

To whom it may concern,

Find below, please, a detailed list how certain items of the review have been addressed in the revised deliverable.

**JRA 2.3.1 is rejected and to be resubmitted by 30 November.
There are two major issues that led to the rejection of this document:**

a) Use-case descriptions:

It remains unclear how the use cases described in this document relate exactly to the planned S-Cube research work and what role and purpose said use cases will have in the execution of the planned research work. Will they ever have any role in the validation or assessment of the research work? Few samples:

Done: Explanations have been added to the introduction and conclusions to clarify the purpose of the document and the use cases.

Explanation: According to the Description of Work, the current deliverable titled “Use case description and state-of-the-art” is a “description of the state of the art of the topics covered in the workpackage”. The aim was to introduce some particular topics that are going to be investigated in the WP. The use cases are illustrations only to better explain the techniques and methods presented in the survey.

These use cases are valid within the scope of the document and are not intended to serve validation or assessment purposes in the future. Similarly, they are not general use cases for other WPs of S-Cube.

- Numerical Simulation Applications on Grids (How does numerical simulations apply?)

Done: This section has been simplified.

Explanation: numerical simulations are typical applications in Grids. To understand the need for adaptation (some self-* properties) in Grid environment, these examples are straightforward.

- Autonomic Broker Agents in Grids (Is this a revocation of the intelligent / mobile agents of the late 90's? Why are the results of those projects not analysed in the state-of-the-art? There had been more than 26 FP4 projects that time.)

Done: this section has been largely rewritten to better present the purpose of grid brokering.

Explanation: Definitely, autonomous grid agents are not a revocation of intelligent/mobile agent technologies hence, results in this field are not analysed as they are far out of scope of the document. (Similarly, grid brokering is not equivalent to scheduling, mapping, load balancing, etc.) Grid brokering is an intersection of *some aspects* of agents, scheduling, load balancing and others. The purpose of this section to introduce the need for various (self-)adaptation in brokering techniques. This may involve some aspects of agents, scheduling, load balancing, etc., but not equivalent to any of them.

- Autonomic Service Deployment (Brokers that define the execution schedules, predictors that determine expected peak load situations, self-replicating services initiating their own renewal, etc. What is this more than job-scheduling, batch processing optimization, load-balancing or Unix fork(?)

Done: this section has been largely rewritten to better present the purpose of autonomic deployment.

Explanation: automated service deployment is discussed with an emphasis on why the listed use cases are different than the existing job scheduling, batch processing and load balancing techniques.

- Version Management in Service Infrastructure (Telephone Number Porting as a service instance is likely nothing else than any other service instance. Software version management is meanwhile well understood and many commercial and academic solutions are in place. What is the added value here and for S-Cube?)

Done: the section has been modified in order to align our future research more with the rest of the text, and with the aim to explain the relevance of service versioning more verbosely.

Explanation: in our view versioning is still a valid research area that is supported by the fact that there have been two papers on SCC'08 on service versioning (see <http://conferences.computer.org/scc/2008/adv-program.html>) - one by IBM New York

One could get to the impressions that in many instances just well established teams had been replaced by more modern buzz-words.

The document does not contain any of our inventions, just practical cases and survey of existing techniques. Hence, this impression (that we argue, anyway) cannot be attributed to the quality of the document.

b) State-of-the-Art:

The state-of-the-art as presented appears rather incomplete and partly even outdated. There is a big literature about all types of scheduling, load prediction and

load balancing problems and solutions. Even taking mixtures of batch- and interactive tasks and distributed processing into account. The document, however, provides no review or relationship mapping. The past intelligent-/mobile agent research work is quoted but in no way analysed. Recent big research projects, e.g NEXT-Grid (FP6 IP), are not even mentioned. Despite that some of their research aspects (like the reduction of multi-site SLAs to sets of bi-partite SLAs) might be relevant. No assessments, conclusions or research recommendations are provided. The 'future research topics', named on p45, appear out of context to the rest of the document. Overall the document is considered weak. The value it provides to the NoE remains unclear.

Done: the introduction and the conclusion has been extended to clearly state the purpose and the scope of the document. Also, some of the sections have been extended to clarify some of the questions. Some links with NextGrid and other grid projects have been added. Future research directions have been refined with some more concrete examples.

Explanation: some of the remarks seem to be expectations beyond the scope of the document. Scheduling, load prediction and load balancing are clearly not in focus of this deliverable, albeit mentioned in various contexts. Intelligent agents occur only once as an example, mobile agents are *not even mentioned* in the document hence, they are not analysed. References to major Grid projects and forums, including NextGRID have been put into the document albeit, we did not find results of NextGRID particularly related to the scope of the document.

Finally, the deliverable is a survey of some use cases and the corresponding state-of-the-art. In alignment with the DoW, it is not the purpose of the document to set up any concrete research directions. The research vision of the WP is currently being formed; this document is a basis for this work. Hence, the conclusion is rather a set of possible/potential research topics than any concrete plan.