

Grid Resource Allocation Agreement Protocol

GRAAP-WG working session 1
Monday, 12 October, 2009
Banff, Canada

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GRAAP Sessions at OGF27



October 12

- Session 1 9:00 – 10:30 Group discussion on the state of the group, recent activities, state of the experimental document. Presentation of a negotiation implementation in the European SmartLM project. **(this session)**
- Session 2 10:30 – 12:00 Presentations of approaches for re-negotiation. Discussion on Negotiation and Re-Negotiation, group work on Negotiation.
- Session 3 15:00 - 16:30 Continue group work on Negotiation towards an update of the WS-Agreement specification.

All sessions in MB 150

Agenda



- Status of the Working group
 - Experience document finished
 - Now focusing on WS-Agreement-Negotiation
 - GRAAP Charter updated
- Activities since last OGF
 - f2f meetings
 - Paperwork
 - Work on experience document
 - Advance reservation profile
 - Description of Negotiation
 - WS-Agreement in the BREIN project: Intelligent SLA Negotiation, annotated SLAs
 - several other publications tomorrow in the SLA workshop
 - Implementation
 - Finished Implementation of multi-round negotiation based on WS-Agreement 1.0

Experience document



- State of the Experience Document
 - In public comment since begin October until October 30
 - Received one comment from Toshi:
 - Minor comment on the Legend in Section 5 Constructs used in WS-Agreement – An Analysis
 - There seem to be two kinds of ways of denoting yes and no: Y or y / N or n. Is there any difference in the meaning? If not then there should be a consistent way of denoting.
 - Other wise, I think this document is very important in showing how WS-Agreement is actually used in various projects.
- Presentation of the SmartLM implementation

Charter update



Group Description

The goal of the GRAAP Working Group is to produce a set of specifications and supporting documents which describe methods and means to establish Service Level Agreements between different entities in a distributed environment. The WS-Agreement Specification V1.0, a Web Services protocol to establish agreements between two services, has recently (May 2007) been published as an OGF Proposed Recommendation (see GFD.107). Currently, the groups focuses on negotiation and renegotiation of SLAs using WS-Agreement negotiato and usage scenarios.

Group Focus and Scope

Within the scope of the GRAAP-WG are the definition, the negotiation, and the management of Service Level Agreements (SLAs). The group especially focuses on the usage of SLAs and WS-Agreement, an SLA format and protocol specified by the GRAAP-WG, in distributed systems, Grids and Clouds. In the context of OGF, the relation to the Open Grid Services Architecture (OGSA) is of special importance.

The group is about to finish the final draft of the WS-Agreement Experience Document, which describes the interoperability testing of different WS-Agreement implementations (to evaluate the specification and to evolve from an OGF Proposed Recommendation to an OGF Recommendation). The focus of GRAAP is now on the discussion and preparation of the definition of an add-on to WS-Agreement v1.0 extending language and protocol to allow negotiation and re-negotiation of SLAs using WS-Agreement.

WS-Agreement-Negotiation in SmartLM



- Overall approach as presented OGF26 in Chapel Hill
- Few modifications of final implementation
 - templates are simpler, not containing all available licenses
 - templates selected by name of the application
 - user negotiates the license unless he already has an exact description of the license
 - Introduced „Negotiation Goal“ as SDT allowing the user to specify
 - „FEATURES“ to negotiate the features of a license
 - „TIMESLOT“ to negotiate the time of license reservation

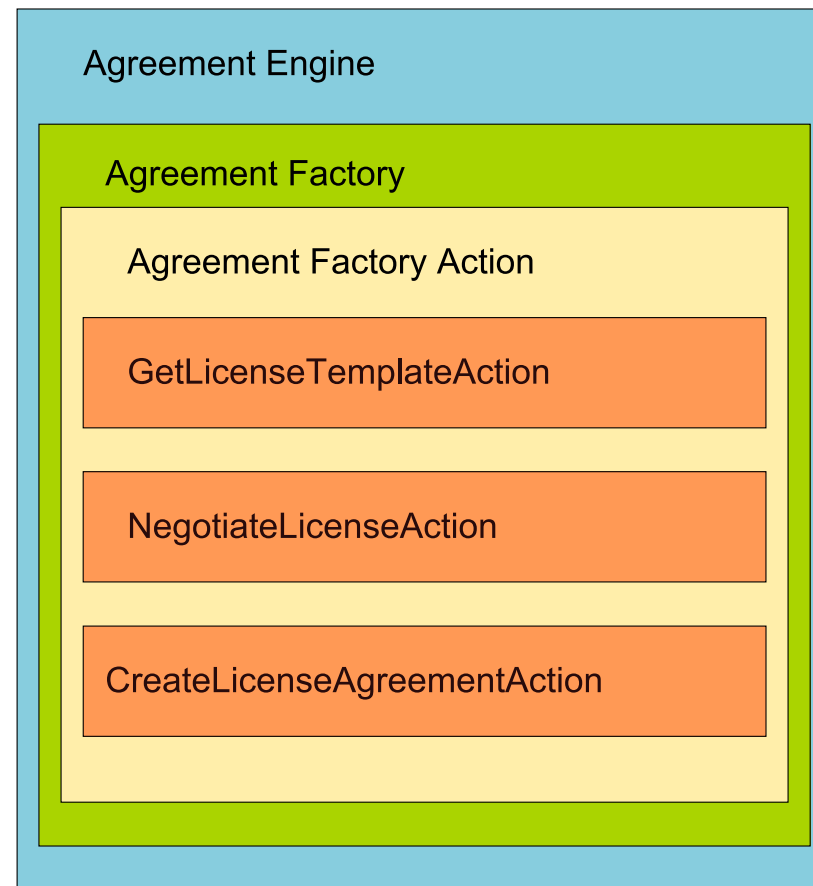
WS-Agreement-Negotiation in SmartLM



WS-Agreement-Negotiation in SmartLM



Implementation is based on WSAG4J



Advance Reservation profile



Initial Proposal (stemming from the SLA4D-Grid project):

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  xmlns:ar="http://www.ogf.org/graap/AR/2009/04/"
  targetNamespace="http://www.ogf.org/graap/AR/2009/04/"
  attributeFormDefault="qualified"
  elementFormDefault="qualified">

  <xs:complexType name="TimeWindowType">
    <xs:sequence>
      <xs:element ref="ar:StartTime" minOccurs="0"/>
      <xs:element ref="ar:EndTime" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>

  <xs:element name="StartTime" type="xs:dateTime" />
  <xs:element name="EndTime" type="xs:dateTime" />
  <xs:element name="AllocationTimeConstraint" type="ar:TimeWindowType" />
  <xs:element name="AllocationTime" type="ar:TimeWindowType" />

</xs:schema>
```

Will be modified after OGF27, adding e.g. Duration.