



DELIVERABLE D3.1
DETAILED PLANNING FOR ALL
THE TOOLS AND SERVICES
INCLUDING USE CASES FOR WP3

WP3 New Grid Services and Tools

Document Filename:	CG-WP3-0010 Abstract
Work package:	WP3 New Grid Services and Tools
Partner(s):	PSNC, CYFRONET, ICM, UCY, DATAMAT, TCD, CSIC, UAB, ALGO
Lead Partner:	PSNC
Config ID:	CG-WP3-SRS-0011 Abstract
Document classification:	PUBLIC



Abstract

The main objective of the workpackage WP3 (New Grid Services and Tools) is to develop Grid services and a software infrastructure required to support the Grid users, applications and tools as defined in the workpackages WP1 and WP2. This workpackage includes a set of tools and services, which will define (also including the results of WP2) the middleware layer of the CrossGrid project. Additionally the workpackage includes extra tasks concerning tests and integration as well as the co-ordination. The formal list of tasks in WP3 (Fig. 1):

- Task 3.0 Co-ordination and management
- Task 3.1 Portals and roaming access
- Task 3.2 Grid resource management
- Task 3.3 Grid monitoring
- Task 3.4 Optimisation of data access
- Task 3.5 Tests and integration

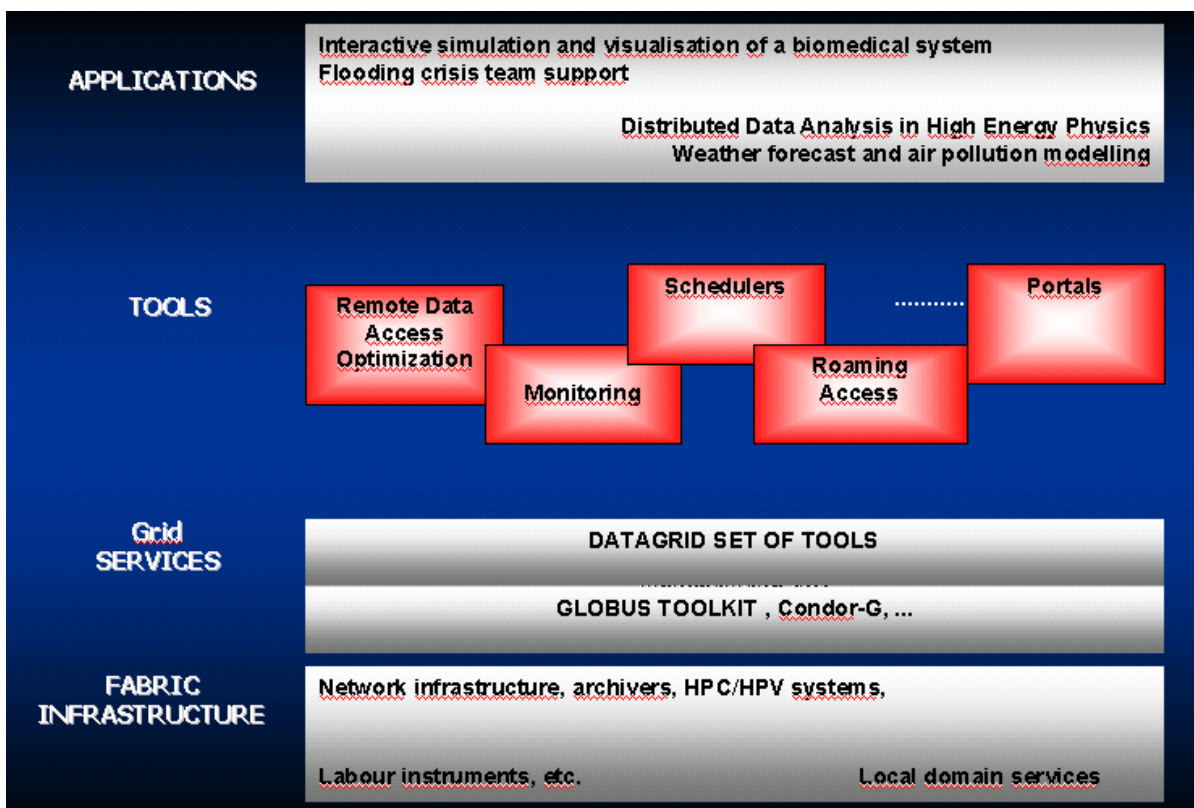


Fig. 1 Positioning of the WP3 results – TOOLS and services

Tasks 3.1 ... 3.4 will develop a middleware software (Fig. 2) delivered as tools (e.g. portals, roaming access) and services (e.g. schedulers, remote data access, grid monitoring). In general the results of WP3 will improve the existing grid middleware by delivering new kind of tools and services or by enhancing the existing. Tasks 3.5 will integrate the tools in a

common setup version, releasing it and making publicly available after tests performed in the testbed environment.

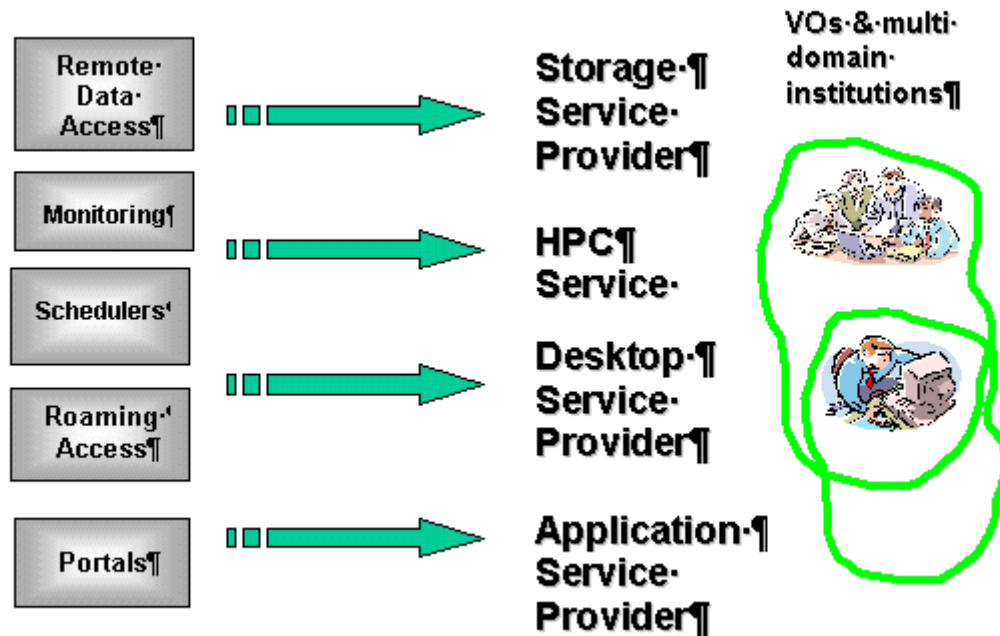


Fig. 2 The support of Grid services done by CrossGrid WP3. The workpackage WP3 will enhance the idea of developing Grid services

The first deliverable in Month 3 is released in a report manner (according to the CrossGrid Annex 1: http://www.cyf-kr.edu.pl/crossgrid/CrossGridAnnex1_v31.pdf) of detailed planning for all the tools and services including use cases for:

- requirements of the end user
- definition of the monitoring environment functionality and of interfaces to Task 2.4
- specification of GRM agents
- review of state-of-the-art and current related techniques.

The definition of the end user is different depending on the task, e.g. for portals and roaming access (3.1) the end users requirements are described by applications (workpackage WP1). We organised a set of meetings and teleconferences with each application team, discussing the real requirements, work- and dataflow, trying to extract all common rules. The general rules and behaviour will define the bottom layer. Advanced and specific requirements will be delivered on the basis of the bottom layer. On the other hand, the end user of WP3 tasks is also defined by other workpackages (e.g. task 2.4 will directly use the results from Grid Monitoring 3.3), which means the requirements have also been taken into account while defining this report.

The deliverable of Month3 consists of the Software Requirements Specification (SRS) done for each task: 3.1 .. 3.5, following this introduction. The SRS documents will also be enhanced later (deliverable no. D3.2) before the Month6 by defining the architecture, interfaces and security issues. Therefore some parts of these documents may not be filled out and described as TBD (to be done).

The purpose of the SRS 3.1 document is to define the requirements for the Roaming Access, Migrating Desktop and user portals. In detail, this document will provide a description of requirements for the Migrating Desktop and Application portal, which will allow the user to access his environment from remote computers. It will provide some requirements and problems for other CG WPs.

The SRS 3.2 describes the requirements of Scheduling Agents for parallel applications submitted to a grid environment. Scheduling Agents are schedulers, which make decisions about where, when, and how to run parallel jobs on Grid resources as specified by a set of policies, priorities, requirements and limits. They are responsible for allocating application tasks to computing resources in a way that tries to guarantee that applications are conveniently, efficiently and effectively executed. Agents will interact with other services developed in the CrossGrid project and this specification is aimed at being compatible with other on-going grid projects (namely, the Datagrid).

The SRS 3.3 document specifies the software requirements including those for the OCM-G monitoring system for Grid applications, additional services for non-invasive monitoring, and the Jiro-based services for Grid-infrastructure monitoring. The intended audience is both the Task itself and dependent tasks.

The SRS 3.4 document is aimed at describing requirements which inspire and influence the form of the Data Access Package. The document is intended to be a base for the final software design for task 3.4 and its co-operation with other tasks. It should be helpful to formulate a coherent vision of the CrossGrid environment. It presents the proposed architecture for data-access and optimisation problems for the CrossGrid Project. Dependencies between the system components and connections between them are shown with some more detailed specifications of interfaces. The architecture relies mainly on SOAP and GridFTP protocols with possible extensions to OGSA when it becomes available. The programming languages and libraries are mentioned as well.

The SRS 3.5 provides an overall description of the tests and the integration process, details the composition of the integration team and provides user and administrator support from the Integration Team.

To resume, the current version of SRS documents describes the requirement for each WP3 task, gives an input set of requirements to other workpackages, especially WP2 (Grid Application Programming Environment) and WP4 (International Testbed Organisation). Additionally the deliverable D3.1 can be treated as the first step towards the definition of the WP3 architecture and interfaces. The deliverable D3.1 includes a set of documents for each tasks 3.1...3.5, including in separate documents



Software Specification Requirements (SRS) and remarks of last improvements done after the internal review process. There is also an overview of the current state of the art for each tasks (except the Grid monitoring, which is based on the overview done by the DataGrid project).

Delivery Slip

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Document Log

Version	Date	Summary of changes	Author(s)
1.0	May 8 th , 2002	Summary of SRS documents coming from tasks 3.1 .. 3.5	Norbert Meyer
1.1	May 31 st , 2002	Changes according to the remarks of the Internal Review Board	Norbert Meyer