

FZJ

SA3 Task: MSA3.3 Integration, Testing and Certification of the interoperability layer UNICORE-gLite which will allow running multi-middleware workflow applications on different types of computing resources like clusters and HPC-supercomputers.

Resources: allocated: **24 PM** used: **13.3 PM (110%)**

Presentation: (by Daniel Mallmann)

The aim of the interoperability work for UNICORE is to achieve the technical interoperability between UNICORE and gLite, i.e. to submit jobs from UNICORE to gLite and vice versa. The operational interoperability between EGEE-II and other projects or HPC centers deploying UNICORE are not addressed.

All HW resources accessible through UNICORE needed for development and testing will be provided by FZJ. The needed gLite resources will be initially that of FhG/DCAI, later FZJ may deploy gLite services as well. The pilot VO to provide a use case has not been determined yet.

Timetable shows that milestones have not been met so far.

The security part of gLite->UNICORE seems to be sufficiently provided by Condor-U “for simple security mechanism”; however, report mentions that Condor-U need to be extended to support “Explicit Trust Delegation” mechanism. The report states that this should be developed either by Condor-U developers or by FZJ.

For Information Services report states that for UNICORE->gLite only static information is available (no service discovery) while for gLite->UNICORE the information can be discovered dynamically through a UNOCRE BDII (to be developed) to gLite. The report states this troublesome sentence “might be better done by gLite developers”.

Job Submission and Control prototype UNICORE->gLite is available; however it contains number of very hard issues that prevent it being used in production. It seems that a huge development effort is needed on UNICORE side to make it really work.

Job Management for gLite->UNICORE direction using Condor for job submission through Condor-U is possible. This leaves some “challenges” for system administration. Another challenge is the current weak knowledge of gLite middleware at FZJ. Consequently the report states that to adapt WMS to use Condor-U “might be better done by gLite developers” and the Job Monitoring implementation may also be “better done by gLite developers”.

The data Management of UNOCRE is currently capable of only using the Input/Output SandBox which is recognized as being sufficient for the demonstration but totally insufficient for real production. In details, the report mentions that for UNICORE->gLite the STORM could be used to access gLite to GPFS resources (which needs DEISA system administrators agreement, the effort of installing is unpredictable) and the gLite->UNICORE direction requires NJS/TSI access to GFAL, FTS, SRM as well support for GridFTP, the development effort is also unpredictable.

In conclusion the report admits the complexity of the whole problem was largely underestimated at the time of writing the plan, that all efforts in executing the plan were concentrated on 2 persons since March and that the gLite expertise at FZJ is just too weak at this time to be able to write necessary modification of gLite software as agreed in the plan.

Notes:

The following acronyms are used in the following:

MS – Markus Schulz, DM – Daniel Mallmann, ZS – Zdenek Sekera, LF – Laurence Field, GD - Gergely Debreczeni)

- Very weak presentation
- FZJ used already 13 PM and all presented says “should be done by gLite people, we don’t have enough expertise”. That’s not acceptable.
- MS: Focus should be to be able to submit jobs from gLite to UNICORE. Why should EGEE fund UNICORE-> gLite?
- The long discussion has developed between FZJ representative and SA3 reviewers, here are the highlights:

- DM: should UNICORE developers change gLite components?

MS: Yes, this has been said in the plan.

- DM: how can UNICORE developers adapt gLite WMS to submit to UNICORE when their expertise is too weak? The complexity has clearly been underestimated.

MS: most of the slides say that almost every problem should be solved by gLite. It is not visible where the PMs (13 up to now) were spent. We hoped you acquired the expertise in gLite but this doesn’t seem to be the case. What is the plan to catch up?

DM: The Job Submission has been done.

MS: But your slides always say to be done by somebody else

DM: problem is just too hard.

MS: Do you have a way to submit through Condor to UNICORE?

DM: Yes, but not from gLite UI.

MS: on WMS the Condor part would have to be modified.

DM: LB is not solved.

MS: you have to translate from UNICORE state to gLite state model.

DM: gLite CE with Condor backup would see UNICORE as its universe.

MS: what did you do to pursue that?

DM: we didn't want to use the LCG CE.

LF: you could have modified BLAH (like NAREGI did).

LF/DM: GIN schema is well documented, infosystem is doable.

MS: UNICORE is a supercomputing link for us thus we are interested in UNICORE interoperation. We have to come up with a credible plan how to get back on track. Other approach is to write down a report on the difficulties to justify resources spent. I would prefer the first approach.

ZS: what is your interest in this work?

DM: UNICORE is completely lacking any data management so for us it is interesting to interoperate with gLite.

MS: you have the expertise of supercomputers.

LF: in fact, UNICORE can be seen just acting as a CE.

GD: maybe modifying gLite components is not the right approach. They may be still changing too quickly for you. Maybe you should try a different approach, like a Canadian grid.

DM: we may need to look at the Canadian grid.

LF: NAREGI wrote BLAH interface. We have to contact NAREGI.

- MS: If you want to continue we need a credible and doable plan by MAY/31, 2007. You didn't try to solve problems whenever you've encountered them ("should be done by gLite"). Other partners learnt a lot within one year. A very detailed plan is needed, also containing names for the tasks. Laurence can review the list of tasks. A timetable should be produced or admit that

this cannot be done within the time left. We are far away from what we planned to have in March. Focus only on gLite->UNICORE. Information System has been also mastered by other projects.

- How should we try to get things back on track (Markus):
 - We (SA3 & FZJ) should make a plan (by 31/05/07! tight!) which is feasible, realistic, possible.
 - The 13 PM already spent may need to be relabeled as “understanding of complex issues”.
 - Focus has to be strictly on gLite -> UNICORE, not the other way around. Indeed, EGEE is not interested in the other way around.