

## GLITE MIDDLEWARE

### 1. RELEASE DESCRIPTION

This release contains the gLite Middleware v. 1.5.0. The following sections provide additional information about the release content, the module dependencies and known issues. The gLite Middleware is a suite of several gLite Services and clients. Please refer to the individual gLite Services and Clients release notes for additional information. For information about installing and using the gLite Middleware, please refer to the gLite Installation and User Guides.

### 2. CHANGES IN THIS RELEASE

This release is the General Availability (GA) gLite v 1.5.0.

In this release all components have been updated with bug fixes found since the previous release. In addition the following major new functionality is included:

- First release of the AMGA Server and Client
- First release of gLite Hydra
- First preview release of GPBox Server and Admin
  
- gLite Configuration scripts for LFC Server (MySQL and Oracle), LFC Client, DPM Disk Server and DPM Server (MySQL and Oracle)
  
- Workload Mangement System:
  - Shallow resubmission in the Workload Management System
  - Integration of GPBox in the WMS Helper component
  - Support for job perusal and tar-gzipped sandboxes
  
- Computing Element:
  - Blahp now uses limited proxies
  - Proxy path is settable via classad by using the attribute X509UserProxy
  - Job hold/resume commands implemented for pbs and lsf
  
- R-GMA
  - Refactored implementation
  - Much improved error handling
  - Stricter SQL92 checking
  
- A new configuration model for setting up and managing VO information has been added. All VO information can be maintained in the same place and easily propagated to all modules. VOs can be asily added/modified/removed without having to modify individual module files.

For more details about all changes that have been introduced please refer to the individual release notes.

### 3. RELEASE CONTENTS



# Release Notes

Doc. Identifier:  
release\_notes.doc

Date: 20/01/2006

The gLite Middleware v. 1.5.0 is composed of the following gLite modules:

| Module name   | Version         | Release notes file  |
|---|-----------------|---|
| <b>gLite Security Utilities</b>                     | <b>v. 1.2.2</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-security-utils/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-security-utils/release_notes.doc</a>                             |
| <b>gLite R-GMA Server</b>                           | <b>v. 5.2.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-server/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-server/release_notes.doc</a>                                   |
| <b>gLite R-GMA Client</b>                           | <b>v. 5.2.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-client/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-client/release_notes.doc</a>                                   |
| <b>gLite R-GMA Service Publisher</b>                | <b>v. 5.2.2</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-servicetool/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-servicetool/release_notes.doc</a>                         |
| <b>gLite R-GMA GIn</b>                              | <b>v. 5.1.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-gin/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-rgma-gin/release_notes.doc</a>   |
| <b>gLite Service Discovery APIs</b>                 | <b>v. 1.2.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-service-discovery/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-service-discovery/release_notes.doc</a>                       |
| <b>gLite VOMS Server and Admin Tools for MySQL</b>  | <b>v. 2.2.5</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-voms-server-mysql/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-voms-server-mysql/release_notes.doc</a>                       |
| <b>gLite VOMS Server and Admin Tools for Oracle</b> | <b>v. 2.2.5</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-voms-server-oracle/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-voms-server-oracle/release_notes.doc</a>                     |
| <b>gLite Logging and Bookkeeping Server</b>         | <b>v. 2.1.1</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-lb/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-lb/release_notes.doc</a>   |
| <b>gLite Workload Management System</b>             | <b>v. 2.2.5</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-wms/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-wms/release_notes.doc</a>   |
| <b>gLite Computing Element</b>                      | <b>v. 2.2.7</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-ce/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-ce/release_notes.doc</a>   |
| <b>gLite Worker Node</b>                            | <b>v. 2.3.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-wn/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-wn/release_notes.doc</a>   |
| <b>gLite DGAS Server</b>                            | <b>v. 1.1.1</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-dgas-server/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-dgas-server/release_notes.doc</a>                                   |
| <b>gLite DGAS Client</b>                            | <b>v. 1.1.3</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-dgas-client/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-dgas-client/release_notes.doc</a>                                   |
| <b>gLite Single Catalog for MySQL</b>               | <b>v. 2.1.3</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-data-single-catalog/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-data-single-catalog/release_notes.doc</a>                   |
| <b>gLite Single Catalog for Oracle</b>              | <b>v. 2.1.3</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-data-single-catalog-oracle/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-data-single-catalog-oracle/release_notes.doc</a>     |
| <b>gLite File Transfer Service</b>                  | <b>v. 3.1.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-service/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-service/release_notes.doc</a>               |
| <b>gLite File Transfer Agents</b>                   | <b>v. 2.1.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-agents/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-agents/release_notes.doc</a>                 |
| <b>gLite File Transfer Service Client</b>           | <b>v. 1.2.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-service-client/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-file-transfer-service-client/release_notes.doc</a> |
| <b>gLite I/O Server</b>                             | <b>v. 2.1.4</b> |   |
| <b>gLite I/O Client</b>                             | <b>v. 2.2.0</b> |   |
| <b>gLite Hydra</b>                                  | <b>v. 1.0.1</b> |   |
| <b>gLite AMGA Server</b>                            | <b>v. 1.0.0</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-">http://glite.web.cern.ch/glite/packages/R1.5/R200511130/doc/glite-</a>   |

|  |                 |   |
|--|-----------------|---|
|  |                 | amga-server/release_notes.doc   |
| <b>gLite AMGA Client</b>   | <b>v. 1.0.1</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-amga-client/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-amga-client/release_notes.doc</a>   |
| <b>gLite GPBox Admin</b>   | <b>v. 1.0.1</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-gpbox-admin/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-gpbox-admin/release_notes.doc</a>   |
| <b>gLite GPBox Server</b>  | <b>v. 1.0.1</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-gpbox-server/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-gpbox-server/release_notes.doc</a> |
| <b>gLite User Interface</b>                                      | <b>v. 1.3.5</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-ui/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-ui/release_notes.doc</a>                     |
| <b>Torque + Maui Server for the gLite Computing Element Node</b> | <b>v. 2.3.1</b> |   |
| <b>Torque Client for the gLite Worker Nodes</b>                  | <b>v. 2.1.0</b> |   |

The following packages contain the gLite configuration scripts for modules released by LCG (please note that the scripts have been tested only with LCG 2.6.0)

|                              |                 |   |
|------------------------------|-----------------|---|
| <b>DPM Disk Server</b>       | <b>v. 1.0.2</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-disk-server/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-disk-server/release_notes.doc</a>     |
| <b>DPM Server for MySQL</b>  | <b>v. 1.0.3</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-server-mysql/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-server-mysql/release_notes.doc</a>   |
| <b>DPM Server for Oracle</b> | <b>v. 1.0.3</b> | <a href="http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-server-oracle/release_notes.doc">http://glite.web.cern.ch/glite/packages/R1.5/R20051130/doc/glite-dpm-server-oracle/release_notes.doc</a> |
| <b>LFC Client</b>            | <b>v. 1.3.8</b> |   |
| <b>LFC Server for MySQL</b>  | <b>v. 1.3.8</b> |   |
| <b>LFC Server for Oracle</b> | <b>v. 1.3.8</b> |   |

## 4. PREREQUISITE AND DEPENDENCIES

The gLite modules have a number of pre-requisites. All information can be found on the individual modules release notes and the gLite Installation Guide.

For a list of the external dependencies, please refer to the individual gLite Service and Clients release notes.

## 5. KNOWN ISSUES

The known issues with each module in this release are detailed in the individual release notes. The most critical issues are:

### R-GMA

- Archivers are inconsistent.  
There are a number of things contributing to this problem, which might better be described as "R-GMA sometimes loses tuples." The consequence being that 2 archivers may collect different tuples. We do *\*not\** guarantee reliable delivery of tuples. Clearly this would be impossible with a memory based producer. We have tried to clarify in the spec how we handle tuples and clean them out for history and latest queries. The difficulty is with the continuous

query. We try to deliver the tuple to those consumers which appear to be alive and functioning and will try for a few times to deliver the tuple, but eventually we have to give up otherwise we run out of memory. Exactly how hard we try to deliver is, intentionally, not defined in the spec.

- User schema changes are not preserved when upgrading from previous versions of R-GMA. Applications that have redefined the schema may break after the upgrade. Instructions to migrate custom tables from the old schema to the new one can be found at:

<http://hepunix.rl.ac.uk/egee/jra1-uk/glite-r1.5/schema-upgrade.html>

- When using multiple registries replication is inconsistent. Since the result of registry replication can produce unreliable results, it is recommended not to use more than one registry per R-GMA domain. This functionality is explicitly disabled in this release.

## VOMS

- VOMS reconnects to the Oracle database for each SQL query.  
The VOMS server creates a new connection to the Oracle database for each and every SQL query. The standard practice is to use a connection pool
- VOMS Admin application update for a VO is not possible.  
voms-admin-configure doesn't allow the possibility to update parameters of a VO (e.g. the port) once the VO has been created. For the moment the only possibility is to remove a VO, change the values and create it again.
- VOMS Admin fails to boot and locks down the Tomcat instance.  
For some reason VOMS Admin 1.2.10 sometimes gets stuck in the boot process, while starting up the request scheduler. If this happens, the failed VOMS Admin instance locks down the entire Tomcat process, which is a critical issue as it prevents other services in the same process from working.
- BLOB handling is broken in VOMS Admin.
- Very bad tomcat performance affecting voms/vomrs access and gridmap file generation due to issues in VOMS Admin

## LB

- There is an infinite loop during the initialization of the LB\_Events data structure

## WMS

- Jobs submitted with RetryCount set to 0 are resubmitted multiple times without visible reason. The most likely cause of this issue is that the request for job submission (\*not\* resubmission) is considered several times if the wm dies between the time it passes a request to the Job Controller and the time it removes it from its persistent input queue. A new recovery procedure based on the LBProxy has been implemented, but it's still being tested.
- Tuning of job submission chain.  
A better tuning of job submission parameters for Condor is required. This is under investigation
- There seems to be a memory leak in the 1.4 WMS.  
After submitting a few thousands jobs over a three days period, the memory consumption constantly increase.
- org.glite.wms.jobsubmission mixes shared and static libraries.  
This issue prevents correct builds on ia64 platforms

## Computing Element

- Jobs get a full proxy.  
The BLAHP component now uses restricted proxies, however it doesn't dispatch the limited proxy file to the worker node. A limited copy of the proxy submitted in the job classad is correctly created, but neither the original proxy file name or the limited one are passed in the file submitted to the local batch system.  
Additionally, this functionality needs to be separately introduced also in the Condor components to fix this issue also when using Condor pools, which do not make use of BLAHP.

## Fireman

- Symlinks are not properly resolved in Fr-mysql
- Dead links inside Fireman Catalog after a failed glite-put.  
It's possible to have some dead links inside the Fireman catalog if there are some glite-put that end with errors.

## File Transfer Agents

- FTA doesn't respect the transfer limit imposed in the channel table. When starting new transfers, the channel agent sometime submit more file than the limit configured in the channel table
- FTS: Inconsistent jobs' state in FTA
- Configuration script fails on an existing 1.4.1 FTA configuration file. The configuration file has to be manually modified to follow the new configuration schema

## File Transfer Service

- gLite I/O and gLite FTS security models conflict
- FTS: channel agent blocks doing nothing.  
Symptom: there is a processe thread only visible using ps auxm (not visible using ps aux) consuming 50% of the CPU constantly running for several hours now. Being investigated
- FTS: SRM copy appends to failed logfile after failing
- FTS: If SRM put call fails, but does return any requestID, we should call SRM put Done
- FTS: memory leak in daemons
- FTS: InfoProvider generates wrong information for channels
- FTS: glite-url-copy performs an advisorydelete when the srm put fails since the target SURL already exists
- FTS: FTS does not set the filesize on the SRM.put.  
This stops transfers to any dCache site with strict space reservation enabled. In this case a put request with zero bytes requested really means zero bytes requested and the gridFTP is killed immediately upon attempting to write.

## 6. ISSUES CLOSED SINCE LAST RELEASE

For a list of the closed bugs and issues, please refer to the individual gLite Services and Clients release notes.

## 7. LICENSING



# Release Notes

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