

Grid Scheduling Ontology Working Group

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## **Grid Scheduling Ontology Working Group Global Grid Forum, Scheduling and Resource Management Area**

Status of this Draft

This draft provides information for the Grid scheduling community. Distribution of this document is unlimited.

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### **1. Abstract**

The GGF Scheduling and Resource Management Area is concerned with various issues relating to resource scheduling and resource management in Grid environments. To support automatic resource management and service level agreement across different systems operated at different sites by different organisations a machine processable meaning of the scheduling domain's operational vocabulary is mandatory. The Grid Scheduling Ontology Working Group addresses this ontology.

### **2. Charter**

**Chairs:**

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<http://www.gso-wg.org>

**Charter:**

Focus/Purpose:

This working group has the goal to produce an ontology of Grid Scheduling accompanied by a set of documents describing the ontology and the tools/libraries used to create the ontology and to make use of the ontology later.

**Scope:**

The ontology will be based on the Grid Scheduling Dictionary developed by the Grid Scheduling Dictionary Working Group earlier.

**Goals:**

The working group will create an ontology of the Grid Scheduling domain supporting the scheduling of Grid resources done by local and distributed instances of software subsystems like schedulers, brokers or corresponding Grid services. The ontology created will provide the machine processable meaning of scheduling terms and conditions that is needed to negotiate service level agreements between usually heterogeneous systems operated at different independent sites. The working group will define usage and hierarchy of terms from the Grid Scheduling Dictionary thus helping to understand these terms and enable tool builders to incorporate the ontology into their tools. The ontology will overcome the shortcomings of a dictionary allowing classification of schedulers, reasoning about schedulers or mapping semantics of different scheduling systems for example. Using the ontology generated by the working group when designing and implementing the next generation of Resource Management Systems and their corresponding Grid services may further lead to ontology-driven systems.

The Grid Scheduling Ontology Working Group will establish a close collaboration with the Semantic Grid Research Group. While this research group addresses more general, long term research on the Semantic Grid, the Grid Scheduling Ontology Working Group will produce one concrete instantiation of an ontology. The Grid Scheduling Ontology Working Group will further collaborate with other working groups of the Scheduling and Resource Management Area, namely the Grid Resource Allocation Agreement Protocol Working Group and the Job Submission Description Language Working Group.

Class of documents: The intermediate documents will be of class Informational, the final one will be of class Community Practice.

Current Document: None.

Status: It is planned to hold a BoF at GGF-10.

**Milestones:**

January 2004	:	Draft charter ready and posted to the GGF web site
GGF-10 WG meeting:		Discussion of the charter; Presentation of a draft ontology and the tools used; Planning of follow-up steps
GGF-12 WG meeting:		Integration of all terms selected from dictionary; Request for feedback
GGF-13 WG meeting:		Demonstration of usage of the ontology
GGF-14 WG meeting:		Grid Scheduling Ontology ready; Final document summarising and describing the ontology available; Description how the ontology may be used by resource management systems or services negotiating SLAs

**Evidence of commitments to carry out WG tasks:**

Several individuals have committed to support the GSO working group, among them people from the GGF Semantic Grid Research Group.

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**Pre-existing Document:**

The development of the Grid Scheduling Ontology will start from the “Grid Scheduling Dictionary of Terms and Keywords” that was created by the Grid Scheduling Dictionary Working Group. This document is now part of the GGF document series as GFD-I.11.

**Exit Strategy:**

The work of the GSO Working Group will be completed with the documents that will be made available through the last Milestone (planned for the GGF-14 meeting) as mentioned above. The working group will be terminated once the document describing the Grid Scheduling Ontology has passed the public review period for documents of class community practice.

**Any other relevant information:**

The outcome of the working group will be used by several internal groups and projects both GGF internal and external, e.g.

- the GGF Semantic Grid Research Group
- the GGF Grid Resource Allocation Agreement Protocol Working Group