

**Quality Criteria Verification
Executive Summary
For QCV, Stage Rollout, DMSU and EGI internal**

Name of the component	Globus-gram5		
Release	5.2.0	RT Ticket	3377
Software Provider	IGE		
	Mattias Ellert	mattias.ellert@fysast.uu.se	
Validator	Name:	E-Mail	
	Enol Fernández	enolfc@ifca.unican.es	
V. Hours Worked	3:00		
Component status	Accepted	Date	09/03/2012
Verification start date	06/03/2012	Verification end date	09/11/2012

Summary:

This is a release of GRAM5 which was previously submitted to verification but the TP stopped the verification. The verification has continued the work done for the previous ticket.

Tests of GRAM5 where done against the fork and the sge jobmanager (a very simple sge installation was performed in the same GRAM5 machine). In both cases the tests were succesful. Documentation has improved considerably since the last verification attempt.


Globus-gridftp is not installed as dependency. No need to test incompatibilites.

GGUS Tickets:

None

Summary of Quality Criteria verification:

	Generic Quality Criteria Total (Critical/Non critical)			
	Passed	Not passed	Not Applicable	Total
TP				
VLD	14		3	17
	Specific Quality Criteria			
TP				
VLD	13		17	30

RELEASE:	v5.2.0	VALIDATOR:	Enol Fernandez
RT TICKET:	3377		
Criteria	Accepted (Y/N)	Tested (TP/VLD)	Comments
Generic QC			
GENERIC_DOC_1 (Functional Description)	Y	VLD	Available at http://globus.org.eu/toolkit/docs/5.2/5.2.0/gram5/key/#gram5Key
GENERIC_DOC_2 (Release Notes)	Y	VLD	Available at http://globus.org.eu/toolkit/docs/5.2/5.2.0/gram5/rn/#gram5RN
GENERIC_DOC_5 (API Documentation)	Y	VLD	Several APIs, documents accessible from http://globus.org.eu/toolkit/docs/5.2/5.2.0/gram5/pi/#gram5-apis
GENERIC_DOC_6 (Administrator Documentation)	Y	VLD	Available at http://globus.org.eu/toolkit/docs/5.2/5.2.0/gram5/admin/#gram5Admin
GENERIC_DOC_7 (Service Reference Card)	Y	VLD	Information is available but not in a single "reference card"
GENERIC_DOC_8 (Software License)	Y	VLD	License available
GENERIC_DOC_9 (Release changes testing)	Y	VLD	Quality report at http://globus.org.eu/toolkit/docs/5.2/5.2.0/gram5/qp/#gram5QP
GENERIC_DIST_1 (Source Code Availability)	Y	VLD	Source code at repository
GENERIC_DIST_2 (Source Distribution)	Y	VLD	Available at http://globus.org.eu/pub/gt5/5.2/5.2.0/installers/src/gt5.2.0-all-source-installer.tar.gz
GENERIC_DIST_3 (Binary Distribution)	Y	VLD	Packages installed with no issues.
GENERIC_SERVICE_1 (Service control and status)	Y	VLD	Startup scripts available and working
GENERIC_SERVICE_2 (Log Files)	Y	VLD	Log files in standard locations available
GENERIC_SERVICE_3 (Service Reliability)	Not tested	TP	Tests available at Quality Report
GENERIC_SERVICE_4 (Service Robustness)	Not tested	TP	Tests available at Quality Report
GENERIC_SEC_1 (World Writable Files)	Y	VLD	No world writable files found
GENERIC_SEC_2 (Directory Traversal Attacks testing)	Optional		
GENERIC_MISC_2 (Bug Tracking System)	Y	VLD	IGE in GGUS
Security Capabilities QC			
AUTHN_IFACE_1 (X.509 Certificate support)	Y	VLD	Tested with x509 proxy
AUTHN_IFACE_2 (SAML authentication)	NA	VLD	No support for SAML
AUTHN_DELEG_1 (Delegation Interface)	NA	VLD	No delegation support
AUTHZ_PCYDEF_3 (Ban UserFQAN)	NA	VLD	Only white-list users, no banning
AUTHZ_PCYDEF_4 (Allowed users definition)	Y	VLD	Only with users (no groups)
AUTHZ_PEP_1 (Policy Enforcement)	Y	VLD	Correct enforcement of policy
AUTHZ_PEP_2 (User Mapping)	Y	VLD	Simple accounts correctly mapped
Information Capabilities QC			
INFOMODEL_SCHEMA_1 (GlueSchema Support)	NA	VLD	GRAM does not publish info
INFODISC_IFACE_1 (Information Discovery Interface)	NA	VLD	GRAM does not publish info
Compute Capabilities QC			
JOBEXEC_IFACE_1 (Job Execution Interface)	Y	VLD/TP	GRAM5 interface supported (simple tests + reports from TP)

JOBEXEC_JOB_1 (Simple Job)	Y	VLD	See report
JOBEXEC_JOB_2 (Simple Job with inputoutput files)	Y	VLD	See report
JOBEXEC_JOB_3 (Cancel Job)	Y	VLD	See report
JOBEXEC_EXECMNGR_1 (Not Invasive Deployment)	Y	VLD	No changes needed in the deployment
JOBEXEC_EXECMNGR_2 (Job Management)	Y	VLD	Indirectly tested by JOBEXEC_JOB_*
JOBEXEC_EXECMNGR_3 (Information Retrieval)	NA	VLD	No info published
JOBEXEC_AVAIL_1 (Service Redundancy)	Y	VLD	No problem in having more than one GRAM5
JOBEXEC_AVAIL_2 (Self Disabling Mechanism)	NA	VLD	Not available
JOBEXEC_AVAIL_3 (Job Submission Peaks)	Not tested	VLD	
JOBEXEC_AVAIL_4 (Timely Job Status Updates)	Y	VLD	Status reported promptly
PARALLEL_JOB_1 (Simple parallel job submission)	Y	VLD	See report, used count attribute
PARALLEL_JOB_2 (Single machine parallel job submission)	NA	VLD	host_count available, not tested
PARALLEL_JOB_3 (Fine grained mapping parallel job submission)	NA	VLD	Should be tested with real LRMS
PARALLEL_MPI_1 (Precompiled MPI job Execution)	NA	VLD	Functionality not provided by GRAM, may be achieved by external tools
PARALLEL_MPI_2 (MPI job Execution from source.)	NA	VLD	Functionality not provided by GRAM, may be achieved by external tools
PARALLEL_OMP_1 (Precompiled OpenMP job Execution)	NA	VLD	Functionality not provided by GRAM, may be achieved by external tools
PARALLEL_OMP_2 (OpenMP job Execution from source)	NA	VLD	Functionality not provided by GRAM, may be achieved by external tools
Operations Capabilities QC			
MON_PROBE_GENERIC_2 (Service Probe)	NA	VLD	No probe available
MON_PROBE_JOBEXEC_1 (Job Execution Probe)	NA	VLD	No probe available
ACC_JOBEXEC_1 (Job Execution Appliances Accounting)	NA	VLD	No probe available

Validator comments:

Installation:

```
# yum install ige-meta-globus-gram5.noarch
[.]
Transaction Summary
=====
=====
Install      106 Package(s)
Upgrade      0 Package(s)

Total size: 24 M
Total download size: 9.2 k
Is this ok [y/N]: y
Downloading Packages:
[.]
Installed:
  ige-meta-globus-gram5.noarch 0:2.0-2.el5

Dependency Installed:
  e2fsprogs-devel.x86_64 0:1.39-23.el5
  fedora-usermgmt.noarch 0:0.8.91-1.el5
  fedora-usermgmt-core.noarch 0:0.8.91-1.el5
  fedora-usermgmt-default-fedora-setup.noarch 0:0.8.91-1.el5
  fedora-usermgmt-shadow-utils.noarch 0:0.8.91-1.el5
  globus-callout.x86_64 0:2.1-2.el5
  globus-callout-devel.x86_64 0:2.1-2.el5
  globus-common.x86_64 0:14.5-4.el5
  globus-common-devel.x86_64 0:14.5-4.el5
  globus-common-progs.x86_64 0:14.5-4.el5
  globus-core.x86_64 0:8.5-2.el5
  globus-ftp-client.x86_64 0:7.2-2.el5
  globus-ftp-control.x86_64 0:4.2-2.el5
  globus-gass-cache.x86_64 0:8.1-2.el5
  globus-gass-cache-program.x86_64 0:5.0-3.el5
  globus-gass-copy.x86_64 0:8.2-2.el5
  globus-gass-copy-progs.x86_64 0:8.2-2.el5
  globus-gass-server-ez.x86_64 0:4.1-2.el5
  globus-gass-transfer.x86_64 0:7.1-2.el5
  globus-gatekeeper.x86_64 0:9.6-3.el5
  globus-gram-audit.noarch 0:3.1-2.el5
  globus-gram-client.x86_64 0:12.3-2.el5
  globus-gram-client-devel.x86_64 0:12.3-2.el5
  globus-gram-client-doc.x86_64 0:12.3-2.el5
  globus-gram-client-tools.x86_64 0:10.0-3.el5
  globus-gram-job-manager.x86_64 0:13.14-2.1.el5
  globus-gram-job-manager-callout-error.x86_64 0:2.1-2.el5
  globus-gram-job-manager-callout-error-devel.x86_64 0:2.1-2.el5
  globus-gram-job-manager-callout-error-doc.x86_64 0:2.1-2.el5
  globus-gram-job-manager-condor.noarch 0:1.0-2.el5
  globus-gram-job-manager-doc.x86_64 0:13.14-2.1.el5
  globus-gram-job-manager-fork.x86_64 0:1.0-2.el5
  globus-gram-job-manager-fork-setup-poll.x86_64 0:1.0-2.el5
  globus-gram-job-manager-fork-setup-seg.x86_64 0:1.0-2.el5
  globus-gram-job-manager-pbs.x86_64 0:1.1-2.el5
  globus-gram-job-manager-pbs-setup-poll.x86_64 0:1.1-2.el5
  globus-gram-job-manager-pbs-setup-seg.x86_64 0:1.1-2.el5
  globus-gram-job-manager-scripts.noarch 0:4.2-2.el5
  globus-gram-job-manager-scripts-doc.noarch 0:4.2-2.el5
  globus-gram-job-manager-sge.x86_64 0:1.0-2.el5
  globus-gram-job-manager-sge-setup-poll.x86_64 0:1.0-2.el5
```

```
globus-gram-job-manager-sge-setup-seg.x86_64 0:1.0-2.e15
globus-gram-protocol.x86_64 0:11.2-2.e15
globus-gram-protocol-devel.x86_64 0:11.2-2.e15
globus-gram-protocol-doc.x86_64 0:11.2-2.e15
globus-gsi-callback.x86_64 0:4.1-2.e15
globus-gsi-callback-devel.x86_64 0:4.1-2.e15
globus-gsi-cert-utils.x86_64 0:8.1-2.e15
globus-gsi-cert-utils-devel.x86_64 0:8.1-2.e15
globus-gsi-cert-utils-progs.x86_64 0:8.1-2.e15
globus-gsi-credential.x86_64 0:5.1-2.e15
globus-gsi-credential-devel.x86_64 0:5.1-2.e15
globus-gsi-openssl-error.x86_64 0:2.1-2.e15
globus-gsi-openssl-error-devel.x86_64 0:2.1-2.e15
globus-gsi-proxy-core.x86_64 0:6.1-2.e15
globus-gsi-proxy-core-devel.x86_64 0:6.1-2.e15
globus-gsi-proxy-ssl.x86_64 0:4.1-2.e15
globus-gsi-proxy-ssl-devel.x86_64 0:4.1-2.e15
globus-gsi-sysconfig.x86_64 0:5.1-2.e15
globus-gsi-sysconfig-devel.x86_64 0:5.1-2.e15
globus-gss-assist.x86_64 0:8.1-2.e15
globus-gss-assist-devel.x86_64 0:8.1-2.e15
globus-gssapi-error.x86_64 0:4.1-2.e15
globus-gssapi-error-devel.x86_64 0:4.1-2.e15
globus-gssapi-gsi.x86_64 0:10.2-2.e15
globus-gssapi-gsi-devel.x86_64 0:10.2-2.e15
globus-io.x86_64 0:9.2-2.e15
globus-io-devel.x86_64 0:9.2-2.e15
globus-openssl-module.x86_64 0:3.1-2.e15
globus-openssl-module-devel.x86_64 0:3.1-2.e15
globus-proxy-utils.x86_64 0:5.0-2.e15
globus-rsl.x86_64 0:9.1-2.e15
globus-rsl-devel.x86_64 0:9.1-2.e15
globus-rsl-doc.x86_64 0:9.1-2.e15
globus-scheduler-event-generator.x86_64 0:4.4-2.e15
globus-scheduler-event-generator-devel.x86_64 0:4.4-2.e15
globus-scheduler-event-generator-doc.x86_64 0:4.4-2.e15
globus-scheduler-event-generator-progs.x86_64 0:4.4-2.e15
globus-usage.x86_64 0:3.1-2.e15
globus-xio.x86_64 0:3.2-2.e15
globus-xio-devel.x86_64 0:3.2-2.e15
globus-xio-gsi-driver.x86_64 0:2.1-2.e15
globus-xio-gsi-driver-devel.x86_64 0:2.1-2.e15
globus-xio-popen-driver.x86_64 0:2.2-2.e15
gridengine.x86_64 0:6.1u3-6.e15
keyutils-libs-devel.x86_64 0:1.2-1.e15
krb5-devel.x86_64 0:1.6.1-63.e15_7
libselinux-devel.x86_64 0:1.33.4-5.7.e15
libsepol-devel.x86_64 0:1.15.2-3.e15
libtool-ltdl.x86_64 0:1.5.22-7.e15_4
libtorque.x86_64 0:2.5.7-7.e15
munge.x86_64 0:0.5.8-8.e15
munge-libs.x86_64 0:0.5.8-8.e15
openssl-devel.x86_64 0:0.9.8e-20.e15_7.1
perl-Compress-Zlib.x86_64 0:1.42-1.fc6
perl-DBI.x86_64 0:1.52-2.e15
perl-HTML-Parser.x86_64 0:3.55-1.fc6
perl-HTML-Tagset.noarch 0:3.10-2.1.1
perl-URI.noarch 0:1.35-3
perl-XML-Parser.x86_64 0:2.34-6.1.2.2.1
perl-libwww-perl.noarch 0:5.805-1.1.1
pkgconfig.x86_64 1:0.21-2.e15
torque.x86_64 0:2.5.7-7.e15
torque-client.x86_64 0:2.5.7-7.e15
zlib-devel.x86_64 0:1.2.3-3
```

Complete!

Check services:

```

# service globus-gatekeeper
Usage: /etc/init.d/globus-gatekeeper
{start|stop|status|restart|condrestart|try-restart|reload|force-reload

- Status:
# service globus-gatekeeper status
globus-gatekeeper is not running

- Start:
# service globus-gatekeeper start
Started globus-gatekeeper

- Status again:
# service globus-gatekeeper status
globus-gatekeeper is running (pid=3229)

- Stop:
# service globus-gatekeeper stop
Stopped globus-gatekeeper
# ps aux | grep gatekeeper
root      3284  0.0  0.0  61224   792 pts/0    R+   11:22   0:00 grep gatekeep
[root@test16 grid-security]# service globus-gatekeeper status
globus-gatekeeper is not running

```

Logs:

- log created in standard location: /var/log/globus-gatekeeper.log and under /var/log/globus

Configuration:

```

# globus-gatekeeper-admin -l
jobmanager-condor [DISABLED]
jobmanager-fork-poll [DISABLED]
jobmanager-fork-seg [DISABLED]
jobmanager-pbs-poll [DISABLED]
jobmanager-pbs-seg [DISABLED]
jobmanager-sge-poll [DISABLED]
jobmanager-sge-seg [DISABLED]

# globus-scheduler-event-generator-admin -l
fork [DISABLED]
pbs [DISABLED]
sge [DISABLED]

# globus-gatekeeper-admin -e jobmanager-fork-poll -n jobmanager
# globus-gatekeeper-admin -e jobmanager-sge-seg -n jobmanager-sge
# globus-gatekeeper-admin -e jobmanager-sge-poll -n jobmanager-sgep

# globus-gatekeeper-admin -l
jobmanager-condor [DISABLED]
jobmanager-fork-poll [ENABLED]
jobmanager-fork-seg [DISABLED]
jobmanager-pbs-poll [DISABLED]
jobmanager-pbs-seg [DISABLED]
jobmanager-sge-poll [ENABLED]
jobmanager-sge-seg [ENABLED]
jobmanager [ALIAS to jobmanager-fork-poll]
jobmanager-sge [ALIAS to jobmanager-sge-seg]
jobmanager-sgep [ALIAS to jobmanager-sge-poll]

# globus-scheduler-event-generator-admin -e sge
# globus-scheduler-event-generator-admin -l
fork [DISABLED]
pbs [DISABLED]
sge [ENABLED]

```

```
# /etc/init.d/globus-scheduler-event-generator start
globus-scheduler-event-generator: no LRMS installed

---- Edit /etc/sysconfig/globus-scheduler-event-generator ...

# /etc/init.d/globus-scheduler-event-generator start
Started globus-scheduler-event-generator for (sge)
```

Tests:

1. Created test accounts: enol & test
2. Created grid-mapfile mapping "/DC=es/DC=irisgrid/O=ifca/CN=Enol-Fernandez-delCastillo" to test
3. Copied valid proxy to enol account
4. Job tests with fork:

```
$ globus-job-run test16.egi.cesga.es/jobmanager-fork-poll /usr/bin/whoami
test
$ globus-job-run test16.egi.cesga.es/jobmanager-fork-poll /bin/pwd
/home/test

- Test with no user in mapping:
$ globus-job-run test16.egi.cesga.es/jobmanager-fork-poll /bin/pwd
GRAM Job submission failed because authentication with the remote server
failed (error code 7)

- Test jobs:
No files:
$ globus-job-run test16.egi.cesga.es/jobmanager-fork-poll /usr/bin/whoami
test

Input files:
$ cat job1.rsl
&
(executable=/bin/ls)
(arguments=-l)
(file_stage_in = ($(GLOBUSRUN_GASS_URL) # "/home/enol/myfile" afile))

$ ls -l myfile
-rw-rw-r-- 1 enol enol 3585 Mar  7 12:27 myfile

$ globusrun -s -f job1.rsl -r test16.egi.cesga.es
total 4
-rw-r--r-- 1 test test 3585 Mar  8 12:22 afile

Promptly status update:
$ jobid=`globusrun -b -s -f job2.rsl -r test16.egi.cesga.es`; echo $jobid;
while [ /bin/true ] ; do date ; globusrun -status $jobid; sleep 10; done
https://test16.egi.cesga.es:48940/16217765078890802101/4298990774084831375/
Thu Mar  8 12:41:56 CET 2012
ACTIVE
Thu Mar  8 12:42:06 CET 2012
ACTIVE
Thu Mar  8 12:42:16 CET 2012
ACTIVE
Thu Mar  8 12:42:26 CET 2012
ACTIVE
Thu Mar  8 12:42:36 CET 2012
ACTIVE
Thu Mar  8 12:42:46 CET 2012
ACTIVE
Thu Mar  8 12:42:56 CET 2012
ACTIVE
Thu Mar  8 12:43:06 CET 2012
DONE
```

```

Job cancel:
$ jobid=`globusrun -b -s -f job3.rsl -r test16.egi.cesga.es`; echo $jobid ;
globusrun -status $jobid; sleep 2m; globusrun -k $jobid; globusrun -status
$jobid;
https://test16.egi.cesga.es:38562/16217766174724888511/4298990774084835241/
ACTIVE
DONE

Parallel 2 CPU job:
$ globusrun -s -f job4.rsl -r test16.egi.cesga.es
Hello from test16.egi.cesga.es
total 4
-rw-r--r-- 1 test test 3585 Mar  8 17:34 afile
Hello from test16.egi.cesga.es
total 4
-rw-r--r-- 1 test test 3585 Mar  8 17:34 afile

```

5. Job tests with sge:

```

$ globus-job-run test16.egi.cesga.es/jobmanager-sgep /usr/bin/whoami
test

$ cat job1.rsl
&
(executable=/bin/ls)
(arguments=-l)
(file_stage_in = ($(GLOBUSRUN_GASS_URL) # "/home/enol/myfile" afile))

$ ls -l myfile
-rw-rw-r-- 1 enol enol 3585 Mar  7 12:27 myfile

$ globusrun -s -f job1.rsl -r test16.egi.cesga.es/jobmanager-sgep
total 4
-rw-r--r-- 1 test test 3585 Mar  9 10:00 afile

$ jobid=`globusrun -b -s -f job2.rsl -r test16.egi.cesga.es/jobmanager-sgep`;
echo $jobid; while [ /bin/true ] ; do date ; qstat -u test; globusrun -status
$jobid; sleep 10; done
https://test16.egi.cesga.es:48972/16217961888367346596/4298990774084859823/
Fri Mar  9 10:02:48 CET 2012
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
20 0.50000 scheduler_ test r 03/09/2012 10:02:05
basic@test16.egi.cesga.es 1
21 0.00000 scheduler_ test qw 03/09/2012 10:02:48
1
PENDING
[...]
Fri Mar  9 10:04:13 CET 2012
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
21 0.25000 scheduler_ test qw 03/09/2012 10:02:48
1
PENDING
[...]
Fri Mar  9 10:04:23 CET 2012
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
21 0.50000 scheduler_ test r 03/09/2012 10:04:20
basic@test16.egi.cesga.es 1
PENDING

```



```

Fri Mar 9 10:04:33 CET 2012
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
21 0.50000 scheduler_ test r 03/09/2012 10:04:20
basic@test16.egi.cesga.es 1
ACTIVE
[...]
Fri Mar 9 10:06:13 CET 2012
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
21 0.50000 scheduler_ test r 03/09/2012 10:04:20
basic@test16.egi.cesga.es 1
ACTIVE
Fri Mar 9 10:06:23 CET 2012
ACTIVE
Fri Mar 9 10:06:33 CET 2012
ACTIVE
Fri Mar 9 10:06:43 CET 2012
DONE

Job Cancel:
$ jobid=`globusrun -b -s -f job3.rsl -r test16.egi.cesga.es/jobmanager-sgep`;
echo $jobid ; qstat -u test; globusrun -status $jobid; sleep 2m; globusrun -
k $jobid; qstat -u test; globusrun -status $jobid;
https://test16.egi.cesga.es:41208/16217962989148266146/4298990774084841858/
job-ID prior name user state submit/start at queue
slots ja-task-ID
-----
22 0.00000 scheduler_ test qw 03/09/2012 10:09:54
1
PENDING
DONE

```

6. Look for world writable files:

```
# find / -xdev -type f -perm -o+w -exec ls -l {} \;
```

Not applicable Quality Criteria

Specific Functional Tests to be repeated in SR:

Test number	Description	Motivation

Specific Non-functional tests (Scalability, etc...) to be repeated in SR:

Test number	Description	Motivation

Comments for UMD QC definition (TSA2.2):

Comments for SR (TSA1.3):

Default configuration in `/etc/sysconfig/globus-scheduler-event-generator` does not work out of the box. Change `/${sysconfigdir}` to `/etc` and `/${localstatedir}` to `/var`

Comments for DMSU (TSA2.5):

Comments for TP: