



Enabling Grids for E-scienceE

LCG-2_6_0

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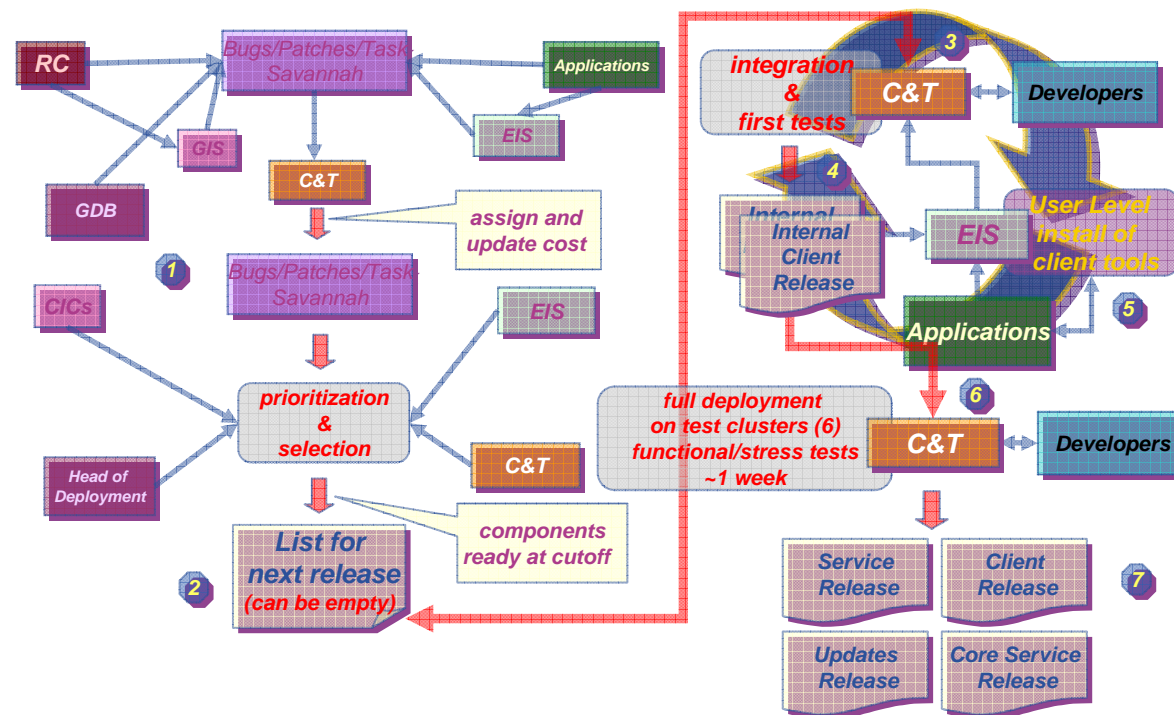
7th September 2005

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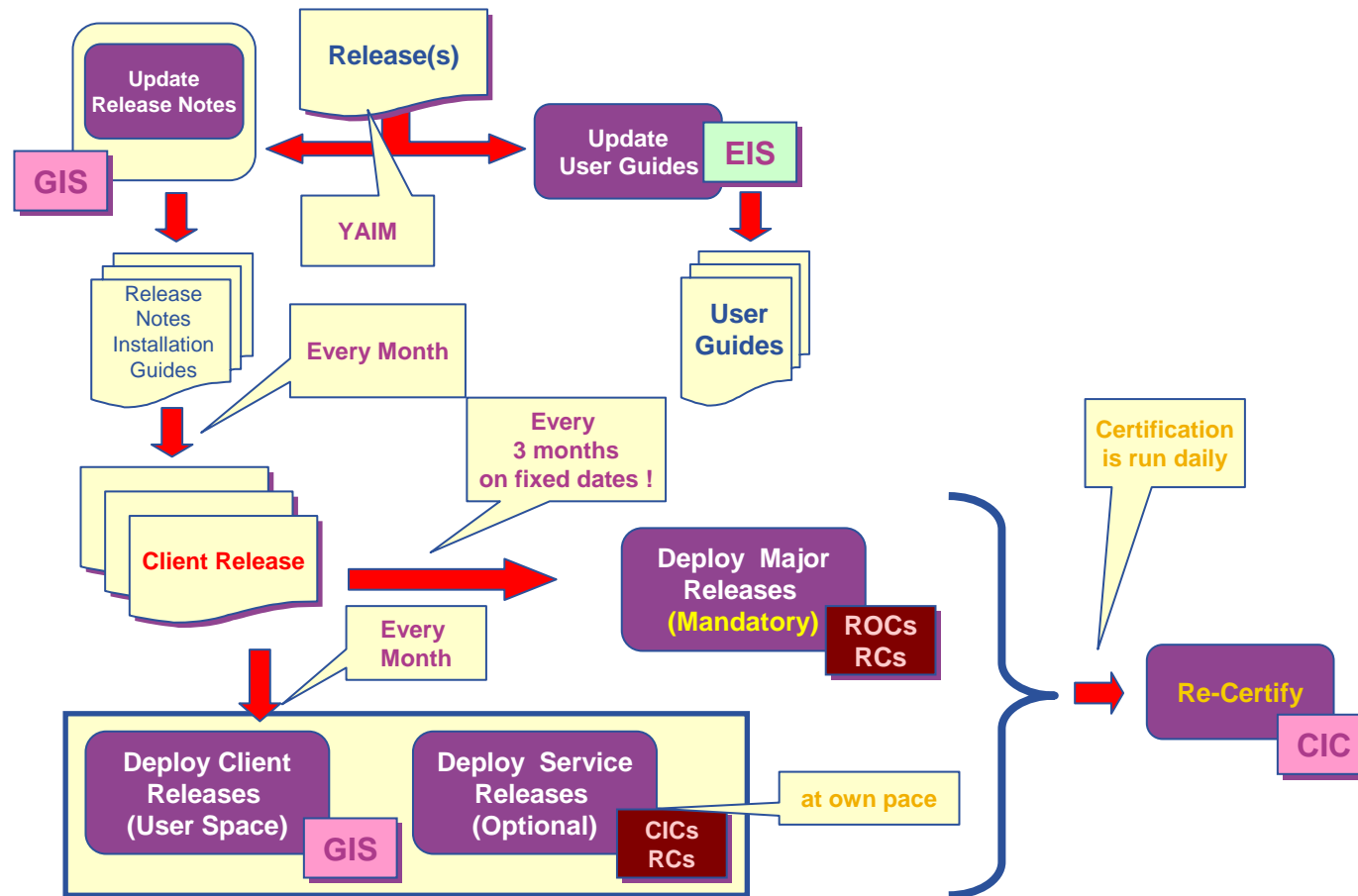


- **The last releases**
 - LCG-2_4_0
 - LCG-2_5_0 (the SC3 release)
 - LCG-2_6_0
- **Upcoming Releases**
 - LCG-2_7_0
- **Summary**

- 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



- **Reality:**

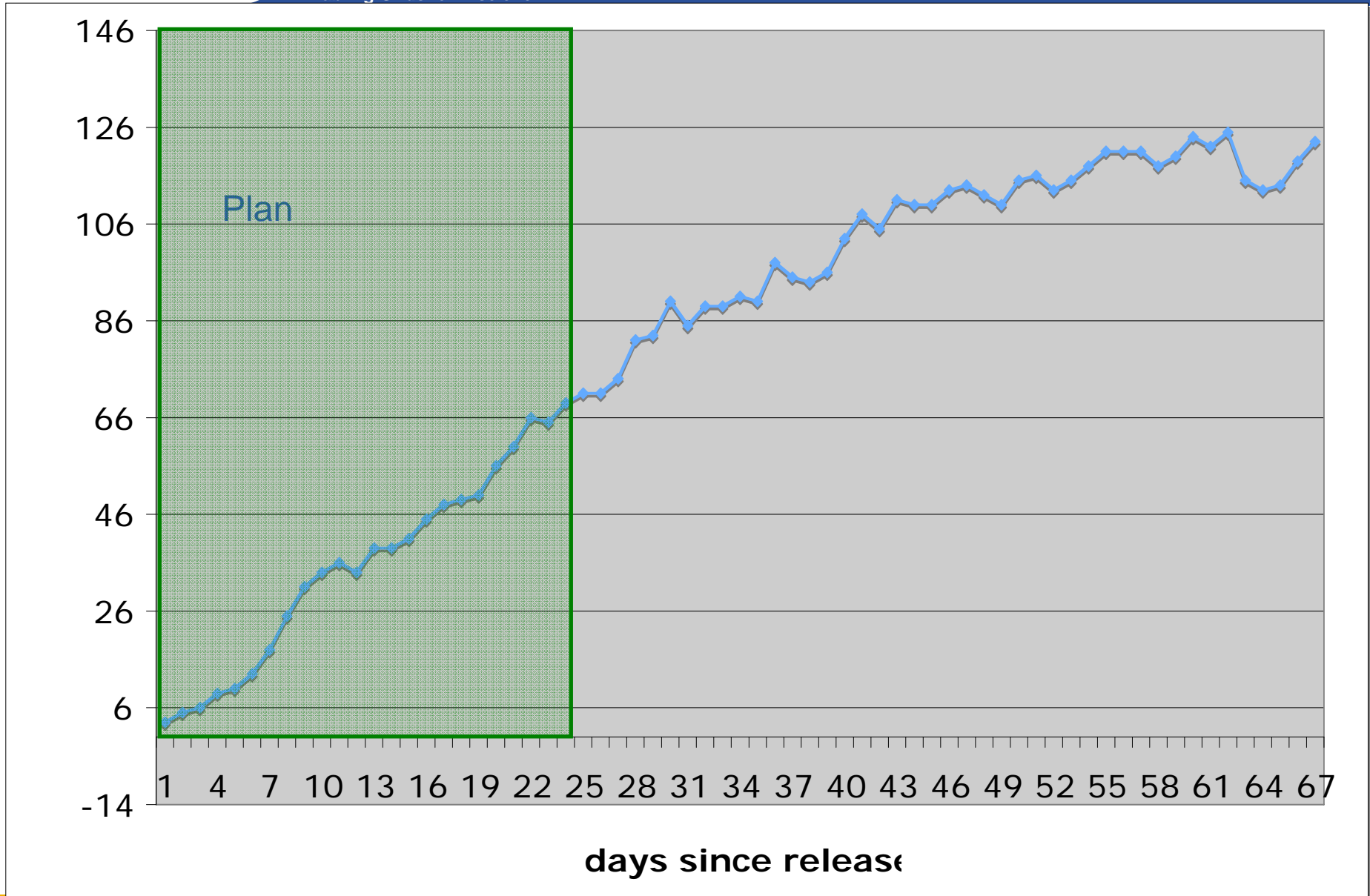
- Many bug fixes (Savannah)
- Some new components (LFC, DPM, BDII extensions)
 - Not all via Savannah (but most)
- List closed on fixed day, but prioritization not formal
 - EIS and deployment team
- Simple webpage to trace progress (lightweight)

Component	Status	Open	status24.03	status 30.03	Who?	Priority	%done
APEL	a new release has been given to us on March 22nd.	check the status of LSF, Tests	50% Thorsten next week (lsf not tested)	Thorsten not reported, ready for release (lsf not ready check that it doesn't do any harm, works with new R-GMA)	Laurence	NonCritical	
java security	- the current version 1.4.2_04 has some security issues - we have to stop distributing JAVA Louis has found a solution for both	SUN's 1.4.2_07 has md5 checksum errors (Louis) The strange version string creates conflicts with using >= We need a bit of documentation which will come with this	solved, 5 lines to download and install need to be written. We need to add it into the documentation. Version has to be clarified	documentation fix done	Louis	NonCritical	
R-GMA	Test activities by Piotr, Min and independent by Di and Louis on the testbeds	Check that we all have used the same version	Checked and the version is the one wanted. 100%	Config changes (done), now discovered non-backward compability, now GIN works and GridICE too, WN job status reporter not working	Di, Laurence	Critical	
GridICE	There has been a new version on the 22nd with bug fixes for the info providers	Check that we get the right version	Di 7.x installed, SLC3 errata received and done 100%, but testing	Tested? Client not tested deeply YAIM has been adapted to avoid conflicts	Louis Di	NonCritical	
Relocatable_multi	Introduced new magic variable:	On the WNs a new script to	95%, some RPMs	DONE	Oliver.	Critical	

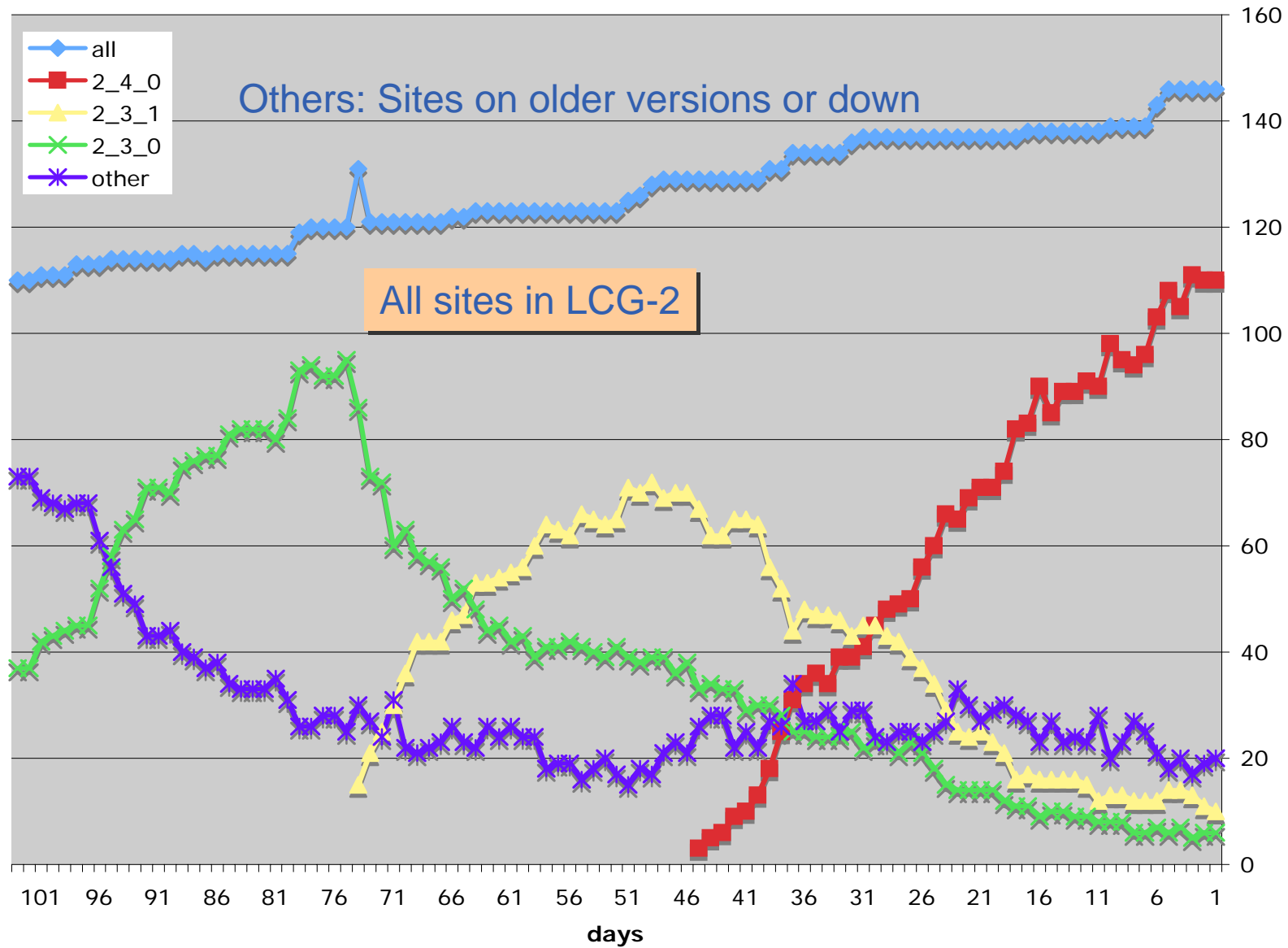
- **History:**
 - March 24th Early Announcement and call for deployment testers
 - April 1st detailed status, components, bugs fixed...
 - April 4th sent to the first test sites: Gergely and Eygene
 - April 6th released to the public

 - Release was a bit late
 - Major new components not ready
 - *Small, well identified problems, tempting not to wait 3 more months*

 - Underestimated the time for “final touches”
 - *Release notes*
 - *Deployment tests*
 - *Web page updates*



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 client libs
 - FTS services
 - Updated versions of:
 - LFC, DPM 1.3.2, some updated client libs. (gfal, lcg-util)
 - Some 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**
 - When 2_5_0 was announced already shifted to “early July”
 - Why:
 - Releases need support work during deployment
 - *Mostly dependency problems (Scientific Linux at CERN and elsewhere)*
 - *Localization*
 - Same staff that is active in integrating a release
 - *Provides updates for SC3 as needed and supports deployment*
- **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:**
 - 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:

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**
- **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
- **Certification Team**
 - Every morning seemed to be 3-4 days from release day
 - Every evening seemed to be 5 weeks away.....
- **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

Bugs fixed:

#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 lbserver 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.
The following packages have unmet dependencies:
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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 I sent a reminder to upgrade**
 - Benchmark: 20 minutes
 - reading the documentation + upgrade (1RPM)
 - Almost all sites did this without a problem
- **One site tried to cut corners**
 - Changed the schema used by an old BDII to GLUE-1.2
 - This created some problems (we had tried this before)
 - Site manger was in a bad mood for while.....

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

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

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** successfully
- 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**
 - After the release is before the release!
 - 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](#)**

- **When will it be ready?**
 - To meet October 1st we have to stop integrating on Friday the 9th
 - Internal certification, deployment tests by 3 ROCs, fixing found bugs
 - 23 major subjects
 - Many require development work to start or to finish
 - Not all have same priority
 - Data management related ones + security should be in the release
 - SC-3 relevant changes drive the process
 - In addition work from the postmortem (see next slide)
 - Mainly on documentation
- **If we freeze LCG-2_7_0 in time we will have not much in it**
 - Need an alternative strategy during the SC3s

- Postmortem
 - Closing door for changes is almost impossible
 - Interdependency of services and activities
 - Certification Tests are no longer in sync with the services
 - New services, new functionality
 - Performance tests needed
 - Documentation of installation and configuration
 - Old services almost sufficient
 - New services need to improve text based documentation
 - Process: We had an open critical bug in Savannah on the RB
 - Check of Savannah before release
 - Effect of “junk data” in the info system (possible?)
 - Patches have to come with a standard set of information
 - Ports, variables, config changes....
 - Deployment tests by the 3 ROCs
 - Very useful
 - 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

- **Upgrade SC relevant services at the T1s**
 - Whenever ready
 - T1s experience can be used as deployment test
 - Handle these as upgrades to LCG-2_6_0
 - Add client libs in user space (when needed)
- **Work continuously on tests and documentation**
- **With sufficient material accumulated**
 - Cut a new release
 - Starting point for sites joining

- **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**
- **LCG-2_7_0 will not make October 1st deadline**
 - Need to change the release strategy during SCs