

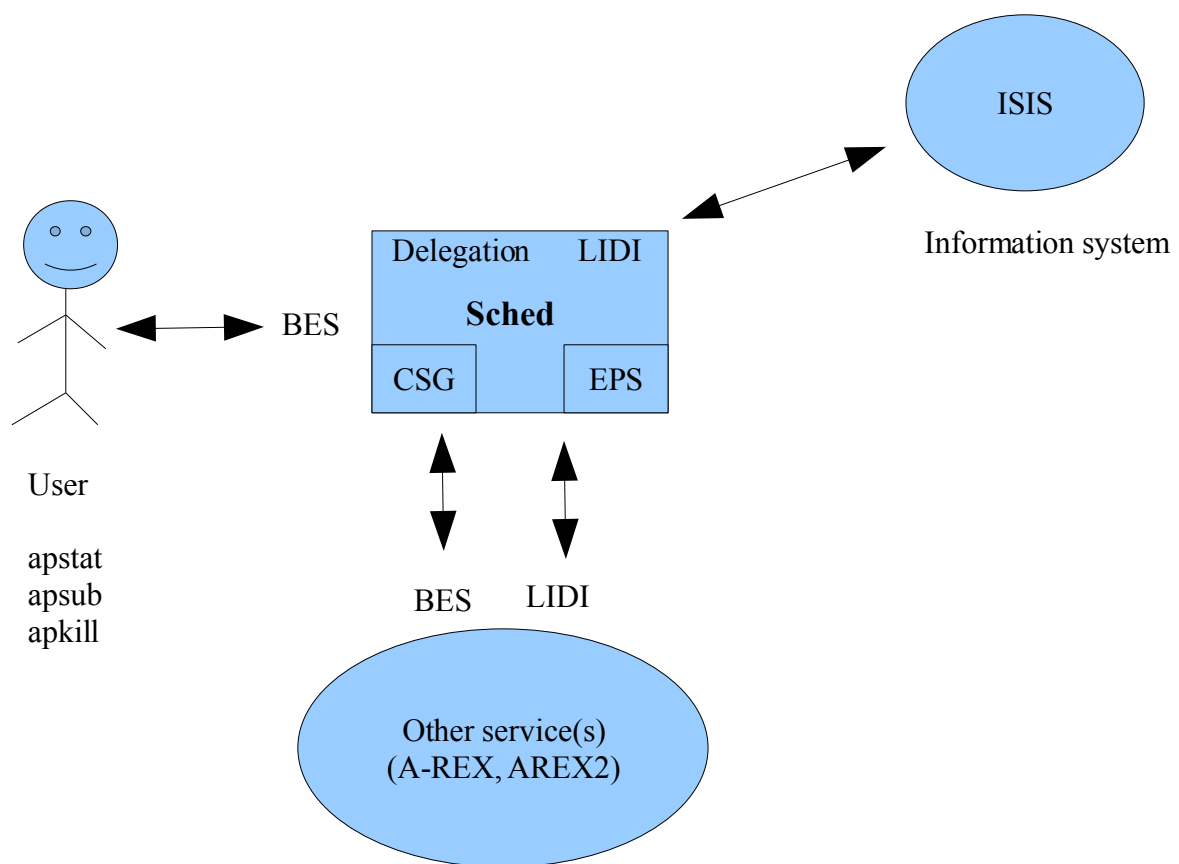
# Sched (grid, cluster level scheduler) draft

Important parts of the new scheduler service:

- Execution Planning Services (EPS) plugin: An EPS will typically attempt to optimize some objective function such as execution time, cost, reliability, etc. An EPS will not enact the schedule; it will simply generate it. An EPS will likely use information services and Candidate Set Generator
- Candidate Set Generator (CSG) plugin: The basic idea is quite simple: determine the set of resources on which a unit of work can execute—"where is it possible to execute?", rather than "where will it execute?" This may involve issues such as what binaries are available, special application requirements (e.g., 4GB memory and 40GB temporary disk space, )

The EPS and the CSG function are in these document (OGSA Arch. Doc v1.5):

<http://www.ogf.org/documents/GFD.80.pdf>



1. Figure Sched draft

The Sched can be grid and cluster level scheduler. It will support the PULL and the PUSH mode scheduling. The cluster element can ask job from the Sched with using its iBES interface.

iBES interface methods:

## GetActivity

*Task:* ask for job from the Sched

*Input:* Sched End Point, Information document

*Output:* job description

### **ReportActivityStatus**

*Task:* the cluster element sent the activity status to the Sched

*Input:* Sched End Point

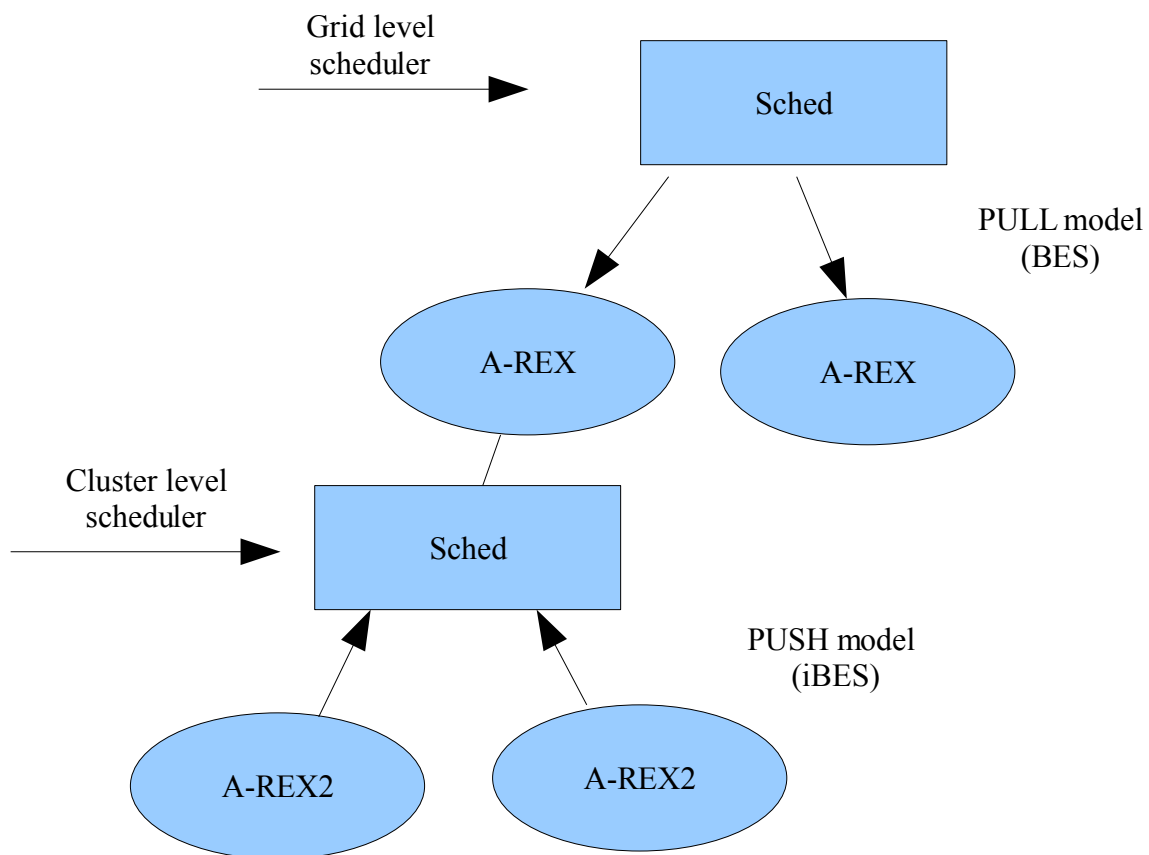
*Output:* Activity document

### **GetActivityStatusChanges**

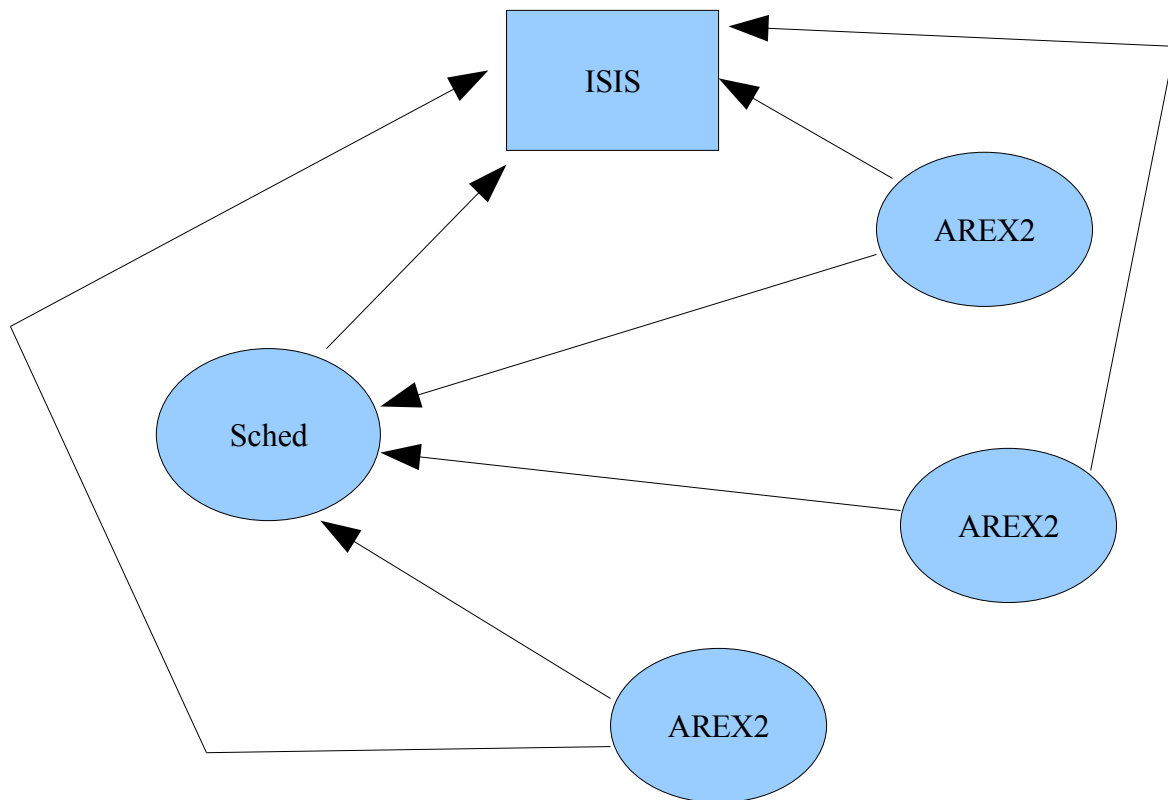
*Task:* the cluster element queries the activities status changes from the Sched

*Input:* Sched End Point

*Output:* list of JobStatusChange



2. Figure: Grid, cluster level



3. Figure: Sched and the AREX2 services relation

### Implementation workplan

January 14<sup>th</sup> 2008 - February 1<sup>st</sup> 2008

- service skeleton
- job class development

February 1<sup>st</sup> 2008 - February 15<sup>th</sup> 2008

- Sched implementation
- the Execution Planning and the Candidate Set Generator plugins are not important in this part

February 15<sup>th</sup> 2008 - March 1<sup>st</sup> 2008

- iBES implementation

March 1<sup>st</sup> 2008 - March 15<sup>th</sup> 2008

- EPS, CSG implementation