Notes from MAPPER - EGI teleconference
Date: 8/07/2011
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Responsible parties to follow up the actions: EGI - Gergely Sipos; MAPPER -
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MAPPER applications require capabilities that no EGI middleware is able to provide
at the moment. These capabilities are: Advance reservation, co-allocation, cross-
cluster MPI.
MAPPER identified QosCosGrid middleware as the solution which provides these
capabilities and what can successfully serve the MAPPER applications' needs.
Therefore, the focus of the work is on how to install the QosCosGrid middleware on
EGI sites and enable MAPPER members to access these. According to the latest
EGI Resource Provider OLA, the installation of custom middleware to a site is
allowed as long as it:
* does not break the existing EGI middleware

proved

* provides monitoring information about the status of the custom middleware

Nagios probes available

* provides accounting info about resource usage through the custom middleware

must be checked (more technical details are needed from EGI)

* registered into the EGI GOCDB

possible

Sites that will support MAPPER applications from EGI will gain the extra capabilities
from hosting QosCosGrid, which can be an important selling point for EGI sites to
support MAPPER.

true

The QosCosGrid middleware has been already installed on three EGI sites (Krakow,
Gdansk, Munich).

Poznan, Krakow, Gdansk (in progress), Munich (in progress)

ACTION for MAPPER: Check that:
1. Monitoring information about QosCosGrid status from these sites is populated into
EGI registry
2. Accounting information about QosCosGrid usage from these is populated into EGI
APEL

must be checked

3. The sites are registered in GOCDB with the QosCosGrid middleware (besides the other middleware they host)
ACTION for MAPPER: Document the installation and configuration procedure so other EGI sites who wish to support MAPPER can do so.

installation documents will be provided and available at the Task Force wiki

ACTION for EGI: Check whether any study or investigation has been done in EGI on the effects of advanced reservation on accounting. E.g. How can advanced reservation data integrated normal accounting data?

All of the jobs within MAPPER applications are workflows that consist of parallel jobs. These jobs communicate within the sites and also cross-sites.
- Communication within the site is through MPI --> Sites that support MAPPER must also enable MPI. (ACTION for MAPPER: make sure that this is covered in the site specification and installation documentation.)
- Cross-site communication is done with custom protocols that are implemented by the QosCosGrid middleware. Jobs that run on sites that install this middleware will be capable to communicate with other sites that host the same middleware (in EGI or even in PRACE). The firewalls will not be a problem, because communication is through proxies.

true, descriptions will be included in installation documents

- The management of workflows and jobs in those workflows is done by external components. These are developed and provided by MAPPER.

true

- File transfer to/from/among the sites is with gridftp. Gridftp must be available on the sites. SRM is not used. (ACTION for MAPPER: make sure that this is covered in the site specification and installation documentation.)

true, descriptions will be included in installation documents

QosCosGrid enables user access to sites with grid certificates. Users are statically mapped to local user accounts. If a new user requests access to MAPPER, a new account must be created for this person on every site that supports MAPPER. While we are not aware of any EGI policy that would be against this concept, the practical limitations of the approach is recognised. Therefore the first MAPPER applications will work with a pre-defined fix set of sites and with a pre-defined fix set of users. This will not require the mass-creation of user accounts on sites. ACTION for EGI: Check whether there is any policy that is against this user management concept.
The QosCosGrid middleware does not have a Virtual Organisation concept. Accounting data, access etc. is implemented for independent sites.
This does not seem to be a problem as long as we know which sites supports QosCosGrid. Management and statistics about these sites can be done manyally.
(The VO is a human process on top of independent sites)

A more automated mechanisms will be probably needed at a later stage, but not for the first version.

true, we have assumed to use the basic ACL concept and limited a number of users - around 10 users.
We can consider more advanced authorization scenarios in the future, e.g. dynamic VO.
QosCosGrid support LDAP, so if VOs are managed by LDAP servers, it can be taken into account
(e.g. gridmap file generator in PL-Grid).

MAPPER expects the same installation and configuration process to be valid for EGI and PRACE sites. Arranging this at PRACE is responsibility of MAPPER (and not of EGI). ACTION for MAPPER: Check with PRACE that this installation procedure is acceptable on their side.

Discussions planned with SARA as the selected PRACE representative.

Because of the limitation of QosCosGrid and of EGI and PRACE operation and management tools, the EGI operational tools will not be able to present a single VO that consists of EGI and PRACE sites and to provide data and statistics about this VO.
A framework to present integrated VOs from EGI and PRACE sites can be developed later.

true (the question is who and when will develop it ;-)