EGEE

R-GMA log4j appender/receiver

Document identifier:	**EGEE-JRA1-TEC-rgma-log4j-manual**
Date:	**March 27, 2007**
Activity:	**JRA1: Middleware Engineering and Integration (UK Cluster)**
Document status:	**DRAFT**
Document link:	

Abstract: This document describes the R-GMA log4j appender/receiver

1 Introduction

The log4j framework allows you to instrument your Java application with logging calls. Normally, the user defines a properties file that defines the verbosity level of logging and where logging information will be placed. The user may route logging output to stdout, to file or to a socket. In log4j nomenclature, these are referred to as ’appenders’.

The R-GMA log4j appender allows you to to publish the logging events into R-GMA instead of the standard log4j appender. This utility is built on top of the log4j framework by providing a customized appender that slots into R-GMA.

A receiver utility is also available to read-in information published using R-GMA. By using the receiver utility, the user can then monitor the progress of his/her application over the ’grid’.

2 Getting Started

We assume users are familiar with log4j, if not, please take the time to skim through the online docs available on http://logging.apache.org/log4j/

3 Publishing Logging Events

Edit your `log4j.properties` file to use the R-GMA Appender as follows:

```
#
# Set root logger priority to WARN and its only appender to A1.
#
log4j.rootLogger=DEBUG, A1

#
# This is the R-GMA Appender to use
#
log4j.appender.A1=org.glite.rgma.log4j.Appender

#
# Set the name of the application you want to run here
#
log4j.appender.A1.JobName=ExampleJob

#
# A1 uses PatternLayout, and displays date/time with each log.
#
log4j.appender.A1.layout=org.apache.log4j.PatternLayout
log4j.appender.A1.layout.ConversionPattern=%d [%t] %-5p %c - %m%n

#
# Setup the logging level for each of your classes here
# as normal.
#
log4j.logger.org.glite.rgma.log4j.appender.Example=DEBUG
```

Set the `JobName` property to a value which identifies your application.

Then add the `glite-rgma-log4j.jar` file to your classpath (located under `$RGMA_HOME/share/java`) and add the `log4j.properties` file as a property to the JVM, eg:

```
java -cp $CLASSPATH -Dlog4j.configuration=file:/[location of log4j.properties] myapp
```

Where `$CLASSPATH` contains `glite-rgma-log4.jar`.

When started, all log4j calls will then be published via R-GMA.

This example log4j.properties file is included in the rgma-log4j distribution as:

```
$RGMA_HOME/share/rgma-log4j/example-log4j.properties
```

4 Receiving Logging Events

The `$RGMA_HOME/bin/rgma-log-receiver` script is used to retrieve published logging events. This script takes the following parameters:

```
--format=<format used to output the logging events>
--help
--jobname=<the name that identifies your application>

The \verb --format  option defines how the retrived logging events are printed to stdout.
The options you can use are list as follows:

\begin{verbatim}
    %d: the time stamp of the event (in UTC)
    %t: the thread executing the logging event
    %p: the logging level
    %c: the class name generating the logging event
    %m: the log message
    %n: defines a new line
```

4.1 Format Examples

```
--format="[%t] %d %p %c - %m%n"

[main] 2004-10-27 09:23:58,977 DEBUG org.glite.rgma.log4j.Example - message

--format="[%d] [%t] - %m%n"

[2004-10-27 09:23:58,977] [main] - message

--format="%d [%t] %-3p %c - %m%n"

2004-10-27 09:23:58,977 [main] DEBUG org.glite.rgma.log4j.Example - message
```

The last example represents the default format if none is defined. Note the `'%-3p'` pre-appends 3 white spaces before the substituted property. You can modify this to be any value for any substitution eg `'%-5d'` will add 5 white spaces before the date/time stamp.

The `--jobname` option must match the same jobname that you defined in your `log4.properties` (when you published your logging data). This ensures the receiver will read-in only the relavant data applicable to your application.

Some examples of usage are shown when running the `--help` option.