



# OCM-G TEST REPORT

## SOFTWARE TEST AND VALIDATION REPORT

### WP4 TASK4 - Verification and Quality Control

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**Abstract:** This report describes the validation performed on the package OCM-G developed by CrossGrid WP 3 task 3.3.1. The tests were performed by Santiago González and Javier Sánchez on the behalf of the CrossGrid task 4.4 testbed verification and quality control. OCM-G is an application monitoring system which collects information about running applications.



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## CONTENTS

<b>1. CONTEXT.....</b>	<b>4</b>
1.1. TEST REQUEST .....	4
1.2. TEST TEAM .....	4
1.3. RESOURCES INVOLVED.....	4
<b>2. TEST AND VALIDATION.....</b>	<b>5</b>
2.1. SOFTWARE INSTALLATION.....	5
2.2. ADDITIONAL TESTBED MODIFICATIONS.....	7
2.3. TEST DEVELOPMENTS .....	7
2.4. USABILITY .....	8
2.5. FUNCTIONALITY.....	8
2.5.1. <i>Unit tests</i> .....	9
2.5.2. <i>System tests</i> .....	10
2.5.3. <i>Stress tests</i> .....	14
2.6. COMPATIBILITY.....	14
2.7. SECURITY AND NETWORKING.....	14
2.8. PREVIOUSLY REPORTED ISSUES .....	15
<b>3. ISSUES FOUND.....</b>	<b>16</b>
3.1. ISSUES FOUND IN THE SOFTWARE.....	16
3.1.1. <i>Issue 001 bugs #477</i> .....	16
3.1.2. <i>Issue 002 bugs #478</i> .....	16
3.1.3. <i>Issue 003 bugs #479</i> .....	16
3.2. ISSUES FOUND IN THE DOCUMENTATION.....	16
3.2.1. <i>Issue 001 bugs #480</i> .....	16
<b>4. RECOMMENDATION.....</b>	<b>17</b>
<b>5. REFERENCES.....</b>	<b>18</b>
<b>6. INTEGRATION/VALIDATION REQUEST.....</b>	<b>19</b>

## 1. CONTEXT

Test and validation of the package OCM-G version 1.9.0 developed by CrossGrid WP 3 task 3.3.1. The OCM-G is an application monitoring system which collects information about running applications.

### 1.1. TEST REQUEST

A properly formatted request test form was sent by e-mail on 9 July 2004, through the “test and validation” web form.

The software URL provided in the “Test Request” was correct. A Web link is provided where the installation manual and other documentation can be found:

<http://www.icsr.agh.edu.pl/ocmg>

Instructions on how to test the package are given in the file:

[http://savannah.fzk.de/cgi-bin/viewevs.cgi/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_1-ocm-g/README](http://savannah.fzk.de/cgi-bin/viewevs.cgi/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_1-ocm-g/README)

The test requester was Bartosz Balis ([balis@agh.edu.pl](mailto:balis@agh.edu.pl)) from AGH Cracow, WP3, task 3.3.1 The test was authorized by Jorge Gomes ([Jorge@lip.pt](mailto:Jorge@lip.pt)) from the WP4 Iteam.

### 1.2. TEST TEAM

The tests were performed by task 4.4 members from CSIC-IFIC

- Santiago González ([Santiago.Gonzalez@ific.uv.es](mailto:Santiago.Gonzalez@ific.uv.es))
- Javier Sánchez ([Javier.Sanchez@ific.uv.es](mailto:Javier.Sanchez@ific.uv.es))

### 1.3. RESOURCES INVOLVED

The IFIC Cross Grid testbed has been used to make the tests. This testbed has the tag CG\_1\_9\_3 installed which is LCG-2\_0\_0 compatible. The User Interface ([loki02.ific.uv.es](http://loki02.ific.uv.es)), Computing Element ([loki01.ific.uv.es](http://loki01.ific.uv.es)) and the Worker Nodes ([loki0\[4-6\].ific.uv.es](http://loki0[4-6].ific.uv.es)) were involved in the tests. The UI was used to compile the application and run the “Service Manager” and “Tracer” tool and submit the instrumented application. The CE and WNs were used to run the application.

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## 2. TEST AND VALIDATION

### 2.1. SOFTWARE INSTALLATION

The production testbed was used: CG\_1\_9\_3, which runs RH7.3 installed through a LCFGng server. Globus version 2.4 was used, installed under /opt/cg, and providing the development packages needed for mpich-g2 usage. The LCFGng configuration files (local-cfg.h) were modified to include the new packages in the machines involved:

```
#ifdef ISNODE_CE
+cg-wp3.3-ocmg-1.9.0-1
#endif

#ifdef ISNODE_UI
+cg-wp3.3-ocmg-1.9.0-1
+cg-wp3.3-ocmg-app-devel-1.9.0-1
+mpich-p4-1.2.5.2-cg2
+mpich-g2-1.2.5.2-cg2
+mpich-compatible-2.0-1
#endif

#ifdef ISNODE_WN
+cg-wp3.3-ocmg-1.9.0-1
#endif
```

In addition mpich packages have been added to the UI in order to compile the test application.

Two RPMs have been loaded from the FZK repository:

- cg-wp3.3-ocmg-1.9.0-1
- cg-wp3.3-ocmg-app-devel-1.9.0-1

Before actual installation, the RPMs were analyzed to check dependencies. The installation itself was successful. No issues were found. It installs:

```
[root@loki02]# rpm -ql cg-wp3.3-ocmg-1.9.0-1
/opt/cg/bin/cg-ocmg-monitor
```

and:

```
[root@loki02]# rpm -ql cg-wp3.3-ocmg-app-devel-1.9.0-1
/opt/cg/bin/cg-ocmg-cc
/opt/cg/bin/cg-ocmg-mpich-instr
/opt/cg/bin/cg-ocmg-terminate
/opt/cg/bin/cg-ocmg-tool
/opt/cg/bin/cg-ocmg-tracer
/opt/cg/etc/descriptions
/opt/cg/etc/descriptions/mpi.omis
/opt/cg/etc/profile.d
/opt/cg/etc/profile.d/cg-ocmg.csh
/opt/cg/etc/profile.d/cg-ocmg.sh
/opt/cg/include/OCM/app_globals_any.h
/opt/cg/include/OCM/app_info_any.h
/opt/cg/include/OCM/dynarray.h
/opt/cg/include/OCM/evmgmt_any.h
/opt/cg/include/OCM/expansion_context.h
/opt/cg/include/OCM/hooks_any.h
/opt/cg/include/OCM/ocm_errdefs.h
/opt/cg/include/OCM/ocm_errno.h
/opt/cg/include/OCM/ocm_error.h
/opt/cg/include/OCM/ocm_std_defs.h
/opt/cg/include/OCM/ocm_token_any.h
/opt/cg/include/OCM/omis_flags.h
/opt/cg/include/OCM/omis_reply.h
/opt/cg/include/OCM/omis_types.h
/opt/cg/include/OCM/parlist_any.h
/opt/cg/include/OCM/parlist_utils_any.h
/opt/cg/include/OCM/reply.h
/opt/cg/include/OCM/reply_utils.h
/opt/cg/include/OCM/service_protos.h
/opt/cg/include/OCM/service_registry_any.h
/opt/cg/include/OCM/shmem_any.h
/opt/cg/include/OCM/shmem_app.h
/opt/cg/lib/applib/libAppMonitor.a
/opt/cg/lib/applib/libAppOcmbasic.a
/opt/cg/lib/applib/libAppOcmcore.a
/opt/cg/lib/applib/libAppOcmpa.a
/opt/cg/lib/applib/libAppOcmpatop.a
/opt/cg/lib/applib/libAppOcmsymtab.a
/opt/cg/lib/applib/libAppOcmtrace.a
/opt/cg/lib/applib/libomis.a
/opt/cg/libexec/cg-ocmg-libinstr
/opt/cg/libexec/cg-ocmg-linecmds
/opt/cg/libexec/cg-ocmg-rensymlib
```

The installation of `cg-wp3.3-ocmg-app-devel-1.9.0-1` depends on having `mpich-p4` and/or `mpich-g2` and Globus development packages installed in the UI. This requirement is mentioned in [1] but the RPM itself does not require those dependencies when it is being installed.

The `app-devel` package contains a “postinstall trigger script” which triggers the instrumentation of `mpich` libraries with OCM-G. This is not compliant with a “RPM binary package” distribution. These libraries should be provided with the RPM.

```
[root@loki02 root]# ls -al /opt/cg/lib/applib/
-rw-r--r-- 1 root root 1693318 Jul 21 13:07 libmpich.a
-rw-r--r-- 1 root root 15769250 Jul 21 13:10 libmpichg2.a
```

## 2.2. ADDITIONAL TESTBED MODIFICATIONS

No additional modifications were needed in the testbed machines for the present test.

## 2.3. TEST DEVELOPMENTS

An example program was used for the tests: `crossgrid/wp2/wp2_5-integration/src/gpm_tests/ping.c` obtained from the FZK CVS repository. No modifications were made.

An example Globus RSL file was also obtained. This RSL was modified in order to submit with “`globusrun`” to the CE and WN’s at IFIC. The tests were performed with `mpich-g2` using `Fork` and `PBS` jobmanagers. The application was running in the WN’s using the following RSL file:

```
+
( &(resourceManagerContact="loki01.ific.uv.es:2119/jobmanager-pbs")
  (count=2)
  (label="subjob 0")
  (environment=(GLOBUS_DUROC_SUBJOB_INDEX 0))
  (executable=$(GLOBUSRUN_GASS_URL) # "ping_ocm")
  (arguments=1000 --ocmg-appname app --ocmg-mainism c1885a6b:4e21)
  (stdout=$(GLOBUSRUN_GASS_URL) # output.0)
  (stderr=$(GLOBUSRUN_GASS_URL) # error.0)
)
```

or in the CE using the following RSL file:

```
+
( &(resourceManagerContact="loki01.ific.uv.es:2119/jobmanager-fork")
  (count=1)
  (label="subjob 0")
  (environment=(GLOBUS_DUROC_SUBJOB_INDEX 0))
  (executable=$(GLOBUSRUN_GASS_URL) # "ping_ocm")
  (arguments=1000 --ocmg-appname app --ocmg-mainsm c1885a6b:4e21)
  (stdout=$(GLOBUSRUN_GASS_URL) # output.0)
  (stderr=$(GLOBUSRUN_GASS_URL) # error.0)
)
( &(resourceManagerContact="loki01.ific.uv.es:2119/jobmanager-fork")
  (count=1)
  (label="subjob 1")
  (environment=(GLOBUS_DUROC_SUBJOB_INDEX 0))
  (executable=$(GLOBUSRUN_GASS_URL) # "ping_ocm")
  (arguments=1000 --ocmg-appname app --ocmg-mainsm c1885a6b:4e21)
  (stdout=$(GLOBUSRUN_GASS_URL) # output.1)
  (stderr=$(GLOBUSRUN_GASS_URL) # error.1)
)
```

As stated in the README file, some modifications in the Makefile were made in order to be able to compile the ping.c application with mpich-g2 instrumented library and Globus 2.4 IO libraries:

```
MPICC=/opt/cg/mpichg2/bin/mpicc
MPIRUN=/opt/cg/mpichg2/bin/mpirun
MPIINC=-I/opt/cg/mpichg2/include
```

## 2.4. USABILITY

One should have in mind that the purpose of the OCM-G is to provide information about running application to application-development-support tools, specifically performance analyzers or visualizers. OCM-G is a package which should be integrated and used through the G-PM performance-measuring tool developed by WP2 task 2.4.

The tool was considered easy to deploy in the testbed, the installation issues were reported in the previous sections.

Using the Installation Guide [2] and the short installation manual [3] the installation procedure and its test were easy.

The output values from the Tracer tool and also the one shown in output files produced by the running application seem to be correct.

The interactive response time seems good. The starting of the several command-line tools are fast, as well as the output sent by those tools to the terminals during the execution of an instrumented application.

## 2.5. FUNCTIONALITY

The following steps were done:

1. Compilation of a simple mpi application (ping.c) with the OMC-G instrumented MPICH-G2 library.
2. Start up of the “Service Manager”.
3. Job submission of the application to the testbed to the testbed.
4. Start up of the Tracer tool.
5. Checks the outputs to the terminals and the output files after job termination.

### 2.5.1. Unit tests

Following the instructions described [3], the tester downloaded “crossgrid/wp2/wp2\_5-integration/src/gpm\_tests” from the FZK CVS repository, consisting of:

```
-rw-r--r-- 1 sgonzale exp 694 Jul 21 15:06 Makefile
-rw-r--r-- 1 sgonzale exp 609 Jul 21 15:06 README
-rw-r--r-- 1 sgonzale exp 629 Jul 21 15:06 config.h
-rw-r--r-- 1 sgonzale exp 26 Jul 21 15:06 machines
-rw-r--r-- 1 sgonzale exp 2067 Jul 21 15:07 ping.c
-rw-r--r-- 1 sgonzale exp 580 Jul 21 15:07 ping.rsl
-rw-r--r-- 1 sgonzale exp 634 Jul 21 15:07 ping_ocm.rsl
-rw-r--r-- 1 sgonzale exp 52 Jul 21 15:08 probes.c
```

The “ping.c” program was successfully compiled with the mpich-g2 instrumented library and with Globus 2.4 IO libraries:

```
-rwxr-xr-x 1 sgonzale exp 397586 Jul 21 15:10 ping
-rwxr-xr-x 1 sgonzale exp 668674 Jul 21 15:10 ping_ocm
```

The SM is a command-line program. It was successfully started in the UI:

```
[sgonzale@loki02]# cg-ocmg-monitor

Main SM connection string: 939ca3a0:4e20
```

The Tracer Tool was also started in the User Interface without errors:

```
[sgonzale@loki02]# cg-ocmg-tracer app --num procs 2 -terminate -ocmg-mainsm
939ca3a9:4e20
Parsing: Main SM conn. is:

939ca3a0:4e22
authorization callback: peer identity: /C=ES/O=DATAGRID-ES/O=IFIC/CN=Santiago Gonzalez
de la Hoz
SDDFA
/*
 * "Creation Date" "Wed Jul 21 14:03:31 2004"
 * "Machine" "OCM tracer 1.0"
*/ ;;

#0: "host_add"
{
    int "sec";
    int "usec";
    int "tid";
    char "name"[];
    char "alias"[];
};;

#1: "newtask"
{
    int "sec";
    int "usec";
    int "tid";
    int "ptid";
    int "host";
    char "aout"[];
};;
```

### 2.5.2. System tests

The system tests correspond to job submission through “globusrun” command to the IFIC Computing Element (loki01.ific.uv.es) or to IFIC Worker Nodes (loki[4-6].ific.uv.es) and checking the output produced by the SM and Tracer tool while the application is running, and also the output files produced when the application terminates.

The RLS files for the job submission to the CE or to the WNs were the shown in section 2.3. It is necessary to edit the job RSL to match the contact port. The job was submitted using globus-job-run:

```
[sgonzale@loki02]# globusrun -s -f ping_ocmg.rsl &
```

The screen outputs are shown bellow. For the SM interface with the application running in the CE:

```
[sgonzale@loki02]# cg-ocmg-monitor
authorization callback: peer identity: /C=ES/O=DATAGRID-ES/O=IFIC/CN=Santiago
Gonzalez de la Hoz

gsi_displayConnections:
Connections in the queue:
mid      pid      type      mess. part      peer addr      peer name
00000001 13160    SLAVE     NO               939ca39f       loki01.ific.uv.es
00010001 28284    TOOL      NO               939ca3a0       loki02.ific.uv.es
```

For the SM interface with the application running in the WNs:

```
[sgonzale@loki02]# cg-ocmg-monitor
authorization callback: peer identity: /C=ES/O=DATAGRID-ES/O=IFIC/CN=Santiago
Gonzalez de la Hoz

gsi_displayConnections:
Connections in the queue:
mid      pid      type      mess. part      peer addr      peer name
00100002 14541    SLAVE     NO               939ca3a3       loki05.ific.uv.es
00100001 14713    SLAVE     NO               939ca3a2       loki04.ific.uv.es
00000000 28454    SiteSM    NO               939ca3a0       loki02.ific.uv.es
```

The Tracer interface with the application running in the CE:

```
host_add" { 0, 0, 0, [20] { "loki01.ific.uv.es" }, [20] { "loki01.ific.uv.es"
}};;
"newtask" { 0, 0, 0, -1, 0, [5] { "data" } };;
"newtask" { 0, 0, 1, -1, 0, [5] { "data" } };;
```

The Tracer interface with the application running in the WNs:

```
"host_add" { 0, 0, 0, [20] { "loki05.ific.uv.es" }, [20] {  
"loki05.ific.uv.es" } };;  
"host_add" { 0, 0, 1, [20] { "loki04.ific.uv.es" }, [20] {  
"loki04.ific.uv.es" } };;  
"newtask" { 0, 0, 1, -1, 0, [5] { "data" } };;  
"newtask" { 0, 0, 0, -1, 1, [5] { "data" } };;
```

The output file corresponding to loki01.ific.uv.es, "outputfile.0" contains the following:

```
3141: Program Started  
MPI initialized  
OCMG registered  
Hello from 0 of 2  
0: Send_volume =      821 B/s  
0: Recv_volume =       82 B/s  
0: Revc_delay =  34.435 %  
0: Send_volume =      725 B/s  
0: Recv_volume =       72 B/s  
0: Revc_delay =  28.985 %  
0: Send_volume =      758 B/s  
0: Recv_volume =       76 B/s  
0: Revc_delay =  31.788 %  
0: Send_volume =      735 B/s  
0: Recv_volume =       74 B/s  
0: Revc_delay =  30.142 %  
0: Send_volume =      781 B/s  
0: Recv_volume =       78 B/s  
0: Revc_delay =  32.766 %  
0: Send_volume =      800 B/s  
0: Recv_volume =       80 B/s  
0: Revc_delay =  35.982 %  
0: Send_volume =      763 B/s
```

The output file corresponding to loki01.ific.uv.es, “outputfile.1” contains the following:

```
13157: Program Started
MPI initialized
Parsing: Main SM conn. is:
  939ca3a0:4e20
authorization callback: peer identity: /C=ES/O=DATAGRID-ES/O=IFIC/CN=Santiago Gonzalez
de la Hoz
gsi_displayConnections:
Connections in the queue:
mid      pid      type      mess. part      peer addr      peer name
00000000 28281  SLAVE    NO               939ca3a0      loki02.ific.uv.es
LM: SITE CE IS: loki01.ific.uv.es
Site SM is at 939ca39f:4e47 ...connecting...
gsi_displayConnections:
Connections in the queue:
mid      pid      type      mess. part      peer addr      peer name
authorization callback: peer identity: /C=ES/O=DATAGRID-ES/O=IFIC/CN=Santiago Gonzalez
de la Hoz

gsi_displayConnections:
Connections in the queue:
mid      pid      type      mess. part      peer addr      peer name
00100000 14993  SLAVE    NO               939ca39f      loki01.ific.uv.es

[ic]   fifo fd: 10
*** Process 0 (pid 14966) of application 'app' registered at 'loki01.ific.uv.es'!
*** Process 1 (pid 14983) of application 'app' registered at 'loki01.ific.uv.es'!
OCMG registered
Hello from 1 of 2
```

The output file corresponding to loki04.ific.uv.es and loki05.ific.uv.es, “outputfile.0” contains the following:

```
*** Process 1 (pid 14540) of application 'app' registered at 'loki05.ific.uv.es'!  
*** Process 0 (pid 14712) of application 'app' registered at 'loki04.ific.uv.es'!  
OCMG registered  
Hello from 1 of 2  
OCMG registered  
Hello from 0 of 2  
0: Send_volume =      864 B/s  
0: Recv_volume =       86 B/s  
0: Revc_delay  =  26.532 %  
0: Send_volume =      990 B/s  
0: Recv_volume =       99 B/s  
0: Revc_delay  =  30.420 %  
0: Send_volume =      990 B/s  
0: Recv_volume =       99 B/s  
0: Revc_delay  =  30.428 %  
0: Send_volume =      990 B/s  
0: Recv_volume =       99 B/s  
0: Revc_delay  =  30.429 %  
0: Send_volume =      990 B/s  
0: Recv_volume =       99 B/s  
0: Revc_delay  =  30.434 %  
0: Send_volume =      741 B/s  
0: Recv_volume =       74 B/s  
0: Revc_delay  =  22.744 %  
0: Send_volume =      990 B/s  
0: Recv_volume =       99 B/s  
0: Revc_delay  =  30.431 %
```

In either test, the “cg-ocmg-monitor” and the “cg-ocmg-tracer” terminate after the application has finished running. The application printed a couple of warnings when it terminates; this is not an error.

### 2.5.3. Stress tests

The stress test would involve a large number of WNs for the application to run. This was not performed since the application ping.c is limited to 2 processes.

## 2.6. COMPATIBILITY

The software is compatible with the other components of the middleware installed in the “production” testbed. The packages on which the OCM-G depends are distributed by CrossGrid, see section 2.1 for more details.

## 2.7. SECURITY AND NETWORKING

As far as we know, the libraries on which the OCM-G tool depends don’t have any security issues.

The SM tool has to be run from a user account in the UI with a previously created proxy, since the communications are performed through the Globus IO libraries including GSS security.

No security issues were found.

## **2.8. PREVIOUSLY REPORTED ISSUES**

This was the second version to be tested [4].

### **According to software issue001:**

This hasn't been solved.

### **According to software issue002:**

This hasn't been solved.

### **According to software issue003:**

This hasn't been solved.

### **According to software issue004:**

This version of the packages doesn't seem to need a configuration file. So, we think it has been solved.

### **According to software issue005:**

This has been solved

### **According to documentation issue001:**

An installation guide has been written which contains also a brief using example. A formal User Guide should be written inside CrossGrid documentation.

### 3. ISSUES FOUND

#### 3.1. ISSUES FOUND IN THE SOFTWARE

##### 3.1.1. Issue 001 bugs #477

(Severity: critical Priority: high)

Bug tracker reference:

[http://savannah.fzk.de/bugs/?func=detailitem&item\\_id=477](http://savannah.fzk.de/bugs/?func=detailitem&item_id=477)

The packages `cg-wp3.3-ocmg-app-deve-1.9.0-1` should require the following RPMs to be installed:

`mpich-g2-1.2.5.2-cg2`

`mpich-p4-1.2.5.2-cg2`

Since it depends on these packages to work properly.

##### 3.1.2. Issue 002 bugs #478

(Severity: high Priority: high)

Bug tracker reference:

[http://savannah.fzk.de/bugs/?func=detailitem&item\\_id=478](http://savannah.fzk.de/bugs/?func=detailitem&item_id=478)

The package `cg-wp3.3-ocmg-app-devel-1.9.0-1` should not trigger the `postinstall` compilation script to compile/instrument the `mpich` libraries. The libraries should be already instrumented within the RPM.

##### 3.1.3. Issue 003 bugs #479

(Severity: medium Priority: medium)

Bug tracker reference:

[http://savannah.fzk.de/bugs/?func=detailitem&item\\_id=479](http://savannah.fzk.de/bugs/?func=detailitem&item_id=479)

Port number of the Service Manager does not seem to be configurable.

#### 3.2. ISSUES FOUND IN THE DOCUMENTATION

##### 3.2.1. Issue 001 bugs #480

(Severity: medium Priority: high)

Bug tracker reference:

[http://savannah.fzk.de/bugs/?func=detailitem&item\\_id=480](http://savannah.fzk.de/bugs/?func=detailitem&item_id=480)

An installation guide has been written which explain how obtain the software, the packages dependencies and the software, services and tools configuration. But there is not documentation on how instrument a given application with OCM-G.

A README file can be found in the CVS repository and it describes a simple procedure to test successful installation of OCM-G packages.

No "User Manual" was provided. A formal and complete User Guide should be written and available for the CrossGrid collaboration.

#### 4. RECOMMENDATION

The package `cg-wp3.3-ocmg-app-devel-1.9.0-1` should require the following RPMs to be installed:

`mpich-g2-1.2.5.2-cg2`

`mpich-p4-1.2.5.2-cg2`

It should not trigger the postinstall compilation script to compile/instrument the mpich libraries. Those instrumented libraries should be provided already within the RPM.

**Recommendation for the Crossgrid ITEAM is to deploy the packages `cg-wp3.3-ocmg-1.9.0-1` and `cg-wp3.3-ocmg-app-devel-1.9.0-1` in the testbed in the Computing Element, Worker Nodes and User Interfaces.**

## 5. REFERENCES

- [1] <http://www.eu-crossgrid.org/m6-drafts-login/M24deliverables-drafts/CG3.0-D3.5-v1.0-PSNC010-Proto2Status.doc>.
- [2] OCM-G Grid-enable OMIS-Compliant Monitoring System. Installation Guide. <http://www.icsr.agh.edu.pl/ocmg/>.
- [3] <http://www.icsr.agh.edu.pl/ocmg>.
- [4] OCM-G Test and Validation Report, CG-4.4-REP-v1.1-LIP102-OCM-G. [http://www.lip.pt/computing/projects/crossgrid/task4/softvalidation/107659095358.6653977007703/CG-4.4-REP-v1.1-LIP102-OCMG\\_TestReport.pdf](http://www.lip.pt/computing/projects/crossgrid/task4/softvalidation/107659095358.6653977007703/CG-4.4-REP-v1.1-LIP102-OCMG_TestReport.pdf)

**6. INTEGRATION/VALIDATION REQUEST****Component name:** OCM-G**Version (CVS tag):** 1.9 **Request priority:** 2**Package brief description:** OCM-G application monitoring system with multi-site support**Code:****Source code in X# CVS ? (Y/N):** Y**Autobuild generates RPMs ? (Y/N):** Y**Software download URL:** <http://www.crossgrid.org>

<b>List</b>	<b>of</b>	<b>RPMs</b>	<b>produced:</b>	ocmg	(runtime)
ocmg-devel					

**Changes:****List of all bugs fixed by this release:****List of backwards compatibility issues (installation, configuration or run-time:****Documentation:****Installation manual URL:** <http://www.icsr.agh.edu.pl/ocmg>**Users manual URL:****Development manual URL:****Software requirements URL:**

<b>Software</b>	<b>design</b>	<b>URL:</b>
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**Files:****List of all configuration files (with full path):****List of all log files (with full path):****List of LCFG configuration objects (and versions):****List of daemons provided:****List of init.d scripts and supported directives (start, stop, restart, etc.):****Deployment:****Affected machine types (UI, WN, CE, SE, etc) and packages to be deployed on each:**

Ulocmg-devel

WNocmg-runtime

CE - ocmg-runtime

**Component dependencies (required libraries, packages, etc.):**

globus\_io, mpich on devel-machine (UI) to monitor MPI function calls.

**Credentials (if any) used by the service:****List of service ports (inbound,outbound):**

range of ports inbound to Main Service Manager, usually on UI

**Who communicates with the service and from where:**

Tool communicates from outside to Main Service Manager which can on UI or locally

**Range of temporary ports used by the service (inbound,outbound):**

**Testing and Validation:**

**Unit tests that have been performed on the package: ?**

**Features to be tested:**

See README file

**Features not to be tested:**

**Test programs download URL:** <http://www.crossgrid.org>

**Other considerations:**

Please, look at README file in the src directory for a test scenario.

**Contacts:**

**Test requester:**

**Name:** Bartosz Balis **WP:** WP3 **Partner:** CYFRONET **Task:** WP3.3.1 **E-mail:** [balis@agh.edu.pl](mailto:balis@agh.edu.pl)

**Developer/origin:**

**Name:** Bartosz Balis **Project:** crossgrid **WP:** WP3 **Partner:** CYFRONET **Task:** WP3.3.1 **E-mail:** [balis@agh.edu.pl](mailto:balis@agh.edu.pl)