



Enabling Grids for E-science

# Deployment and Release Issues

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*EGEE 4*

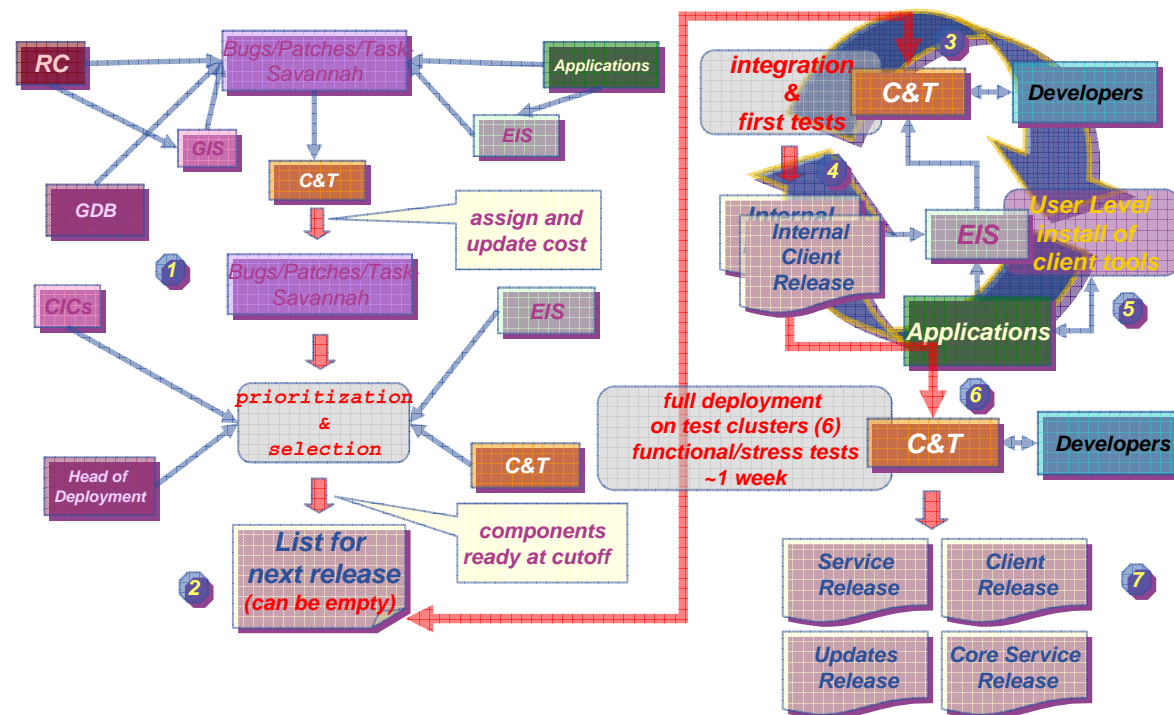
[www.eu-egee.org](http://www.eu-egee.org)



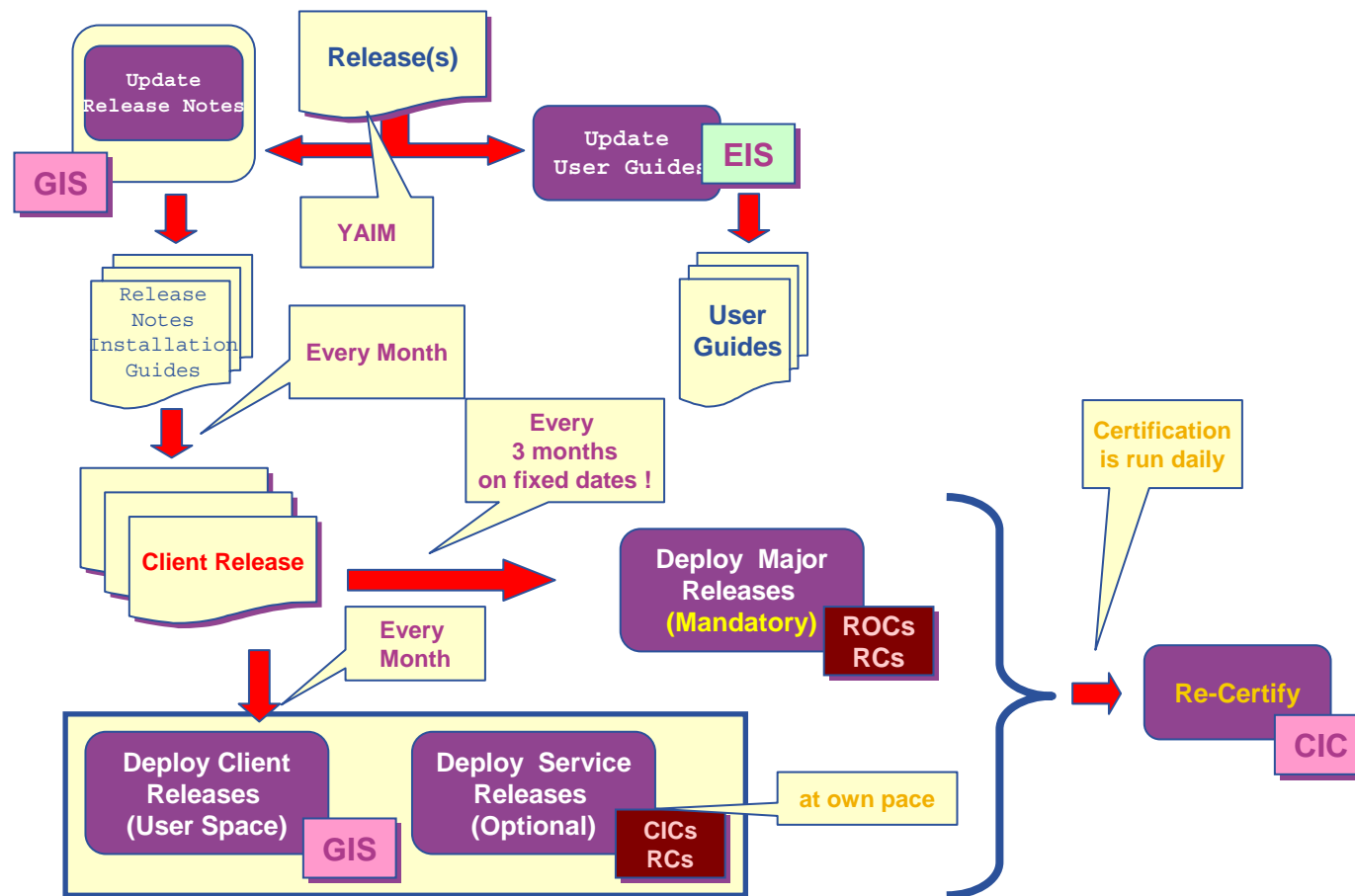
- **The last releases**
  - LCG-2\_4\_0
  - LCG-2\_5\_0 (the SC3 release)
  - LCG-2\_6\_0
- **What has been learned**
- **Upcoming Releases**
- **What needs to be changed?**
  - Straw man

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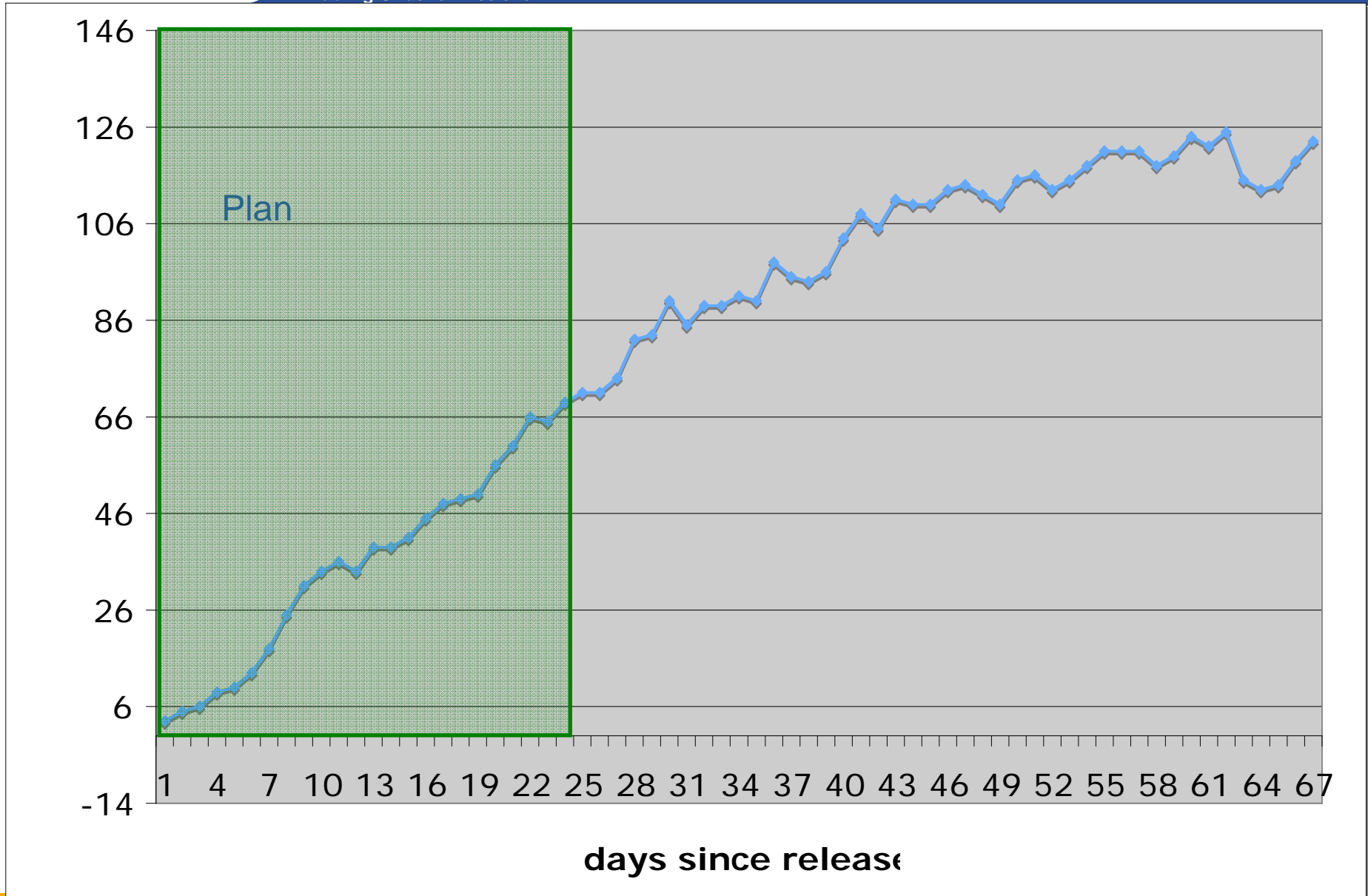
- New process for major release was used (3 monthly fixed release)
  - Freeze of the candidate component list at a given date
  - Release at a given date (to allow planning)
  - 3 \* 5 working days to upgrade the sites



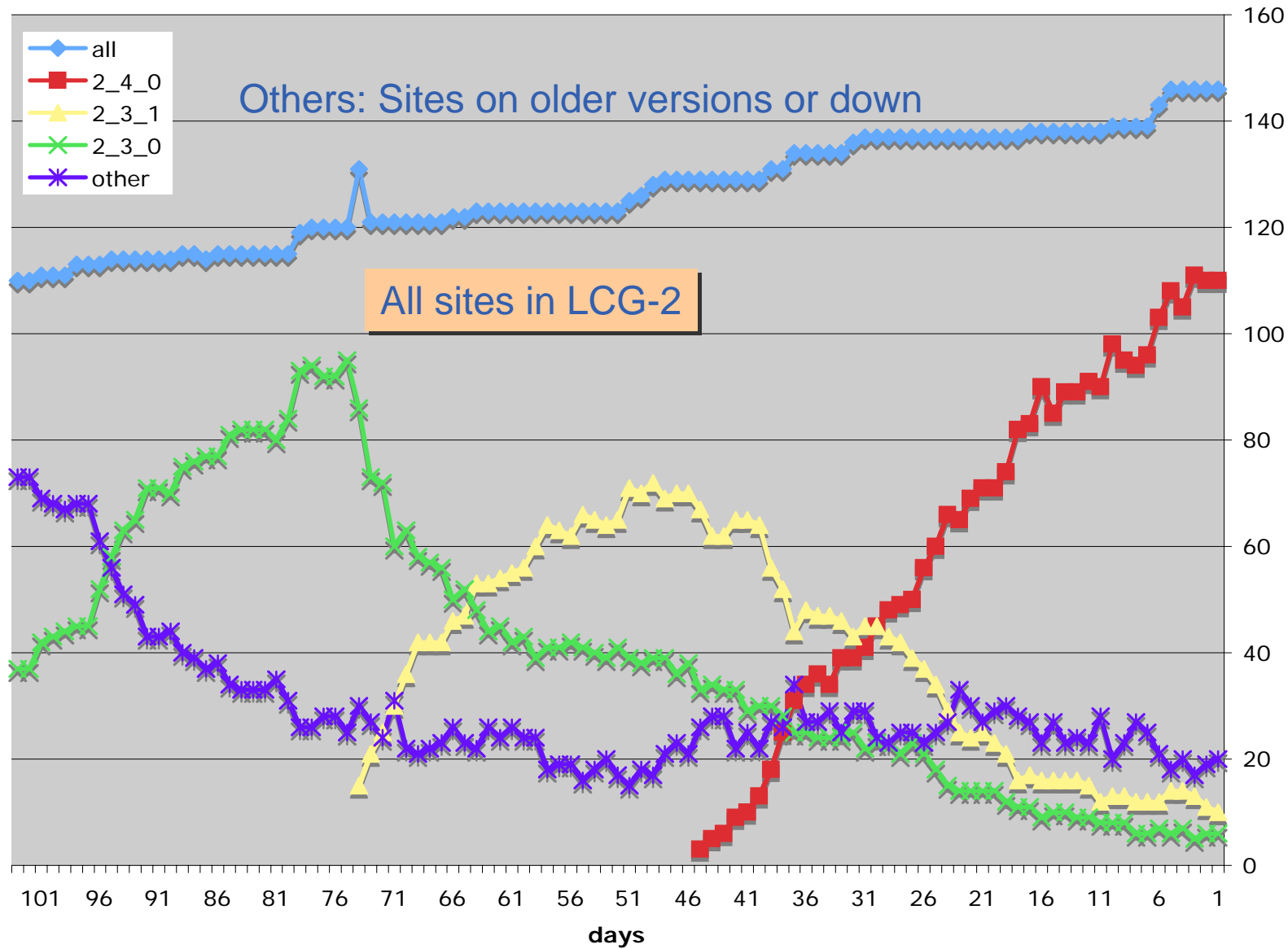
- The deployment bit...
  - Major releases have been expected to be installed after 3 weeks



- **History:**
  - March 24th early announcement and call for deployment testers
  - April 1st detailed status, components, bugs fixed...
  - April 4th sent to the first test sites: **Gergely and Eygene**
  - April 6th released to the public



# Progress



- Lessons learned, feedback from the LCG Operations Workshop
  - Release definition non trivial with 3 months intervals
  - 3 weeks time window is neither realistic nor acceptable
  - **EGEE production service is a grid of independent federations**
    - **ROCs schedule upgrades in their region**
  - Early announcement of new releases needed
    - **At -3 weeks**
      - *complete list of components and changes*
        - Problematic, because this means certification has to be finished
    - **At -2 weeks**
      - *deployment tests at: **ROC-IT, ROC-SE, ROC-UK***
    - **Last week** to implement feedback and final touches



- **Why?**
  - SC3 core components are needed to start --> Special Release
- **What?**
  - FTS services and client libs
  - Updated versions of:
    - LFC, DPM 1.3.2, some updated client libs. (gfal, lcg-util)
    - Some new monitoring sensors (gridFTP)
- **Who?**
  - Tier 1 centers and Tier 2 centers participating in SC3
  - FTS at T0 and T1s
- **When?**
  - Aimed at mid June, released 21th of June
  - **LCG-2\_5\_0 deployed at 15 sites within 2 weeks**
  - Announced LCG-2\_6\_0 for beginning of July

- **Scheduled for 1st of July but shifted to “early July”**
  - Releases need support work during deployment
    - Dependency problems (Scientific Linux at CERN and elsewhere)
    - Localization
    - Same staff doing updates for SC3 and release preparation
- **July 15th: announced prerelease**
  - ROC-IT, ROC-UK/IE, ROC-SE started testing
- **July 22nd: update on status**
  - Results from tests
  - Release date shifted to 27th
  - More feedback from tests arrived ---> more fixes
- **July 29th: Released**
  - A bit more than a month after LCG-2\_5\_0

- **All of LCG-2\_5\_0**
  - Plus many bug fixes
  - With many improvements (Catalogues, DPM, FTS....)
- **Main Changes: GLUE-1.2**
  - New GLUE schema: **glue-1.2**
  - New BDII that can handle old and new schema
    - Updates of all top level BDIIs required
      - *Support for sites that do not move to 2\_6\_0: [no-update.txt](#)*
  - R-GMA == gLite-1.2
    - APEL, Monitoring.....
  - Details see: [release notes](#)
  - VO-BOX
  - Rearranging services (Mon-BOX = R-GMA + GridICE)

Dear ROC, CIC, site managers, and otherwise affected friends,  
 this is the release notification for the long awaited LCG-2\_6\_0 release.

---> PLEASE READ THE SECTION ABOUT THE BDII <---

The release has been given 2 weeks ago to the ROC...

Read this if you opt to ignore all documentation:

=====

The glue schema has changed to GLUE-1.2.  
 (<http://infnforge.cnaf.infn.it/glueinfomodel/index.php/Spec/V12>)

This affects ALL sites, including those that opt not to upgrade in the near future but run their own top-level BDII for their UIs, WNs, and RBs at their site.

A LCG-2\_4\_0 BDII can't see the information that is published by a LCG-2\_6\_0 site. As more and more sites upgrade to 2.6.0, the resources advertised by a 2.4.0 top-level BDII will disappear.

If you use your own top-level BDII, there are 3 solutions:

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There is **no longer a deadline for upgrading**. The ROC managers will coordinate the upgrade in their region. Please clarify with them what the plan for moving to LCG-2\_6\_0 is.

- **SC3 was in full swing <---- feedback from users!!**
- **Crucial updates to the new services in progress**
  - Every few days....
  - Intensive work by developers
    - Close loop between SC3 people and developers
    - Rapid “change->test->change” cycle
- **There is a conflict**
  - **Fast change rate for SCs required**
    - T1s and experiments
  - **Fixed and scheduled releases**
    - sites and us

- 2\_6\_0 info providers hit a bug in gfal (not always)
  - upgrade August 1st (2 sites had already upgraded)
- 2 additional upgrades

### RPMs updates:

glite-apel-core-1.0.1-0.noarch.rpm  
 glite-apel-lsf-1.0.0-1.noarch.rpm  
 glite-apel-pbs-1.0.0-1.noarch.rpm  
 glite-apel-publisher-1.0.0-1.noarch.rpm  
 lcg-info-dynamic-classicSE-1.0.6-1\_sl3.noarch.rpm  
 lcg-info-dynamic-classicSE-1.0.7-1\_sl3.noarch.rpm  
 lcg-info-templates-1.0.13-1\_sl3.noarch.rpm  
 lcg-mon-gridftp-1.1.0-1\_sl3.noarch.rpm  
 lcg-mon-job-status-1.0.19-1\_sl3.noarch.rpm  
 lcg-yaim-2.6.0-7.noarch.rpm  
 lcg-yaim-2.6.0-8.noarch.rpm

### Tickets:

#9817 APEL\_HOME missing  
 #9850 config\_users is confused with VO names like \"bio\" and \"biomed\"  
 #9717 change order of connectors in server.xml file  
 #10029 yaim should set JAVA\_HOME in tomcat5.conf  
 #10028 yaim does not properly handle VOs without a VOMS server  
 #9857 Gridlce server not installed in monitoring box  
 #10291 yaim installs 2 different cron jobs with the same name; edg-rgma-apel  
 #10243 config-apel-rgma, change \"all\" to missing.  
 #10292 yaim's glite env script needs to be improved  
 #10293 config\_rgma\_client should check if the glite paths are already in the PATH variables before setting them  
 #10126 bug in configure\_node script  
 #10294 PX host should run config\_rgma\_client  
 #10295 yaim sets GlueVOViewLocalID for all combinations of VOs and queues  
 #10269 overview: config\_gip does not set GlueServiceEndpoint for a dcache  
 #7372 lserver and locallogger must not share host proxy  
 #8495 \${INSTALL\_ROOT}/edg/var/info/\$VO/\$VO.list files should not be created by yaim

- **APEL\_HOME environment variable not set**
  - Broke cron jobs
  - Developer <-> integrator communication
    - Not mentioned in the patch submission
    - Long discussions followed (after the release)
- **MON BOX**
  - In 2\_6\_0 GridICE moved to the Mon-Box
  - Formerly only R-GMA
  - We forgot to add a correctly configured GRIS to the box
- **Dependency problems**
  - We use SLC-3 from CERN for integration (security)
  - Some sites have encountered dependency problems
    - All have been solved

- **Sites move to new version and encounter:**

```

+ apt-get update

Get:1 http://grid-deployment.web.cern.ch apt/LCG_CA/en/i386 release [351B]
Fetched 351B in 0s (8641B/s)
Hit http://grid-deployment.web.cern.ch apt/LCG_CA/en/i386/lcg pkglist
Hit http://grid-deployment.web.cern.ch apt/LCG_CA/en/i386/lcg release
Reading Package Lists... Done
Building Dependency Tree... Done
+ apt-get upgrade-kernel
Reading Package Lists... Done
Building Dependency Tree... Done
You might want to run `apt-get -f install' to correct these.
The following packages have unmet dependencies:
 lcg-MON: Depends: tomcat4 (>= 4.1.18-full.1jpp) but it is not installable
           Depends: edg-java-security-tomcat4 (>= 1.5.11-1_sl3) but it is not installable

E: Unmet dependencies. Try using -f.

+ apt-get dist-upgrade

Reading Package Lists... Done
Building Dependency Tree... Done
You might want to run `apt-get -f install' to correct these.
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```

Tomcat dependency not met.  
**NO MIDDLEWARE Problem**

**Solution is in the error message**



- **GLUE-1.2 requires top level BDII to be upgraded**
  - Stated in the the release node
  - Very compact instructions available
  - New BDII changed to handle schema evolution better
  - Many sites missed this in the release notes
- **On August 5th reminder to upgrade**
  - Benchmark: **20 minutes**
    - reading the documentation + upgrade (3 RPMs and removing 1)
  - **Almost all sites did this without a problem**

- **Upgraded Sites n days after the release**

- 5: 14
- 10: 28
- 15: 37
- 20: 47
- 25: 56
- 30: 69
- 35: 85
- 50: 116

Upgrade speed: 2.4 sites/day  
Former releases: 2.1-2.3

- **Additional: LCG-2\_6\_0 client libs accessible on 2\_4\_0 WNs**

- Installed in user space, selection via JDL
- Installed on **25 additional sites**
- Failed on **~30 sites**
  - No space on shared file system
  - Strange access privileges
  - Fabric management blues.....

- **Post Mortem + Shopping List**
- **August 3rd: Internal 1st draft**
  - Several iterations
  - Feedback from developers
- **August 30th**
  - Sent material to ROCs, CICs, RollOut and EIS for feedback
  - Received up to now
    - 3 internal comments and updates (priorities, preferences, status of components..)
    - 5 external comments and questions
- **The list can be seen here: [List-LCG\\_2\\_7\\_0](#)**
  - 23 major subjects
    - Many require development work to start or to finish
    - Data management related ones + security should be in the release
    - SC-3 relevant changes drive the process

- Postmortem
  - Closing door for changes is almost impossible
  - Certification Tests need to be extended (performance tests)
  - Yaim scripts quite popular but:
    - Documentation needs work
      - *(Valentin Vidic extended documentation)*
  - Process: We missed an open critical bug in Savannah on the RB
  - Patches have to come with a standard set of information
    - Ports, variables, config changes....
  - Updates work quite well
  - Deployment tests by the 3 ROCs
    - **Very useful but come at a cost**
    - 1 week to prepare packaging to give release to ROCs
    - 1 week for ROCs to test and report
    - 1 week to fix and finalize packaging
- **Changes during the SCs have to be addressed rapidly**
  - Incompatible with fixed and well defined release schedule

- **Changes during the SCs have to be addressed rapidly**
  - Incompatible with fixed and well defined release schedule
- **LCG-2\_6\_0 was released one month after 2\_5\_0**
  - Delayed due to
    - Late components
    - Testing
- **The release had less problems than 2\_4\_0**
  - Speedy adaptation
  - Dependency problems will be with us for ever.....
- **Need to improve tests and documentation**
- **XXX -2\_7\_0 mid November**
  - Need to change the release strategy during SCs

- **Upgrade and introduce services as soon as ready (SC and gLite)**
  - Whenever upgrades are ready and tested
  - T1s experience can be used as additional deployment test
  - Handle these as upgrades to the last major release
  - Make client libs available in user space
  - **Version tracking via the information system**
  
- **With sufficient material accumulated**
  - Cut a new release
  - Starting point for sites to join
  - Reference point for external project
  
- **Security upgrades**
  - Upgrades + message to the site security contacts
  
- **Work continuously on tests and documentation**

- New services should be “integrable” with current CIC on duty
  - Tick list produced at the operations workshop



## Ticklist for new service



- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• User support procedures (GGUS)           <ul style="list-style-type: none"> <li>• Troubleshooting guides + FAQs</li> <li>• User guides</li> </ul> </li> <li>• Operations Team Training           <ul style="list-style-type: none"> <li>• Site admins</li> <li>• CIC personnel</li> <li>• GGUS personnel</li> </ul> </li> <li>• Monitoring           <ul style="list-style-type: none"> <li>• Service status reporting</li> <li>• Performance data</li> </ul> </li> <li>• Accounting           <ul style="list-style-type: none"> <li>• Usage data</li> </ul> </li> <li>• Service Parameters           <ul style="list-style-type: none"> <li>• Scope - Global/Local/Regional</li> <li>• SLAs</li> <li>• Impact of service outage</li> <li>• Security implications</li> </ul> </li> <li>• Contact Info           <ul style="list-style-type: none"> <li>• Developers</li> <li>• Support Contact</li> <li>• Escalation procedure to developers</li> </ul> </li> <li>• Interoperation           <ul style="list-style-type: none"> <li>• ???</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• First level support procedures           <ul style="list-style-type: none"> <li>• How to start/stop/restart service</li> <li>• How to check it's up</li> <li>• Which logs are useful to send to CIC/Developers               <ul style="list-style-type: none"> <li>• and where they are</li> </ul> </li> </ul> </li> <li>• SFT Tests           <ul style="list-style-type: none"> <li>• Client validation</li> <li>• Server validation</li> <li>• Procedure to analyse these               <ul style="list-style-type: none"> <li>• error messages and likely causes</li> </ul> </li> </ul> </li> <li>• Tools for CIC to spot problems           <ul style="list-style-type: none"> <li>• GUIS monitor validation rules (e.g. only one "global" component)</li> <li>• Definition of normal behaviour               <ul style="list-style-type: none"> <li>• Metrics</li> </ul> </li> </ul> </li> <li>• CIC Dashboard           <ul style="list-style-type: none"> <li>• Alarms</li> </ul> </li> <li>• Deployment Info           <ul style="list-style-type: none"> <li>• RPM list</li> <li>• Configuration details (for yaim)</li> <li>• Security audit</li> </ul> </li> </ul> |
|--|--|

- **Integrated releases on the pre-production service**
  - Now:
    - production: lcg + gLite components
    - pre-production: gLite only
  - Better:
    - production: lcg + gLite components
    - pre-production: lcg + current gLite + **new gLite components**
- **New name for integrated production stack needed**
- **The winner is:**

– **gLite X.Y**