

# PROPOSALS FOR THE SECOND VERSION OF THE UR SPECIFICATION

*Rosario M. Piro – INFN Torino, Italy*

- Many large Grid communities (LCG, OSG, ...) require information on the User VO! ProjectName is semantically different ...
- Several LCG VOs need more detailed information on groups and user roles within the VO (FQAN = Fully Qualified Attribute Name)!
- Proposal: VO and FQAN as parts of a user's identity

```
<UserIdentity>  
  <LocalUserId>...</LocalUserId>  
  ...  
  <VOName>cms</VOName>  
  <UserFQAN>/cms/production/Role=Admin,...</UserFQAN>  
</UserIdentity>
```

- Usage records need to be associated to Grid user IDs (DNs), Grid job IDs and Grid resource IDs (e.g. Globus contact string).
  - Grid resources may be logical entities (e.g. LCG CE IDs: *"t2-ce-01.to.infn.it:2119/jobmanager-lcglsf-cert"*). MachineName, Queue and Host are not enough ...
- SiteName and LRMS type would be useful.
- Proposal (in analogy to UserIdentity and JobIdentity):

```
<ResourceIdentity>  
  <GlobalResourceId>t2-ce-01.to.infn.it:...</GlobalResourceId>  
  <SiteName>INFN-TORINO</SiteName>  
  <Queue lrmsType="LSF">cert</Queue>  
  <MachineName>Tier2-Cluster-Torino</MachineName>  
  <Host>wn17.to.infn.it</Host>  
  ...  
</ResourceIdentity>
```

- The measured resource usage of a job depends heavily on the performance of the executing resource.
- How to compare usage records from heterogeneous resources across the Grid? Normalization of resource usage is one of the important issues in multi-organizational environments that are interested in fair share.
- 1 sec CPU time  $\neq$  1 sec CPU time !!! (for two different processor performances)
- Proposal: add performance information to ResourceIdentity

```
<ResourceIdentity>
```

```
...
```

```
<Performance units="SpecInt2000">...</Performance>
```

```
<Performance units="SpecFloat2000">...</Performance>
```

```
</ResourceIdentity>
```



- We should go beyond job usage and think about other resource usage!
- Storage accounting, for example, is one of the big upcoming issues ...
- Proposal:
  - JobUsageRecord = UsageRecord + JobIdentity
  - StorageUsageRecord = UsageRecord + FileIdentity

```
<StorageUsageRecord>  
  <UserIdentity>...</UserIdentity>  
  ...  
  <FileIdentity>...</FileIdentity>  
  ...  
</StorageUsageRecord>
```

- Users might be charged not only for consumed resources, but also for requested/reserved resources.
- Should it be possible to specify resource requests in the same Usage Record?
- Possible approach: additional attribute?

```
<Disk usage="consumed">...</Disk>  
<Disk usage="requested">...</Disk>  
<Network usage="consumed">...</Network>  
<Network usage="requested">...</Network>
```

(default should be "consumed" for backward compatibility)