- For the fist year, the quality focus was on:
  - Quality of the deliverables
  - Project monitoring and reporting
  - Software infrastructure
- The second year will further incorporate the benefit of successive software releases as defined in the Software Release Policy document.