egee

SA3 on Interoperability

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All Activities Meeting

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Enabling Grids for E-sciencE

- **Partners presented the current status. June 1st**
- **Among the partners reviewed FZJ and UKHB**

- **Interoperability with UNICORE**

- **FZJ (36 PMs in the execution plan and DoW)**
  - FZJ has stated at the review that they are only aware of 24PMs)
- **Stated goals and plans had been defined in the MSA3.3 document**

- **Next slide shows the time table**

Timetable	
Mid of August 2006 (Project month 5)	Initial SA3 UNICORE – gLite interoperation` meeting at FZJ with participants from CERN and FZJ
End of September 2006 (Project month 6)	Clarification of use cases
March 2007 (Project month 12)	Subset of prototype interoperability components that allow for job submission from gLite to UNICORE and retrieving output, using only simple security mechanisms
September 2007 (Project month 18)	Prototype interoperability components
February 2008 (Project month 23)	Final interoperability components

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- **Process to identify a pilot VO is still ongoing**

- **Candidates**
  - WISDOM
    - In-silico docking on gLite
    - Refine list of best compounds by using highly parallel molecular dynamics codes
    - This is currently done "manually", not much pressure for integration
  - Fusion
    - Not much interest stated to FSJ to get seamless access to parallel systems ----> Low Priority
  - BalticGrid
    - Access to gLite from UNICORE infrastructure (wrong direction)
    - Chemomentum users (drug design) already using UNICORE

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- **Security**
  - UNICORE to gLite <----- Not the main interest for EGEE
    - UNICORE TSI runs commands as the user of the gLite UI, but expects a valid user proxy being already there
    - VOMS plugin for UNICORE client (under development)
      - *Some issues with JavaAPI*
    - MyProxy plugin for UNICORE client
      - *Development not started*

  - gLite to UNICORE
    - Current Condor-U sufficient for "simple security mechanism"
    - Condor-U needs to be extended to support "Explicit Trust Delegation"
      - *Extract user name from proxy certificate and insert it as role "user" in the UNICORE job*
      - *To be developed by Condor-U developers or FZJ*
    - VOMS (and proxy) aware UUDB not really necessary

- **UNICORE has no dynamic service discovery**

- **gLite to UNICORE**
  - The concept is clear:
    - UNICORE trusted agent discovers the UNICORE gateways from an xml file and queries the UNICORE NJSs to obtain information; needs to be registered in the UUDBs of the NJSs
    - Agent feeds information about the available UNICORE resources through a UNICORE BDII to gLite
  - No concrete work started
    - Comment from FZJ:
      - *Might be better to be done by gLite developers*

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- **UNICORE to gLite**
  - Some concepts and a prototype available
    - Security and privacy not yet understood

- **gLite to UNICORE**
  - Based on Condor job submission via Condor-U
  - Not been able to setup a gLite Test-Environment
    - CE, WN, UI, WMS, BDII
      - *Too complicated to be setup during first year*
  - Adapt WMS to use Condor-U
    - Turned out to be difficult
      - *FZJ: "Might be better to be done by gLite developers"*
  - Job Monitoring needs to be provided
    - Turned out to be difficult
      - *FZJ: "Might be better to be done by gLite developers"*
  - New approach: Condor CE as a gateway
    - Work has to start

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- **Only via SandBoxes**
  - Only useful for a proof of concept
- **No concrete work started**

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- **At the partner review we discussed various technical issues**
  - There is a lack of expertise related to gLite middleware
  - There has not been sufficient familiarization with the middleware
  - There is still the majority of the technical work to be done
    - 13.3 PMs have been used during the first year
    - Partner plans to use another 12.5PMs in the second year

- **SA3 reported on the status in DSA3.1.1**
  - And quarterly reports

- **The partner submitted a revised plan:**

Update to the interoperability plan for UNICORE

	Task description	Functional domain	Expected effort	Deadline
1	Finish installation of testbed (gLite UI, WMS, BDII, Torque CE, WN)		1 PM	End of July
2a	Examine gLite CE BLAH: how to adapt for submission to UNICORE? (Look at NAREGI solution) Configuration: gLite CE with adapted BLAHPD submits to UNICORE; needs JDL to AJO converter and UNICORE job status monitor	Job submission Job management	1.5 PM	End of July
2b	Examine gLite Condor CE Configuration: gLite Condor CE is a Condor Submission Node; submits to gLite Worker Node, acting as Condor Master; Condor Master on gLite Worker Node will be configured to submit to UNICORE (Condor-U)	Job submission Job management	1 PM	End of July
3	Choose the solution for the job submission and management (2a or 2b)			End of July
4	Implement the selected solution for the job submission and management	Job submission Job management	3 PM	End of October
5	Implement service discovery agent: agent discovers the UNICORE gateways from an xml file; queries the UNICORE NJSs to obtain information; feeds information about the available UNICORE resources into a UNICORE BDII; (agent needs to be registered in the UUDBs of the NJSs)	Information service/ Service discovery	3 PM	End of October
6	Adapt Condor-U to support UNICORE Explicit Trust Delegation	Security	2 PM	
7	Examine SRM, LFC and GFAL, FTS: how to access data from UNICORE resources? (GridFTP can be used for file transfer between two UNICORE NJSs/TSIs, but GridFTP is not available on all UNICORE resources)	Data management File transfer	~2 PM	
8	Choose a solution for data management and file transfer			
9	Implement the selected solution for data management and file transfer	Data management File transfer	? PM	

Critical

Not realistic

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- **The revised plan is basically the original plan**
  - Using half of the resources to achieve the original goals
  - I am not convinced that this is possible
    - End of July milestone is critical
- **In the discussions it became clear that UNICORE sees the strategic importance for interoperability**
- **Comment by Markus:**
- **We fund UNICORE to make UNICORE look like gLite**
  - Is this in their interest?
  - It is clearly in our interest
    - Easy access to more and different resources for our VOs
  - Isn't using gLite from UNICORE more interesting for them?
    - Would allow UNICORE users to use gLite resources

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- **Reviewed at the beginning of June**
- **Interoperability with ARC**

- **UKHB 12 PMs used 9 PMs in first year ---> 3 left**
- **Stated goals and plans had been defined in the MSA3.4 document**
- **Work started 1 year before EGEE-II**
  - Aggressive plan (architecture was clear at start of EGEE-II)

- **Next slide shows the time table**

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- **First task has seen some progress**
  - ARC-BDII information for WMS has been difficult
  - Waiting for Condor to integrate ARC support
    - Promised for next release
- **With 3 PMs the original plan is not feasible**

Demonstrating gLite-WMS to ARC job submission	Demo	06-09-01	On going
Setting up an ARC Runtime Env. Supporting WN-proxies (the delegated proxy is by default not available on ARC based WNs this can however be enabled through a special runtime env.) - (demonstrating file-transfer)	Prototype	06-10-01	
Outlining operational procedures	Report	07-02-01	
ARC resource registered in the GOC-DB with successful SAM tests	Demo	07-04-01	
All Nordic ARC sites reachable through interoperability	Demo	07-09-01	

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- ## <u>WMS is the integration point</u>

- ## Condor-G -----> NDGF

- ## Condor to NDGF has been tested

  - Condor-g 6.9.2 supports ARC 0.6 (latest release)
    - Most found bugs have been fixed
  - ATLAS MC runs (crashed gridmanager after a while)
  - SE I/O is still not working
  - ARC will not support gfal or any gLite data management clients
    - Experiments can bring them with their software...
      - *Assuming that ports are open*

- ## WMS needs NorduGrid information in glue schema format

  - The arc-bdii.cern.ch does exactly this (GIN effort)
  - NOT TESTED

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- **<u>WMS is the integration point</u>**

- **JobAdapter for ARC has been written**
  - Compiles
  - No tests
    - No NG CEs matches
    - Matchmaking fails with an Ranking Error
      - *Not clear why*
    - Needs more debugging
  - Progress stalled because the matchmaker couldn't be rebuild
    - No debug info
  - Workaround, but jobs are still stuck before the job manager

- **ARC CE moves to web service interface (KnowARC)**
  - Investigating alternative concepts
  - New concept requires users to consciously pick NG resources
- **New plan: (3PMs left)**
  - Time to be saved on operational part
  - With the little progress in the first year it is unlikely that this plan will work

Decision on whether to proceed with WMS approach	15/6-2007
Demonstrating gLite->ARC submission (either way)	31/8-2007
Operational documentation	14/9-2007
GOC-DB and SAM test (Dependent on RTE from NG)	21/9-2007
NG sites available through interoperability	1/10-2007

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- **The communication between UKHB and JRA1 was not optimal**
  - UKBH had been introduced to the developers
  - We decided that from now on the JRA1 and SA3 leaders are cced on any mail exchange (none since 1st of June)

- **During 2006 UKHB supported ATLAS and ALICE to adapt their workflow to run with ARC**
  - While this gives access to the NDGF it is not interoperability work (in my view)

- **UKBH stressed the point that they have strategic interest in interoperability with gLite**