



CrossGrid Installation Guide

Performance Prediction Component

Task 2.3.2 - PPC

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Abstract: This is the installation guide for the CrossGrid Performance Prediction Component, task WP 2.3.2.



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1 About the software

The Performance Prediction Component (PPC) tool is intended to provide performance information about some specific kernels: some of them are basic functions, operations like MPICH-G2 communications, and others are important kernels of the applications. The tool provides different types of information in a GUI that allows interactivity with the user, not only to select the information he or she wants to visualize, but also to modify hardware and software information to test the behaviour of the kernels. The GUI is a Java applet, and it is integrated in the CrossGrid Migrating Desktop.

There are two versions of the PPC tool. Both are installed as a jar Java file. The first one (standard version) is called PPC.jar and is only supposed to run from the Migrating Desktop. The second one (standalone version, PPC-standalone.jar) can be run from a client machine, with JRE 1.2.4.

More information in <http://www.ac.usc.es/~crossgrid/>

1.1 Software components

PPC is distributed in a simple rpm:

```
cg-wp2.4.2-perfpred-1.3-2.noarch.rpm
```

This rpm can be found in <https://savannah.fzk.de/distribution/crossgrid/autobuilt/i386-rh7.3-gcc3.2.2/wp2/RPMS/>
It only needs to be deployed in the UI.

1.2 Dependencies

The PPC rpm depends on:

1. cg-wp3.3.3-jims-client \geq 1.5.13
2. jakarta-axis \geq 1.2
3. jfreechart \geq 0.9.21
4. cog-jar $>$ 1.1
5. javahelp \geq 2.0

The cg-wp3.3.3-jims-client rpm can be obtained in

```
https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/wp3/
```

The rest of necessary RPMs can be obtained in

```
https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/
```

Additionally, PPC depends on the MD ToolPlugin.jar which can be obtained in

```
http://ras.man.poznan.pl/crossgrid/plugins/tool/ToolPlugin.html
```

This jar is also distributed in the cg-wp3.1-portals-MD-4.0.15-1 rpm.

All the JAR files (Java libraries/archives) required by PPC are listed below. These files are available also on autobuild machine (ui010.fzk.de). Details about all JARs (where they can be found in the filesystem and by which RPM they are installed):

Jar file	Path in filesystem	RPM
ToolPlugin.jar	/opt/cg/var/www/html/wp3.1/ /md/crossgrid/plugins/tool/ToolPlugin.jar	cg-wp3.1-portals-MD-4.0.15-1
jims-client.jar	/opt/cg/share/java/JIMSCClient.jar	cg-wp3.3.3-jims-client-1.5.16-1
cog-jglobus-1.1.jar	/usr/share/java/cog-jglobus-1.1.jar	cog-jar-1.1-1
axis.jar	/usr/share/java/axis.jar	jakarta-axis-1.2alpha-cg3
saaj.jar	/usr/share/java/saaj.jar	jakarta-axis-1.2alpha-cg3
jaxrpc.jar	/usr/share/java/jaxrpc.jar	jakarta-axis-1.2alpha-cg3
commons-discovery.jar	/usr/share/java/commons-discovery.jar	jakarta-axis-1.2alpha-cg3
commons-logging.jar	/usr/share/java/commons-logging.jar	jakarta-commons-logging-1.0.3-cg3
jfreechart.jar	/usr/share/java/jfreechart.jar	jfreechart-0.9.21-cg1
jcommon.jar	/usr/share/java/jcommon.jar	jcommon-0.9.6-cg1
log4j.jar	/usr/share/java/log4j.jar	log4j-1.2.8-cg3
jh.jar	/usr/share/java/jh.jar	javahelp-2.0-cg3

1.2.1 Build time dependencies

1. General libraries

- (a) J2SDK \geq 1.4
Java(TM) 2 SDK, Standard Edition v1.4.2 01, <http://java.sun.com/j2se/1.4.2/download.html>
- (b) Axis Ant \geq 1.5.4
Ant v1.5.4, <http://ant.apache.org/index.html>
<http://sunsite.icm.edu.pl/pub/www/apache/dist/ant/binaries/1.5.4-bin.zip>

2. CrossGrid Libraries

- (a) ToolPlugin.jar
- (b) jims-client.jar

3. Other

- (a) jfreechart.jar \geq 0.9.21
JFreeChart is a free chart library for the Java(tm) platform. <http://www.jfree.org/jfreechart/>
- (b) jcommon.jar \geq 0.9.6
JCommon is a free general purpose Java class library that is used in several projects at www.jfree.org, including JFreeChart and JFreeReport.
<http://www.jfree.org/jcommon/>
- (c) axis.jar
- (d) jaxrpc.jar
- (e) log4j.jar
- (f) jh.jar
JavaHelp software is a full-featured, platform-independent, extensible help system that enables you to incorporate online help in applets, components, applications, operating systems, and devices.
<http://java.sun.com/products/javahelp/>

1.2.2 Run time dependencies

1. General libraries

(a) J2RE \geq 1.4.2

Java(TM) 2 Runtime Environment, Standard Edition v1.4.2 01,

<http://java.sun.com/j2se/1.4.2/download.html>

2. CrossGrid Libraries

(a) ToolPlugin.jar

(b) jims-client.jar

3. Other

(a) cog-jglobus-1.1.jar

(b) jfreechart.jar \geq 0.9.21

(c) jcommon.jar \geq 0.9.6

(d) axis.jar

(e) jaxrpc.jar

(f) saa.ja

(g) commons-discovery.jar

(h) commons-logging.jar

(i) log4j.jar

(j) jh.jar

2 Installation in the CrossGrid testbed

The CrossGrid testbeds are managed by the LCFG deployment support tool. This tool allows an automatic installation of the software on all the required nodes.

2.1 rpm lists for LCFG

- `cg-wp2.4.2-perfpred-1.3-2.noarch.rpm`

2.2 profile modifications for LCFG

No additional configuration is needed.

2.3 manual post installation steps

No additional post installation steps are needed.

3 Manual Installation

3.1 Download

1. cg-wp2.4.2-perfpred-1.3-2.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/wp2/>
2. cg-wp3.3.3-jims-client-1.5.15-1.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/wp3/>
3. jakarta-axis-1.2alpha-cg2.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>
4. jakarta-commons-logging-1.0.3-cg3.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>
5. log4j-1.2.8-cg2.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>
6. jfreechart-0.9.21-cg1.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>
7. jcommon-0.9.6-cg1.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>
8. javahelp-2.0-cg2.noarch.rpm →
 - <https://gridportal.fzk.de/distribution/crossgrid/releases/allfiles/7.3/cg/external/>

3.2 Installation from rpm

PPC is only installed in the UI. The PPC rpm depends on other RPMs as indicated in section 1.2 (run time dependencies). All this RPMs should be installed in the UI.

Install with

```
$ rpm -ivh cg-wp2.4.2-perfpred-1.3-2.noarch.rpm
```

PPC is installed with `PPC_HOME=/opt/cg`

3.3 Installation from source

The source code from PPC can be downloaded from CrossGrid CVS, at

```
http://savannah.fzk.de/cgi-bin/viewcvs.cgi/crossgrid/crossgrid/wp2/wp2.4-perf/wp2.4.2-perfpred/wp2.4.2-perfpred-PPC/
```

or from the source code RPM, `cg-wp2.4.2-perfpred-1.3-2.src.rpm` at,

```
https://savannah.fzk.de/distribution/crossgrid/autobuilt/i386-rh7.3-gcc3.2.2/wp2/SRPMS/
```

See section 1.2, build time dependencies, for the RPMs from which PPC depends at build time.

In the directory where the source code is downloaded, several things can be done:

1. Build from source code:

```
$ ant
```

2. Generate jar file (Migrating Desktop version):

```
$ ant jar
```

(generates `PPC.jar` in `share/java`)

3. Generate jar file (Standalone version):

```
$ ant jar-standalone
```

(generates `PPC-standalone.jar` in `share/java`)

4. To generate the associated API documentation:

```
$ ant apidoc
```

5. To generate the associated user documentation, including an installation guide

```
$ ant userdoc
```

6. To build source tarball

```
$ ant dist
```

7. To build RPMs

```
$ ant rpm
```

8. To run PPC directly from source code (standalone version)

```
$ ant run
```

3.4 Configuration

3.4.1 List of configuration files

No configuration files are needed.

3.4.2 Other requirements

Ports

INBOUND PORTS: JIMS Web Service 7702

4 Running and testing

The PPC has been developed to be used from the Migrating Desktop, but it can be used as a standalone application. To run it simply execute:

```
$PPC_HOME/bin/PPC-standalone.sh
```

where \$PPC_HOME is the directory where PPC has been installed (default /opt/cg)

4.1 log files

A PPC.log file is generated in the directory from which PPC is executed.

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