



# JIMS 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 JIMS developed by CrossGrid WP 3 task 3.3. The tests were performed by Tomás F. Pena, José C. Cabaleiro, Marcos Boullón and Carlos Fernández on the behalf of the CrossGrid task 4.4 testbed verification and quality control.



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## 1. CONTEXT

Test and validation of the package JIMS version 1.2.3 developed by CrossGrid WP 3 task 3.3. JIMS is an infrastructure monitoring system for exposing operating system parameters (CPU statistics, number of processes, memory used, filesystems statistics), and network infrastructure (SNMP attributes) parameters to external monitoring applications through Web Services.

### 1.1. TEST REQUEST

The package test request was assigned by Jorge Gomes ([jorge@lip.pt](mailto:jorge@lip.pt)) to Francisco F. Rivera ([fran@dec.usc.es](mailto:fran@dec.usc.es)) and Tomás F. Pena ([tomas@dec.usc.es](mailto:tomas@dec.usc.es)) on 25 May 04. The request was submitted properly by a request form through the test and validation web form, and was assigned the Request ID 10850473563.65254383805258. A second request was submitted on 16<sup>th</sup> July, and it was assigned the Request ID 108998632610.9712609396414. This second test and validation was performed from 19<sup>th</sup> to 26<sup>th</sup> of July, as soon as the new version of JIMS was available.

The software URL provided in the request was correct, containing the packaged RPMs of JIMS.

The URL for the documentation was correctly provided. The Installation [1], Users [2] and Development manual [4] are very short and simple INSTALL and README files, and they provide insufficient information for testing purposes and general use. Unit tests have not been provided. The features to be tested are not indicated in the test request.

The test requestor was Kazimierz Balos ([kbalos@agh.edu.pl](mailto:kbalos@agh.edu.pl)) from the University of Science and Technology (AGH) in Krakow, WP 3, task 3.3. 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 2.3.2 members from USC and CESGA

- Tomás F. Pena ([tomas@dec.usc.es](mailto:tomas@dec.usc.es))
- José C. Cabaleiro ([caba@dec.usc.es](mailto:caba@dec.usc.es))
- Marcos Boullón ([marcos@dec.usc.es](mailto:marcos@dec.usc.es))
- Carlos Fernández ([carlosf@cesga.es](mailto:carlosf@cesga.es))

### 1.3. RESOURCES INVOLVED

The production testbed of CESGA was used for the purpose of testing:

- 1 User interface ([ui.grid.cesga.es](http://ui.grid.cesga.es))
- 1 Computing element ([ce.grid.cesga.es](http://ce.grid.cesga.es))
- 2 Working node ([grid01.grid.cesga.es](http://grid01.grid.cesga.es), [grid03.grid.cesga.es](http://grid03.grid.cesga.es))

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## 2. TEST AND VALIDATION

### 2.1. SOFTWARE INSTALLATION

The production testbed was used: LCG-1.1.4, which runs RH7.3 installed through a LCFGng server.

The software to be installed is distributed as RPMS, and is composed by four packages:

```
cg-wp3.3.3-jims-client-1.2.9-1.noarch.rpm
cg-wp3.3.3-jims-thirdparty-1.2.9-1.noarch.rpm
cg-wp3.3.3-jims-service-1.2.9-1.noarch.rpm
cg-wp3.3.3-jims-commons-1.2.9-1.noarch.rpm
```

The packages can be obtained from the repository. Additionally, the package `net-snmp`  $\geq 5.0.7$  is needed to install (`net-snmp-5.1.1-1.rh72` was used). Initially they were installed using `rpm` and later the changes needed in the configuration of the LCFG were introduced. The software needs to install files in the following directories:

```
/opt/cg/bin
/opt/cg/lib
/opt/cg/etc/jims
/opt/cg/etc/init.d
/opt/cg/share/java
/opt/cg/share/man
/opt/cg/var/log/jims
```

Before proceeding with the installation, it is needed to create an account `cgjims` on the CE and WNs where the installation is going to be done:

```
useradd cgjims
```

RPMS should be installed as follows:

```
CE: common, service
WN: common, service
client machines: common, client
```

### 2.2. ADDITIONAL TESTBED MODIFICATIONS

In order to run the software as `cgjims` user, some additional changes need to be done. First, all log files are written in directory `/opt/cg/var/log/jims`, and it is needed to change the ownership of this directory to the user `cgjims`:

```
chown -R cgjims:cgjims /opt/cg/var/log/jims
```

It is also convenient that the user `cgjims` can do `ssh` connections without asking for a password, and this can be done using passphrase-less public-key authentication. To set up this, being user `cgjims` we should type:

```
ssh-keygen -t rsa
cp .ssh/key_authorized_keys
chmod 600 authorized_keys
```

---

It is also needed to properly set the environment variable `JAVA_HOME` to the complete `PATH` where `JAVA` software is installed (`/usr/java/j2sdk1.4.1_01`). This can be done introducing these lines in the file `/etc/bashrc`:

```
JAVA_HOME=/usr/java/j2sdk1.4.1_01
export JAVA_HOME
export PATH=$PATH:$JAVA_HOME/bin
```

To configure which machines are going to do what, the content of the `/opt/cg/etc/cg-site.cfg` file should be as follows:

```
CE=cehost.domain
WNx=wnxhost.domain
```

### 2.3. TEST DEVELOPMENTS

JIMS offers two clients to access the most important data exposed, and measure network status (`cg-jims-client`, `cg-jims-cli`). Test programs developed are heavily based on them and have been modified in order to perform several continuous measurements on all the available parameters at programmed time intervals. The same code is also utilized in stress tests by rising the number of requests per unit of time.

### 2.4. USABILITY

The product installation procedure is simple and automated, and only changes in configuration files are required. JIMS Monitoring Agents and SOAP Gateway are intended to operate continuously without supervision or user intervention. The same applies to the deployment step.

There are two ways to get the monitoring data: direct request to the agent by using the web user interface in working nodes and by means of calls to the `java` API from the user code. In this last case all the information is obtained from the SOAP Gateway server, which communicates with the Monitoring Agents using web services. Both methods provide access to the same data set.

The client programs coming with JIMS are easy to use and understand, and provide the data characterizing the testbed as were collected by the Monitoring Agents. If these information data are correct, so will be that from the JIMS global service.

Taking as start point these clients, we have developed other programs to access and monitor all parameters in their time evolution. We have verified that from the last JIMS installed version (1.2.3-1), the data types in functions to access monitoring data have changed. Besides, several monitoring parameter names have been renamed. All this is reflected in the client source codes and our user code has been consistently updated.

The system response speed is acceptable and the measurement update period is adjustable. Network state measurements are done under demand. Monitoring and measurement process in the working nodes seems do not affect the global system performance.

### 2.5. FUNCTIONALITY

The software functionality can be tested either through the web user interface or using calls to the JIMS API from a `java` code. Both methods have been checked and we confirm that JIMS offers the same last version services as much as the new services requested later. The software is compliant with the design and the user requirements, however the tested installation is not fully functional.

We checked the functionality of start/stop service script, the provided clients and their man pages and found all this satisfactory although very user-oriented; programming-oriented information will be also welcome. In this particular tested installation main script keeps on reporting wrong status (it says all monitoring stations are stopped while they are up and running).

### 2.5.1. Unit tests

Unit tests were performed by using a java program specifically developed for this task (although we also checked that the web user interface provided the same data). So, several one hour tests were conducted requesting information to the SOAP gateway in intervals of five seconds.

The measured parameters were those from the SystemInformation class (AverageIdle, AverageLowWait... about 50) and those from the NetworkMetrics class (measureThroughput, measureICMPLatency and measureUDPLatency). The datatypes are long, long[], int, float, string and string[]. Parameters from the first class are updated every 2 seconds. Measuring parameters from the second one initiates a real network test in the very next request moment.

In SystemInformation class we found 6 parameters returning wrong data ("null" value). They are: AverageNcpuLowWait, AverageNcpuIrq, AverageNcpuSoftIrq, NcpuLowWait, NcpuIrq and NcpuSoftIrq. JIMS documentation reports that these parameters are restricted only to 2.6.x linux kernels. In NetworkMetrics class there are 2 parameters returning wrong data. They are measureUDPLatency (negative value) and measureThroughput (0 B/s value). These two last parameters did work in previous tested version.

### 2.5.2. System tests

System tests were performed using the Performance Prediction Component (PPC) [5] of WP 2, task 2.3.2. Currently, from PPC only "Idle" parameter is required. From this tool, any site with JIMS installed can be monitored, at this moment only two.

### 2.5.3. Stress tests

Stress tests were performed using ten concurrent processes doing simultaneous and continuous requests (with no delay between them) to a few parameters from SystemInformation and NetworkMetrics classes during one hour. This stress test should cover any real use case. Apart from a logic delay in the response, no problems were detected.

## 2.6. COMPATIBILITY

The software is compatible with the other components of the middleware installed in the "production" testbed. The packages on which the JIMS depends on are distributed by CrossGrid, except the package net-snmp-5.1.1-1.rh72, which should also be provided in order to install the software.

## 2.7. SECURITY AND NETWORKING

To report the information, JIMS uses these TCP ports by default:

HTTP server	7701
Web Service	7702
UDP client	7703
UDP server	7704
SNMP agent	7705
Discovery	7706
RMI connector	7707
HTML adaptor	7708
MBS RMI connector	7709

The following ports are used by the JIMS client applications:

JIMS/SNMP Manager	7702 (Web Service port)
CLI client	7702 (Client port)

WEB interface            7708 (HTTP adapter port)

Anyway, these port numbers can be modified changing the following files:

/opt/cg/etc/jims/jims-service.conf

/opt/cg/etc/jims/jims-client.conf

There is no known other security issues regarding JIMS, since it runs the services as a non-root user in order to restrict any not known exploit of these services.

As JIMS is mostly JAVA based, the security concerns of JIMS are related to the ones found in the JAVA services and applications.

## **2.8. PREVIOUSLY REPORTED ISSUES**

Quoting the JIMS documentation in CVS (docs/ISSUES)...

"Issues found in JIMS v1.2.3 and described in JIMS TEST REPORT CG-4.4-REP-v1.1-USC001-JIMS\_TestReport.doc and their updates are described below."

### **2.8.1. ISSUES FOUND IN THE SOFTWARE**

#### **2.8.1.1. ISSUE 001**

"Issue 001 correction. JIMS displays status regardless the CE and WN filesystems are splitted or common."

This issue is not closed. In the tested configuration the service script (/opt/cg/bin/cg-jims-service) keeps on reporting a wrong status of the monitoring agents in the working nodes.

#### **2.8.1.2. ISSUE 002**

"Issue 002 correction. /opt/cg/var/log/jims directory is now created by LCFG scripts and owned by the cgjims user, so JIMS can write log files to it. Not corrected by RPMs themselves."

Not yet closed. Testbed administrator must correct it by hand.

#### **2.8.1.3. ISSUE 003**

"Issue 003 correction. Since version 1.2.4 there is available information about time spent on different tasks per CPU (not only the sum from all CPUs in the machine). There were also unified names of parameters obtained from /proc/stat: Average from every second (hundreds of seconds of every CPU per different types of tasks - dual CPU machine)"

#### **2.8.1.4. ISSUE 004**

"Issue 004 correction. Problem will be solved after installing net-snmp package. See Issue 006 correction."

#### **2.8.1.5. ISSUE 005**

"Issue 005 correction. Write access through SNMP module to SNMP agent is disabled in the JIMS Java API in \$CG\_LOCATION/etc/jims/jims-service.conf due to security reasons. All WNs should be also protected from connecting on port where SNMP agent is running. The protection can be set on the firewall and should prevent all hosts except the host on which SNMP agent is running from connecting from the outside world. The configuration file \$CG\_LOCATION/etc/jims/jims-service.conf should also be readable only by cgjims user and not accessible by any other users. IMPORTANT NOTICE: the RO community in JIMS should be modified in both \$CG\_LOCATION/etc/jims/jims-service.conf file and the Net SNMP daemon configuration file (snmpd.conf, location depending on installation)."

#### **2.8.1.6. ISSUE 006**

"Issue 006 correction. Package net-snmp will be installed as a part of testbed and is now forced by clause: "Requires: net-snmp >= 5.0.7" in cg-wp3.3.3-jims-commons.spec.in"

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**2.8.1.7. ISSUE 007**

"Issue 007 correction. Installation of RPMs doesn't require any manual configuration anymore. JIMS is installable without manual intervention."

**2.8.1.8. ISSUE 008**

"Issue 008 correction. JIMS startup script was strongly redesigned and placed now in /opt/cg/etc/init.d and is called cg-jims."

**2.8.2. ISSUES FOUND IN DOCUMENTATION****2.8.2.1. ISSUE 001**

"ISSUE 001. Only cosmetic changes in installation and user manual due to the most of time spent on tasks connected with software development before meeting in Dagstuhl. Will be corrected in the next release. Though, there are included following files in this release (common RPM):

docs/README

docs/CHANGELOG

docs/DEPENDENCIES

docs/INSTALL

docs/INTEGRATION

docs/ISSUES

docs/LICENSE

docs/RELEASE\_NOTES

docs/USERMANUAL

In the next release documentation will be provided in form of man pages."

**2.8.2.2. ISSUE 002**

"ISSUE 002. RPMs' installation is described in INSTALL file. Documentation will be improved in the next release."

**2.8.2.3. ISSUE 003**

"ISSUE 003. Security requirements regarding the SNMP agent installation from Net SNMP package are described in this document (see 3.1 ISSUES FOUND IN SOFTWARE, ISSUE 005)."

### 3. ISSUES FOUND

#### 3.1. ISSUES FOUND IN THE SOFTWARE

##### 3.1.1. Issue 001

(Severity: high Priority: high)

Due to the fact that the filesystems of the CE and the WN are different, JIMS is unable to report the real status of the service in the testbed, it always reports that the monitoring agents are stopped.

##### 3.1.2. Issue 002

(Severity: high Priority: medium)

In order to run the JIMS service as user, it is necessary to give to the user write permissions for the log directory.

##### 3.1.3. Issue 003

(Severity: high Priority: high)

Several parameters in the NetworkMetrics class are reported incorrectly.

##### 3.1.4. Issue 004

(Severity: medium Priority: medium)

Interfaces to JIMS API functions and parameter names should be established from now on.

#### 3.2. ISSUES FOUND IN THE DOCUMENTATION

##### 3.2.1. Issue 001

(Severity: high Priority: high)

The installation and user manuals are not very clear. The user manual is still very incomplete regarding the functionality and use of the software.

##### 3.2.2. Issue 002

(Severity: medium Priority: medium)

There is not support for programming. No JIMS API description, no information about new java objects, methods or activation procedures. The only guide to programmers are the clients source code.

#### **4. RECOMMENDATION**

The documentation must be improved; specific user and installation manuals must be extended.

In spite of the mentioned problems with the documentation and installation, our recommendation to the CrossGrid ITEAM is that the package could be deployed, with minor issues found, if no other JIMS version is scheduled to be released soon.

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## 5. REFERENCES

- [1] [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/INSTALL?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/INSTALL?rev=HEAD&content-type=text/plain)
- [2] [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/USER\\_MANUAL?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/USER_MANUAL?rev=HEAD&content-type=text/plain)
- [3] [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/INTEGRATION?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/INTEGRATION?rev=HEAD&content-type=text/plain)
- [4] [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/DEPENDENCIES?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/DEPENDENCIES?rev=HEAD&content-type=text/plain)
- [5] [https://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp2/wp2\\_4-perf/wp2\\_4\\_2-perfpred/wp2\\_4\\_2-perfpred-PPC/doc/user-manual.pdf?rev=1.3&only\\_with\\_tag=v1\\_2\\_0&content-type=application/pdf](https://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp2/wp2_4-perf/wp2_4_2-perfpred/wp2_4_2-perfpred-PPC/doc/user-manual.pdf?rev=1.3&only_with_tag=v1_2_0&content-type=application/pdf)
- [6] [https://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/src/snmp/cfg/snmpd.conf?rev=HEAD&content-type=text/plain](https://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/src/snmp/cfg/snmpd.conf?rev=HEAD&content-type=text/plain)

## 6. INTEGRATION/VALIDATION REQUEST

**Component name:** JIMS  
**Version (CVS tag):** v1\_2\_4 **Request priority:** 2  
**Package brief description:**  
see previous t&v request

### Code:

**Source code in X# CVS ? (Y/N):** Y  
**Autobuild generates RPMs ? (Y/N):** N  
**Software download URL:** [waiting for autobuilt to be built...](#)

### List of RPMs produced:

cg-wp3.3.3-jims-thirdparty-1.2.4-1.noarch.rpm  
cg-wp3.3.3-jims-commons-1.2.4-1.noarch.rpm  
cg-wp3.3.3-jims-service-1.2.4-1.noarch.rpm  
cg-wp3.3.3-jims-client-1.2.4-1.noarch.rpm

### Changes:

#### List of all bugs fixed by this release:

Described in ISSUES file, available at:  
[http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/docs/ISSUES?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/docs/ISSUES?rev=HEAD&content-type=text/plain)

#### List of backwards compatibility issues (installation, configuration or run-time:

### Documentation:

**Installation manual URL:** [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/docs/INSTALL?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/docs/INSTALL?rev=HEAD&content-type=text/plain)

**Users manual URL:** [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/docs/USERMANUAL?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/docs/USERMANUAL?rev=HEAD&content-type=text/plain)

**Development manual URL:** [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/docs/INTEGRATION?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/docs/INTEGRATION?rev=HEAD&content-type=text/plain)

**Software requirements URL:** [http://savannah.fzk.de/cgi-bin/viewcvs.cgi/\\*checkout\\*/crossgrid/crossgrid/wp3/wp3\\_3-moninfr/wp3\\_3\\_3-jims/docs/DEPENDENCIES?rev=HEAD&content-type=text/plain](http://savannah.fzk.de/cgi-bin/viewcvs.cgi/*checkout*/crossgrid/crossgrid/wp3/wp3_3-moninfr/wp3_3_3-jims/docs/DEPENDENCIES?rev=HEAD&content-type=text/plain)

**Software design URL:** [see previous t&v request](#)

**Files:****List of all configuration files (with full path):**

\$CG\_LOCATION/etc/jims/jims-service.conf  
\$CG\_LOCATION/etc/jims/jims-client.conf  
\$CG\_LOCATION/etc/jims/jims-defaults  
\$CG\_LOCATION/bin/server-config.wsdd

**List of all log files (with full path):**

\$CG\_LOCATION/var/log/jims/http-server.log  
\$CG\_LOCATION/var/log/jims/MonitoringAgent\${MONITORED\_STATION\_IP}.pid  
\$CG\_LOCATION/var/log/jims/MonitoringAgent\${MONITORED\_STATION\_IP}.log  
\$CG\_LOCATION/var/log/jims/serverAXIS.pid  
\$CG\_LOCATION/var/log/jims/sg.debug.log  
\$CG\_LOCATION/var/log/jims/sg.info.log  
\$CG\_LOCATION/var/log/jims/JIMSManager.log  
\$CG\_LOCATION/var/log/jims/serverHTTP.pid  
\$CG\_LOCATION/var/log/jims/sg.error.log

**List of LCFG configuration objects (and versions):****List of daemons provided:**

\$CG\_LOCATION/etc/init.d/cg-jims

**List of init.d scripts and supported directives (start, stop, restart, etc.):**

\$CG\_LOCATION/etc/init.d/cg-jims {start|stop|restart}

**Deployment:****Affected machine types (UI, WN, CE, SE, etc) and packages to be deployed on each:**

CE, WN

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

net-snmp >= 5.0.7  
junit >= 3.8.1  
jakarta-axis >= 1.1  
jakarta-jetspeed >= 1.4  
jakarta-commons-logging >= 1.0.2

**Credentials (if any) used by the service:**

Slawomir Zielinski  
Marek Smet  
Tomasz Sekman  
Leszek Bizon  
Michal Rozenau

**List of service ports (inbound,outbound):**

Temporary ports used by JIMS service:

a. All JIMS services - 1024-65535

**Who communicates with the service and from where:****Range of temporary ports used by the service (inbound,outbound):**

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List of service ports (inbound, outbound).

#### INBOUND PORTS

Ports occupied by JIMS service by default (all configurable through jims-service.conf file):

- a. HTTP server - 7701
- b. Web Service - 7702
- c. UDP client - 7703
- d. UDP server - 7704
- e. SNMP agent - 7705
- f. Discovery - 7706
- h. RMI connector - 7707
- i. HTML adaptor - 7708
- i. MBS RMI connector - 7709
- j. MBS HTML adaptor - 7710

#### OUTBOUND PORTS

Ports used by JIMS client applications (all configurable through jims-client.conf file):

- a. JIMS/SNMP Manager - 7702 (Web Service port)
- b. CLI client - 7702 (Client port)
- c. WEB interface - 7708 (HTTP adapter port) on WNs
- d. WEB interface - 7710 (HTTP adapter port) on CE

### Testing and Validation:

#### Unit tests that have been performed on the package:

n.a. in this release

#### Features to be tested:

Features that failed during last validation (described in USER\_MANUAL file):

1. displaying status of JIMS service and all subcommands of cg-jims-service script
2. writing to log directory and running as user cgjims (using the /opt/cg/etc/init.d/cg-jims script)
3. displaying information about CPU usage on multi-CPU machines using the web interface (there is no client designed to read it through the WS yet), for example as on zeus cluster: <http://zeus05.cyf-kr.edu.pl:7708/ViewProperty/Ncpuldle//Monitoring%3Aclass%3DSystemInformation> and other vector (per CPU) attributes as NcpuUser, NcpuSystem, NcpuNice
4. reading SNMP parameters - if there are problems configuring SNMP agent to use 7705 it can use the default port and in JIMS it should be set the same port in \$CG\_LOCATION/etc/jims/jims-service.conf
5. writing some parameters - though on web site there are signed to be writable, writing will not succeed and in log files there should appear information that SNMP module is running in RO mode
6. SNMP package installation is forced by the JIMS RPMs
7. no manual steps during JIMS installation - it should read /opt/ct/etc/cg-site.cfg for the purpose of autoconfiguration
8. the init script - it is now redesigned and relocated to /opt/cg/etc/init.d

#### Features not to be tested:

network measurements accuracy - not improved in this release

#### Test programs

download URL: [n.a.](#)

### Other considerations:

Please, send all doubts to [kbalos@agh.edu.pl](mailto:kbalos@agh.edu.pl) - I will try to solve the possible problems, that might appear in this release.

**Contacts:****Test requester:**

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**WP:** 3 **Partner:** Markus Hardt  
**Task:** 3 **E-mail:** [kbalos@agh.edu.pl](mailto:kbalos@agh.edu.pl)

**Developer/origin:**

**Name:** Kazimierz Bałos  
**Project:** crossgrid  
**WP:** 3 **Partner:** Markus Hardt  
**Task:** 3 **E-mail:** [kbalos@agh.edu.pl](mailto:kbalos@agh.edu.pl)