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

Name of the component			
Release	**EMI.mpi.sl5.x86_64-1.3.0**	RT Ticket:	#3893
Software Provider			
Release Contact	Name: Cristina Aiftimiei	E-Mail: cristina.aiftimiei@pd.infn.it	
Validator	Name:Esteban Freire García	E-Mail: esfreire@cesga.es	
V. Hours Worked	6 hours		
Component st	**VERIFIED**	Date	
Verification start date	07/06/12	Verification end date	12/06/12

Summary:

EMI-MPI was updated from UMD-2 repository without any important issue in a creamCE and Worker Nodes with Torque + Maui installed from UMD-1 repository and from scratch using UMD-2 repository.

GGUS Tickets:

Summary of Quality Criteria verification:

	Generic Quality Criteria Total (Critical/Non critical)			
	Passed	Not passed	Not Applicable	Total
TP				
VLD	11			11
	Specific Quality Criteria			
TP				
VLD	4			4

Quality Criteria verification cheatsheet:

<Insert filled excel cheatsheet>

Criteria	Accepted	Tested	Comments
Generic QC			
GENERIC_DOC_1 (Functional Description)	Y	VLD	http://grid.ifca.es/wiki/Middleware/MpiStart/MpiUtils#Functional_Description
GENERIC_DOC_2 (Release Notes)	Y	VLD	https://twiki.cern.ch/twiki/bin/view/EMI/EMI2Final#gLite_MPI_v_1_3_0_task_23330
GENERIC_DOC_3 (User Documentation)	Y	VLD	http://grid.ifca.es/wiki/Middleware/MpiStart/UserDocumentation
GENERIC_DOC_4 (Online help (man pages))	Y	VLD	http://grid.ifca.es/wiki/Middleware/MpiStart
GENERIC_DOC_6 (Administrator Documentation)	Y	VLD	http://grid.ifca.es/wiki/Middleware/MpiStart
GENERIC_DOC_8 (Software License)	Y	VLD	GPL
GENERIC_DOC_9 (Release changes testing)	Y	VLD	https://twiki.cern.ch/twiki/bin/view/EMI/EMI2Final#gLite_MPI_v_1_3_0_task_23330
GENERIC_DIST_1 (Source Code Availability)	Y	VLD	http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl5/SRPMS/base/emi-mpi-1.0.2-1.src.rpm
GENERIC_DIST_2 (Source Distribution)	Y	VLD	http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl5/SRPMS/tgz/emi-mpi-1.0.2.tar.gz
GENERIC_DIST_3 (Binary Distribution)	Y	VLD	http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl5/x86_64/base/emi-mpi-1.0.2-1.el5.noarch.rpm
GENERIC_MISC_2 (Bug Tracking System)	Y	VLD	https://ggus.eu/pages/home.php
Compute Capabilities QC			
PARALLEL_MPI_1 (Precompiled MPI job Execution)	Y	VLD	Job submitted without issues for openmpi
PARALLEL_MPI_2 (MPI job Execution from source.)	Y	VLD	Job submitted without issues for openmpi
PARALLEL_OMP_1 (Precompiled OpenMP job Execut	Y	VLD	Job submitted without issues for openmpi
PARALLEL_OMP_2 (OpenMP job Execution from sour	Y	VLD	Job submitted without issues for openmpi
Operations Capabilities QC			
MON_PROBE_GENERIC_2 (Service Probe)			

Validator comments:

== EMI.mpi.sl5.x86_64-1.3.0==

=== Ticket assigned ===

 * [https://rt.egi.eu/rt/Ticket/Display.html?id=3893]

=== Important Documentation ===
 * https://wiki.egi.eu/wiki/MAN03

=== Repositories ===

(!) Verifier must install a new repo for each product, this information is available at RT ticket field:
 * MPI repo under verification
{{{
[root@test06 yum.repos.d]# cat EMI.mpi.sl5.x86_64.repo
EGI Software Repository - REPO META (releaseId,repositoryId,repofileId) - (3893,550,477)

[EMI.mpi.sl5.x86_64]
name=EMI.mpi.sl5.x86_64
baseurl=http://admin-repo.egi.eu/sw/unverified/emi.mpi.sl5.x86_64/1/3/0/
enabled=1
protect=1

priority=1
gpgcheck=1
gpgkey=http://emisoft.web.cern.ch/emisoft/dist/EMI/2/RPM-GPG-KEY-emi
}}}

=== Installing ===
==== Updating ====

 * yum clean all;yum update
{{{

==
==
==
===
 Package   Arch   Version
Repository   Size
==
==
==
===

 emi-mpi   noarch   1.0.2-1.el5
EMI.mpi.sl5.x86_64   1.8 k
    replacing glite-mpi.noarch 1.0.1-0.sl5

 glite-yaim-mpi   noarch   1.1.11-
1.el5   EMI.mpi.sl5.x86_64   14 k
 mpi-start

                          noarch   1.3.0-1.el5
EMI.mpi.sl5.x86_64   38 k
}}}

==== Configure the siteinfo.def file for the CreamCE ====

 * This is the site-info used to configure the CreamCE + Torque + MPI
{{{
/opt/glite/yaim/bin/yaim -c -s /opt/glite/yaim/etc/site-info.def -n MPI_CE -n creamCE
-n TORQUE_server -n TORQUE_utils

[......]
Max open servers: 9
set queue GRID_iberibeu queue_type = Execution
set queue GRID_iberibeu resources_max.cput = 48:00:00
set queue GRID_iberibeu resources_max.walltime = 72:00:00
set queue GRID_iberibeu enabled = True
set queue GRID_iberibeu started = True
set queue GRID_iberibeu acl_group_enable = True
   DEBUG: Mapping: iber.vo.ibergrid.eu --> ibeibeu

```
    DEBUG: Mapping:
/VO=iber.vo.ibergrid.eu/GROUP=/iber.vo.ibergrid.eu/ROLE=VO-Admin -->
ibeibeusgm
    DEBUG: Mapping:
/VO=iber.vo.ibergrid.eu/GROUP=/iber.vo.ibergrid.eu/ROLE=Production -->
ibeibeuprd
Shutting down TORQUE Server:                    [  OK  ]
/var/torque/server_priv/serverdb
Starting TORQUE Server:                    [  OK  ]
    DEBUG: zip server log
    INFO: Executing function: config_maui_cfg_setenv
    DEBUG: Currently this function doesn't set any environment variables.
    INFO: Executing function: config_maui_cfg
    INFO: configuring maui ...
    DEBUG: Saving the existing maui configuration
MPI_CE creamCE TORQUE_server TORQUE_utils
    DEBUG: Starting Maui ...
Shutting down MAUI Scheduler:                    [  OK  ]
Starting MAUI Scheduler:                    [  OK  ]
    INFO: Executing function: config_apel_pbs_setenv
    DEBUG: This function currently doesn't set any environment variables.
    INFO: Executing function: config_apel_pbs
    DEBUG: Check if the parser config template (/etc/glite-apel-pbs/parser-config.xml)
exists, exits if not
    DEBUG: TORQUE_VAR_DIR is set
    DEBUG: BATCH_ACCT_DIR not set. Using /var/torque/server_priv/accounting
    DEBUG: Create a parser config xml file (/etc/glite-apel-pbs/parser-config-yaim.xml)
    DEBUG: Creating APEL parser configuration in /etc/glite-apel-pbs/parser-config-
yaim.xml
    DEBUG: Change the ownership and permissions of the created config file
    DEBUG: Add a cron job (glite-apel-pbs-parser) for periodic configuration.
    INFO: Executing function: config_gip_sched_plugin_pbs_setenv
    DEBUG: This function currently doesn't set any environment variables.
    INFO: Executing function: config_gip_sched_plugin_pbs
    DEBUG: TORQUE_VAR_DIR is set
    DEBUG: Checks if the batch system is correct for this function
    DEBUG: Define the 'max jobs' cmd for the VOs
    DEBUG: Add BATCH_SERVER to the /var/torque/server_name file to enable torque
clients
    DEBUG: Create ERT configuration
    DEBUG: Skipping function: config_torque_submitter_ssh_setenv because it is not
defined
    INFO: Executing function: config_torque_submitter_ssh
    DEBUG: TORQUE_VAR_DIR is set
Starting MUNGE:
Reloading sshd:                    [  OK  ]
    INFO: Configuration Complete.                          [  OK  ]
    INFO: YAIM terminated succesfully.
}}}
```

==== Submitting a job from the CESGA UI ====

{{{

[esfreire@test13 ~]$ glite-ce-delegate-proxy -e test06.egi.cesga.es esfreire
2012-01-16 17:16:39,606 NOTICE - Proxy with delegation id [esfreire] succesfully
delegated to endpoint [https://test06.egi.cesga.es:8443//ce-cream/services/gridsite-
delegation]

[esfreire@test13 ~]$ glite-ce-proxy-renew -e test06.egi.cesga.es esfreire
2012-01-16 17:17:51,075 NOTICE - Proxy with delegation id [esfreire] succesfully
renewed to endpoint [https://test06.egi.cesga.es:8443//ce-cream/services/gridsite-
delegation]

}}}

{{{

{{{
[esfreire@test13 ~]$ glite-ce-job-submit -D esfreire -r test06.egi.cesga.es:8443/cream-
pbs-GRID_ops testCream1.jdl
https://test06.egi.cesga.es:8443/CREAM976905590

[esfreire@test13 ~]$ glite-ce-job-status
https://test06.egi.cesga.es:8443/CREAM976905590

****** JobID=[https://test06.egi.cesga.es:8443/CREAM976905590]
        Status   = [DONE-OK]
        ExitCode   = [0]

}}}

==== Submitting a MPI job ====

{{{
[esfreire@test13 verification]$ cat job1.jdl
CPUNumber   = 4;
Executable   = "/usr/bin/mpi-start";
Arguments   = "-v -pre hooks.sh cpi";
InputSandbox   = {"cpi.c", "hooks.sh"};
StdOutput   = "std.out";
StdError   = "std.err";
OutputSandbox = {"std.out","std.err"};
##OutputSandboxBaseDestUri = "gsiftp://localhost";
OutputSandboxBaseDestUri = "gsiftp://se2.egi.cesga.es/tmp";
Requirements =
   Member("MPI-START", other.GlueHostApplicationSoftwareRunTimeEnvironment)
&&

Member("OPENMPI", other.GlueHostApplicationSoftwareRunTimeEnvironment);
}}}

{{{
[esfreire@test13 verification]$ cat cat hooks.sh
#!/bin/sh

pre_run_hook () {

  # Compile the program.
  echo "Compiling ${I2G_MPI_APPLICATION}"

  sleep 20

  # Actually compile the program.
  cmd="mpicc ${MPI_MPICC_OPTS} -o ${I2G_MPI_APPLICATION} ${I2G_MPI_APPLICATION}.c"
  $cmd
  if [! $? -eq 0]; then
    echo "Error compiling program. Exiting..."
    return 1
  fi

  # Everything's OK.
  echo "Successfully compiled ${I2G_MPI_APPLICATION}"

  return 0
}

}}}
 * Applying 4 CPUS fails
{{{
[esfreire@test13 verification]$ glite-ce-job-submit -D esfreire12 -r
test06.egi.cesga.es:8443/cream-pbs-GRID_ops job1.jdl
https://test06.egi.cesga.es:8443/CREAM297441068

[esfreire@test13 verification]$ glite-ce-job-status -L 2
https://test06.egi.cesga.es:8443/CREAM297441068

****** JobID=[https://test06.egi.cesga.es:8443/CREAM297441068]
       Current Status = [DONE-OK]

}}}

{{{
[root@se2 tmp]# cat std.err

```
mpi-start [INFO  ]:
*********************************************************
mpi-start [INFO  ]: UID    = opssgm006
mpi-start [INFO  ]: HOST   = test15.egi.cesga.es
mpi-start [INFO  ]: DATE   = Thu Jun 7 14:26:12 CEST 2012
mpi-start [INFO  ]: VERSION = 1.2.0
mpi-start [INFO  ]:
*********************************************************
mpi-start [INFO  ]: search for scheduler
mpi-start [INFO  ]: activate support for pbs
mpi-start [INFO  ]: Unable to detect number of cores per cpu, assuming 1
mpi-start [INFO  ]: Detected 0 CPU socket(s) and 1 core(s) per CPU
mpi-start [INFO  ]: activate support for openmpi
mpi-start [INFO  ]: call backend MPI implementation
mpi-start [INFO  ]: start program with mpirun
Process 0 on test15.egi.cesga.es: n=1
Using 16384 intervals
Process 3 on test14.egi.cesga.es: n=1
Process 2 on test14.egi.cesga.es: n=1
Process 1 on test15.egi.cesga.es: n=1
[root@se2 tmp]# cat std.out
Compiling cpi
Successfully compiled cpi
tar: home/opssgm006/home_cream_297441068/CREAM297441068/.tmp_file: time
stamp 2012-06-07 14:26:10 is 23 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/std.out: time stamp
2012-06-07 14:26:32 is 45 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/cpi.c: time stamp
2012-06-07 14:26:10 is 23 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/.tmp_file: time
stamp 2012-06-07 14:26:10 is 23 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/hooks.sh: time
stamp 2012-06-07 14:26:11 is 24 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/std.err: time stamp
2012-06-07 14:26:12 is 25 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068/cpi: time stamp
2012-06-07 14:26:32 is 45 s in the future
tar: home/opssgm006/home_cream_297441068/CREAM297441068: time stamp 2012-
06-07 14:26:32 is 45 s in the future
=[START]================================================
================
pi is approximately 3.1415926539002341, Error is 0.0000000003104410
wall clock time = 0.003609
=[FINISHED]=============================================
================


}}}

==== Checking edg-apel-sge-parser crond ====
{{{
```

[root@test06 cron.d]# export APEL_HOME=/
[root@test06 etc]# /usr/bin/apel-pbs-log-parser -f /etc/glite-apel-pbs/parser-config-yaim.xml

Thu Jun 7 12:29:10 UTC 2012: apel-pbs-log-parser - Read-in configuration: [quiet, p, inspectTables, c, e, recursiveEventFiles, b, recursiveBlahdFiles] [DBPassword=****, site=CESGA-EGEE, pbslog=/var/torque/server_priv/accounting, GIIS=test06.egi.cesga.es, CEhost=test06.egi.cesga.es, blahdlogPrefix=blahp.log-, DBURL=jdbc:mysql://test07.egi.cesga.es:3306/accounting, DBUsername=accounting, timeZone=UTC, blahdlog=/var/log/cream/accounting]

Thu Jun 7 12:29:10 UTC 2012: apel-pbs-log-parser - ------ Starting the apel application ------

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - **** APEL is examining the schema ****

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the LcgRecords table
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The LcgRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the BlahdRecords table
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The BlahdRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the LcgProcessedFiles table
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The LcgProcessedFiles schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the SpecRecords table for patch 28593
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the SpecRecords table for patch 65723
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The SpecRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the GkRecords table
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The GkRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the MessageRecords table
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The MessageRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - **** Schema checks complete ****

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Finding CPU spec values from GIIS server: test06.egi.cesga.es
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - LDAP URL: ldap://test06.egi.cesga.es:2170
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The ClusterId : SpecInt pair are latest, no update required test06.egi.cesga.es:8443/cream-pbs-GRID_dteam:2395
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The ClusterId : SpecInt pair are latest, no update required test06.egi.cesga.es:8443/cream-pbs-GRID_ops:2395
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The ClusterId : SpecInt pair are latest, no update required test06.egi.cesga.es:8443/cream-pbs-GRID_iberibeu:2395
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The ClusterId : SpecInt pair are latest, no update required test06.egi.cesga.es:8443/cream-pbs-GRID_opsibeu:2395

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Reprocess disabled, checking new event logs only

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - **** Updating PBS end event table (EventRecords) ****

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120125

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120321

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120509

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120323

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120118

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120120

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120119

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120117

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120327

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120124

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120424

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Processing batch log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120607

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120116

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed event log file: test06.egi.cesga.es /var/torque/server_priv/accounting/20120508

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Event records inserted: 1

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Checking the BlahdRecords table

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - The BlahdRecords schema is up-to-date

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Reprocess disabled, checking new event logs only

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120508

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120117

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Processing /var/log/cream/accounting/blahp.log-20120607

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120119

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120327

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120118

Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed
accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120124
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed
accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120125
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed
accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120116
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed
accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120120
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Ignoring already processed
accounting log file: test06.egi.cesga.es /var/log/cream/accounting/blahp.log-20120323
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - Blahd records inserted: 1
Thu Jun 7 12:29:11 UTC 2012: apel-pbs-log-parser - ------ Processing finished ------
}}}

 * Installation from scratch using UMD-2 repository OK

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):

Comments for DMSU (TSA2.5):

Comments for TP: