Dated: April 20, 2009

Input from At-large Virtual Organizations to OSG, on Globus Project's open call for Feedback.

Q: What do at-large stakeholders use Globus for?

Mainly for remote job submissions, data movement, secure authorization.

Q: What version of Globus do at-large stakeholders use?

As distributed by the OSG.

Q: What components of Globus do at-large stakeholders use?

GRAM 2 and GridFTP v1 are widely used. Usage of Web-services based GRAM 4 and GridFTP v2 is not prevalent, except in specialized cases.

Usage of Replica Location Service (RLS), Reliable File Transfer (RFT), OGSA-DAI is not prevalent.

MDS is not directly used, except in cases where it is integrated into standard OSG monitoring and resource selection systems, e.g., GIP and ReSS, or into a stakeholder's own system, e.g., D0's SAMGrid.

GRAM Auditing is not directly used, except in cases where it is integrated into standard OSG accounting and metrics mechanisms, e.g., Gratia.

Globus virtualization is not widely used, except by STAR which uses Nimbus components.

Q: What clients do at-large stakeholders use?

Submission systems of almost all at-large stakeholders are based on Condor-G, which uses Globus components underneath in a more managed manner.

GridFTP client globus-url-copy is widely used.

Usage of globusrun-ws is not prevalent.

Usage of direct globus-job-run is not encouraged, primarily due to its potential to affect gatekeeper stability.

Q: What scaling/performance needs do we have that are unmet?

Implementations of GRAM 2, and of sub-versions of GRAM 4, suffer from lack of scalability and robustness. Client components, if used in a less managed straightforward way, have full capacity to affect a remote gatekeeper's fault-tolerance. From a resource user perspective, this adds significant burden to the learning curve and in extreme cases can lead to the entire VO being temporarily disabled by the affected site. From a resource provider perspective, this adds major risks to provisioning services at high-stability and high-availability.

Full cleanup of temporary contents in user home directory is not effectively handled. This can lead to inadvertent filling of the entire user area at a site, which is subsequently difficult to manually cleanup due to lack of space for new troubleshooting jobs to start.

Architecture of Globus service implementations does not allow stateless and seamless clustering. E.g., peer-to-peer gatekeeper communications to build additional fault-tolerance, using common mechanisms as DNS round-robin, is not obvious.

Globus support for Mac OS-X servers and clients is not well understood.