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

Name of the component	GridWay		
Release	8.5.2	RT Ticket	#3382
Software Provider	EMI		
Release Contact	Name:	E-Mail	
	Mattias Ellert	mattias.ellert@fysast.uu.se	
Validator	Name:	E-Mail	
	Álvaro Simón	asimon@cesga.es	
V. Hours Worked	23		
Component status	**Verified**	Date	15/02/12
Verification start date	01/02/12	Verification end date	15/02/12

Summary:
GridWay 8.5.2 was installed and tested without problems. This GridWay release does not support EMI UI directly but a workaround is available (read validator comments). The new Gridway version, scheduled in March will solve this issue.

GGUS Tickets:

- **https://ggus.eu/tech/ticket_show.php?ticket=79021:** IGE gridway rpm installation does not configure GW environment variables by default.
- **https://ggus.eu/tech/ticket_show.php?ticket=79022:** IGE gridway cream job submission does not work using EMI-UI (workaround available).
- **https://ggus.eu/ws/ticket_info.php?ticket=79251:** IGE 2 website does not have any link to GridWay documentation.

Summary of Quality Criteria verification:

	Generic Quality Criteria Total (Critical/Non critical)			
	Passed	Not passed	Not Applicable	Total
TP				
VLD	13	0/1	0	14
	Specific Quality Criteria			
TP				
VLD	16	0	0	16

Quality Criteria verification cheatsheet:

Criteria	Accepted (Y/N/NA)	Tested (TP/VLD)	Comments
Generic QC			
GENERIC_DOC_1 (Functional Description)	Y	VLD	http://gridway.org/doku.php?id=start
GENERIC_DOC_4 (Online help (man pages))	Y	VLD	http://gridway.org/doku.php?id=documentation:release_5.8:cli
GENERIC_DOC_5 (API Documentation)	Y	VLD	http://gridway.org/doku.php?id=documentation#programming_api
GENERIC_DOC_6 (Administrator Documentation)	Y	VLD	http://gridway.org/doku.php?id=documentation
GENERIC_DOC_7 (Service Reference Card)	Y	VLD	
GENERIC_DOC_8 (Software License)	Y	VLD	http://gridway.org/doku.php?id=software#license
GENERIC_DOC_9 (Release changes testing)	Y	VLD	http://gridway.org/doku.php?id=software:release_notes:58
GENERIC_DIST_1 (Source Code Availability)	Y	VLD	http://dev.gridway.org/
GENERIC_DIST_2 (Source Distribution)	Y	VLD	http://dev.gridway.org/
GENERIC_DIST_3 (Binary Distribution)	Y	VLD	http://www.dsa-research.org/cgi-bin/gridway/download.cgi?gw5.8
GENERIC_SERVICE_1 (Service control and status)	Y	VLD	
GENERIC_SERVICE_2 (Log Files)	Y	VLD	
GENERIC_SERVICE_3 (Service Reliability)	Y	VLD	
GENERIC_SERVICE_4 (Automatic Configuration)	N	VLD	GridWay does not have an automatic conf tool, but conf. Process is well documented.
GENERIC_SEC_1 (World Writable Files)	Optional		
GENERIC_SEC_2 (Directory Traversal Attacks testing)			
Security Capabilities QC			
GENERIC_MISC_2 (Bug Tracking System)	Y	VLD	
AUTHN_IFACE_1 (X.509 Certificate support)	Y	VLD	
AUTHN_IFACE_2 (SAML authentication)	TBD		
Compute Capabilities QC			
JOBSCH_IFACE_1 (Job Scheduling Interface)	Y	VLD	
JOBSCH_EXEC_1 (Remote Job Management)	Y	VLD	
JOBSCH_EXEC_2 (Remote Resource Information)	Y	VLD	
JOBSCH_JOB_1 (Simple Job)	Y	VLD	
JOBSCH_JOB_2 (Simple Job with input/output files)	Y	VLD	
JOBSCH_JOB_3 (Cancel Job)	Y	VLD	
JOBSCH_JOB_4 (Parallel Job)	Y	VLD	
JOBSCH_JOB_5 (Job List Match)	Y	VLD	
JOBSCH_JOB_6 (Parametric Job Submission)	Y	VLD	
JOBSCH_JOB_7 (Job Collection Submission)	Y	VLD	
JOBSCH_SERVICE_1 (Error Messages)	Y	VLD	
JOBSCH_SERVICE_2 (Service Information)	Y	VLD	
JOBSCH_SERVICE_3 (Self Disabling Mechanism)	Y	VLD	
JOBSCH_SERVICE_4 (Job Submission Peaks)	Y	VLD	

Validator comments:

Installation

Install repos from UMD for EMI-UI:

```
wget http://download.fedoraproject.org/pub/epel/5/i386/epel-release-5-4.noarch.rpm
yum install epel-release-5-4.noarch.rpm
yum install yum-priorities
wget http://repository.egi.eu/sw/production/umd/1/sl5/x86_64/updates/umd-release-1.0.2-
1.el5.noarch.rpm
yum install umd-release-1.0.2-1.el5.noarch.rpm
yum clean all
yum install emi-ui
```

Configure it using yaim and site-info.def file:

```
/opt/glite/yaim/bin/yaim -c -s site-info.def -n UI
```

Install GridWay middleware:

```
wget http://admin-
repo.egi.eu/sw/unverified/ige.gridway.sl5.x86_64/5/8/2/repofiles/IGE.gridway.sl5.x86_64.repo
yum install ige-meta-gridway
```

Configuring gridway, first edi gwd.conf file:

```
/usr/share/gridway/5.8.0/etc/gwd.conf

#vi /usr/share/gridway/5.8.0/etc/gwd.conf

# CONFIGURE MAD for EGI endpoints (we will use dteam OPS)
IM_MAD = bdii:gw_im_mad_bdii:-s topbdii.egi.cesga.es -q (GlueCEAccessControlBaseRule=VO\:dteam)
(GlueCEImplementationName=CREAM):dummy:cream
IM_MAD = bdii2:gw_im_mad_bdii:-s topbdii.egi.cesga.es -q (GlueCEAccessControlBaseRule=VO\:dteam)
(GlueCEImplementationName=LCG-CE):dummy:gram2
EM_MAD = gram2:gw_em_mad_gram2::rsl_nsh
EM_MAD = cream:gw_em_mad_cream::jdl
TM_MAD = dummy:gw_tm_mad_dummy:-g
DM_SCHED  = builtin:gw_sched:
```

ISSUE: IGE rpm packages does not include EMI-CREAM support at this moment, this module should be installed by hand (from source core). This is the workaround:

```
#yum install gcc gcc-c++ gsoap-devel classads-devel libxml2-devel log4cpp-devel boost-devel globus-
gass-server-ez-progs
#export GW_LOCATION=/usr/share/gridway/5.8.0
#wget http://repo-rpm.ige-project.eu/redhat/el5/SRPMS/gridway-core-5.8-1.el5.src.rpm
#rpm -vhi gridway-core-5.8-1.el5.src.rpm
#cd /usr/src/redhat/SOURCES
#tar xvzf gridway-5.8.0.tar.gz
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/im_mad/bdii
#make && make install
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/em_mad/cream/
#mv Makefile Makefile.old
#wget
http://dev.gridway.org/projects/gridway/repository/revisions/506/raw/trunk/src/em_mad/cream/Makefile
#make && make install
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/tm_mad/dummy
#make; make install
```

Configuring gridway daemon and gridway users:

for a multi-user environment we have to include each user to GW group

```
#usermod -G gwusers asimon
#cat /usr/share/gridway/5.8.0/etc/gwd.conf
```

```
…
…
…
IM_MAD = bdii:gw_im_mad_bdii:-s topbdii.egi.cesga.es -q (GlueCEAccessControlBaseRule=VO\:dteam)
(GlueCEImplementationName=CREAM):dummy:cream
EM_MAD = cream:gw_em_mad_cream::jdl
TM_MAD = dummy:gw_tm_mad_dummy:-g
DM_SCHED  = builtin:gw_sched:

#cat /etc/sudoers
…
…
…
Defaults:gwadmin !requiretty
Runas_Alias     GWUSERS = %gwusers


gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_em_mad_gram2 *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_tm_mad_ftp *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_im_mad_static *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_im_mad_bdii *

gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_em_mad_ws *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_em_mad_cream *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_em_mad_ssh *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_tm_mad_ftp *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_tm_mad_dummy *
gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/share/gridway/5.8.0/bin/gw_tm_mad_ssh *

gwadmin ALL=(GWUSERS)     NOPASSWD: /usr/bin/grid-proxy-info *

Defaults>GWUSERS env_keep="GW_LOCATION GLOBUS_LOCATION GLOBUS_TCP_PORT_RANGE"
```

Create /etc/profile.d/gw.sh file:

```
for i in `groups`; do
 if [ "$i" = 'gwusers' ]; then
  export GW_LOCATION=/usr/share/gridway/5.8.0
  export GLOBUS_LOCATION=/usr
  export PATH=$PATH:$GW_LOCATION/bin
  export JAVA_HOME=/usr/java/latest
 fi
done
```

Start gwd daemon and check gwd logs (/usr/share/gridway/5.8.0/var/gwd.log):

```
# /etc/init.d/gwd start
```

Testing

```
[asimon@test28 mpi]$ voms-proxy-init --voms dteam
[asimon@test28 mpi]$ voms-proxy-info --all
subject   : /DC=es/DC=irisgrid/O=cesga/CN=alvarosimon/CN=proxy
issuer    : /DC=es/DC=irisgrid/O=cesga/CN=alvarosimon
identity  : /DC=es/DC=irisgrid/O=cesga/CN=alvarosimon
type      : proxy
strength  : 1024 bits
path      : /tmp/x509up_u500
timeleft  : 11:53:05
key usage : Digital Signature, Key Encipherment, Data Encipherment
=== VO dteam extension information ===
VO        : dteam
subject   : /DC=es/DC=irisgrid/O=cesga/CN=alvarosimon
issuer    : /C=GR/O=HellasGrid/OU=hellasgrid.gr/CN=voms2.hellasgrid.gr
attribute : /dteam/Role=NULL/Capability=NULL
timeleft  : 11:53:05
uri       : voms2.hellasgrid.gr:15004

[asimon@test28 mpi]$ gwhost
HID PRIO OS              ARCH  MHZ  %CPU    MEM(F/T)     DISK(F/T)      N(U/F/T) LRMS
HOSTNAME
0   1    ScientificSLBor x86_6 2800    0   4096/4096           0/0       0/12/12 cream-pbs
egice.polito.it
1   1    ScientificSLBor x86_6 3000    0 24000/24000           0/0     0/677/700 cream-pbs
cream.sns.it
2   1    ScientificSLBor x86_6 2530    0 18000/18000           0/0       0/78/84 cream-pbs
ce.basnet.by
3   1    ScientificCERNS x86_6 1800    0   2048/2048           0/0      0/0/1100 cream-pbs
creamce.ijs.si
4   1    ScientificSLBor x86_6 2667    0 16000/16000           0/0       0/48/48 cream-pbs
ce.haii.or.th
…
…
…
```

```
[asimon@test28 sleep]$ cat sleep.jt
EXECUTABLE = script.sh
ARGUMENTS  = 10 60

INPUT_FILES   =
OUTPUT_FILES  = env.txt env.txt.${JOB_ID} , outfile
RESTART_FILES = outfile
ENVIRONMENT   = VAL1 ="example", VAL2="other"   ,VAL4=234

STDOUT_FILE =   oo${JOB_ID}
STDERR_FILE =   ee${JOB_ID}

REQUIREMENTS =
RANK         = CPU_MHZ

[asimon@test28 sleep]$ cat script.sh
#!/bin/sh

/usr/bin/env > env.txt

if [ -f outfile ]; then
    I=`tail -n 1 outfile | cut -f1 -d' '`
else
    I=0
fi

while [ $I -lt $1 ]; do
    sleep $2
    DATE=`date`
    HOST=`uname -n`
    echo "$I $DATE $HOST"
    echo "$I $DATE $HOST" >> outfile
    I=`expr $I + 1`
done

[asimon@test28 sleep]$ gwsubmit -v -t sleep.jt
JOB ID: 7

[asimon@test28 sleep]$ gwps
USER         JID DM   EM   START    END      EXEC    XFER    EXIT NAME            HOST

asimon:0     0   done ---- 12:57:45 13:05:25 0:06:39 0:00:00 0    ls.jt           cream.sns.it/cream-
pbs
asimon:0     1   done ---- 13:02:50 13:05:30 0:02:33 0:00:00 0    ls.jt           cream.sns.it/cream-
pbs
asimon:0     6   done ---- 16:07:12 16:12:48 0:04:09 0:00:00 0    mpi.jt          cream.sns.it/cream-
pbs
asimon:0     7   wrap pend 16:54:48 --:--:-- 0:00:04 0:00:00 --   sleep.jt        cream.sns.it/cream-
pbs

[asimon@test28 sleep]$ gwkill 7

[asimon@test28 sleep]$ gwps
USER         JID DM   EM   START    END      EXEC    XFER    EXIT NAME            HOST

asimon:0     0   done ---- 12:57:45 13:05:25 0:06:39 0:00:00 0    ls.jt           cream.sns.it/cream-
pbs
asimon:0     1   done ---- 13:02:50 13:05:30 0:02:33 0:00:00 0    ls.jt           cream.sns.it/cream-
pbs
asimon:0     6   done ---- 16:07:12 16:12:48 0:04:09 0:00:00 0    mpi.jt          cream.sns.it/cream-
pbs
asimon:0     7   canl pend 16:54:48 --:--:-- 0:00:42 0:00:00 --   sleep.jt        cream.sns.it/cream-
pbs

[asimon@test28 sleep]$ gwsubmit -v -t sleep.jt
JOB ID: 8

[asimon@test28 ls]$ cat ls.jt
EXECUTABLE = /bin/ls
ARGUMENTS = -la
STDIN_FILE  = /dev/null
STDOUT_FILE = ls.out.${JOB_ID}
STDERR_FILE = ls.err.${JOB_ID}
#REQUIREMENTS = (ARCH = "i686" | ARCH="x86") & CPU_MHZ > 1000
RANK = (CPU_MHZ * 2) + FREE_MEM_MB

[asimon@test28 ls]$ gwsubmit -v -t ls.jt
JOB ID: 9

[asimon@test28 ls]$ cat ls.out.9
total 12
drwxr-xr-x 2 dteam035 dteam 2048 Feb 15 17:02 .
drwxr-xr-x 4 dteam035 dteam 2048 Feb 15 17:02 ..
-rw-r--r-- 1 dteam035 dteam  508 Feb 15 17:02 job.env
-rw-r--r-- 1 dteam035 dteam    0 Feb 15 17:02 stderr.execution
-rw-r--r-- 1 dteam035 dteam    0 Feb 15 17:02 stdout.execution
```

N**ot 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):

- Review criteria xxxx
- Add criteria xxxx

Comments for SR (TSA1.3):
Two tickets that may affect SR sites:

- **https://ggus.eu/tech/ticket_show.php?ticket=79021:** IGE gridway rpm installation does not configure GW environment variables by default.
  - Workaround: create /etc/profile.d/gw.sh file

```
for i in `groups`; do
 if [ "$i" = 'gwusers' ]; then
  export GW_LOCATION=/usr/share/gridway/5.8.0
  export GLOBUS_LOCATION=/usr
  export PATH=$PATH:$GW_LOCATION/bin
  export JAVA_HOME=/usr/java/latest
 fi
done
```

- **https://ggus.eu/tech/ticket_show.php?ticket=79022:** IGE gridway cream job submission does not work using EMI-UI (workaround available).

```
#yum install gcc gcc-c++ gsoap-devel classads-devel libxml2-devel log4cpp-devel boost-devel globus-
gass-server-ez-progs
#export GW_LOCATION=/usr/share/gridway/5.8.0
#wget http://repo-rpm.ige-project.eu/redhat/el5/SRPMS/gridway-core-5.8-1.el5.src.rpm
#rpm -vhi gridway-core-5.8-1.el5.src.rpm
#cd /usr/src/redhat/SOURCES
#tar xvzf gridway-5.8.0.tar.gz
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/im_mad/bdii
#make && make install
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/em_mad/cream/
#mv Makefile Makefile.old
#wget
http://dev.gridway.org/projects/gridway/repository/revisions/506/raw/trunk/src/em_mad/cream/Makefile
#make && make install
#cd /usr/src/redhat/SOURCES/gridway-5.8.0/src/tm_mad/dummy
#make; make install
```

Comments for DMSU (TSA2.5):

Comments for TP: