



Our activities & concerns

- **EDG-LCG transition/convergence plan**
 - ⇒ EDG side : integration of new middleware, testbed evaluation...
 - ⇒ LCG side : architecture evolution, certification process...
- **Grid services Installation and Testing**
 - ⇒ follow the evolution of RB and Job submission service
 - ⇒ investigate RGMA component
- **HICB-JTB InterGrid Technical Join project**
 - ⇒ Collaboration with VDT people on testing and certification starting
 - ⇒ Globus Test-suite and vdt testing



EDG – LCG transition plan

EDG
2.0

2003, 1st of march



LCG-0 : RH 7.3, gcc2.95, VDT 1.1.6, EDG 1.4.3,
RLS, GLUE schema

Testbed : LCG-0 pilot

NOT OPEN TO USERS

2003, 1st of May -> 1st of June



EDG 1.5.0 intermediate tag delivery
Testbed : LCG CERT-TB

(not yet) OPEN TO TESTERS

2003, 1st of July



EDG 2.0 = LCG-1
LCG-1 prototype service

OPEN TO USERS



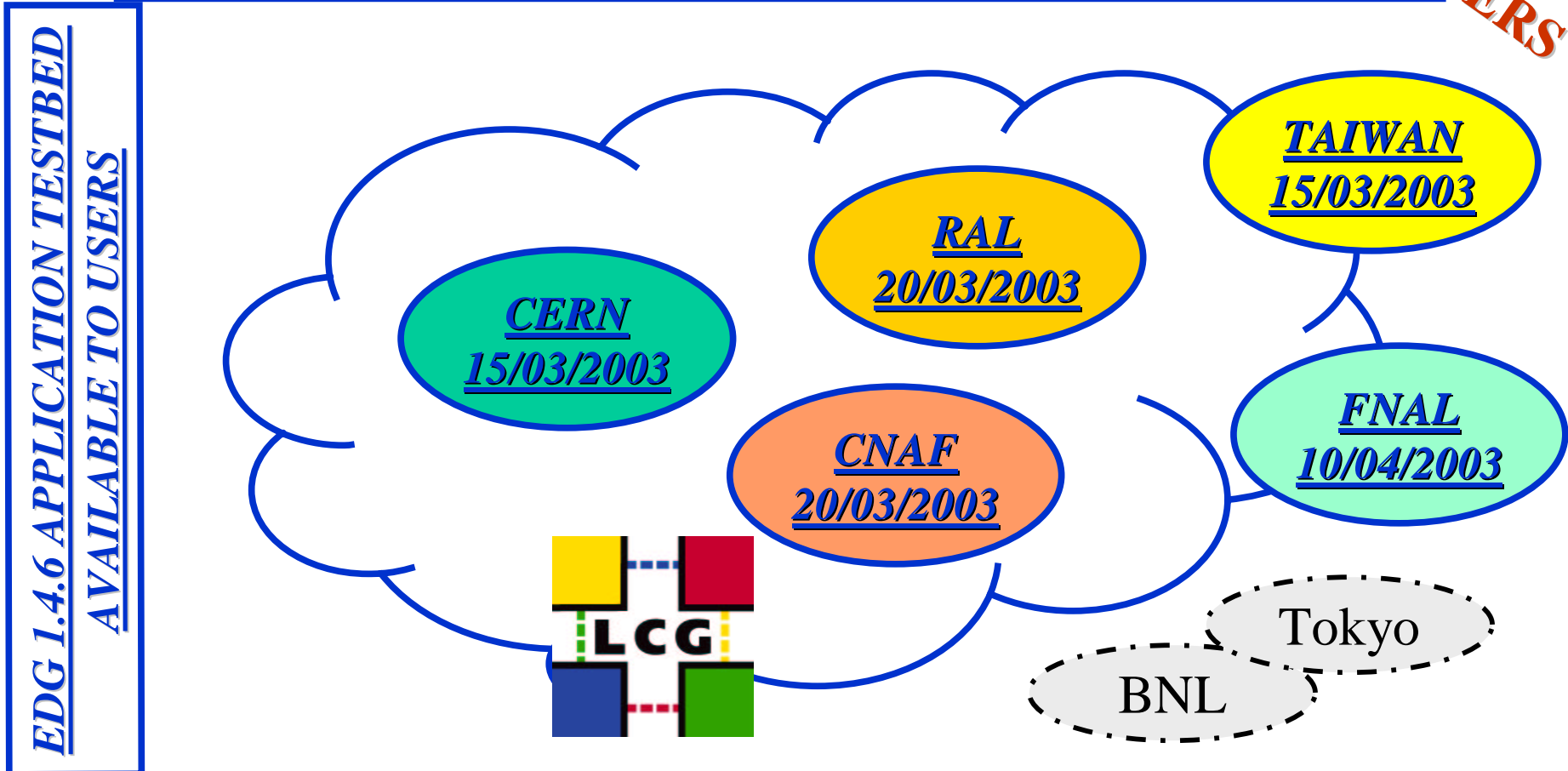


LCG-0 pilot

Goal : set-up the deployment process

NOT OPEN TO USERS

(RH 7.3, gcc 2.95.2, VDT 1.1.6, EDG 1.4.3, GLUE, RLS)





Mware evolution foreseen

GRID services		LCG – 0			EDG 2.0 ~ LCG – 1		
		RH 7.3 gcc 2.95.2			RH 7.3 gcc 2.95.2		
		VDT 1.1.6	DataTag 1.0	EDG1.4.3	VDT 1.1.8	DataTag 1.0	EDG 2.0 new mware
Collective services	Information & Monitoring		Edt-monitor		GLUE schema	GLUE Info providers Edt-monitor	WP3: R-GMA
	MetaData Management		RLS aware edg-replica-manager	edg-replica-manager			WP2: Replica Manager (Reptor) Replica MetaData Catalog (RMC)
	Job submission	Condor-CondorG 6.4.7	glue-aware services	WP1 : UI, RB	Condor-CondorG		WP1: Refactored and glue-aware RB
Underlying and Resource services	Resource Management	Globus 2.0 servers (gatekeepers, Jobmanager...)	CE Glue Information Providers		Globus 2.2.4 servers		WP7 : NetCost
	Security AAA-VO	certificates, CRL update, mkgridmap			WP2 : certificates, CRL update, mkgridmap		WP6: VOMS WP4 : LCAS
	Data Management - Storage service	Globus RLS, Grid FTP	SE Glue Information Providers	EDG RLS	Globus RLS Grid FTP		WP2 : EDG RLS WP5 : SE1.0 : SRM Storage Resource Manager
	Information Discovery	Globus MDS 2.2 static LDAP glue schema					

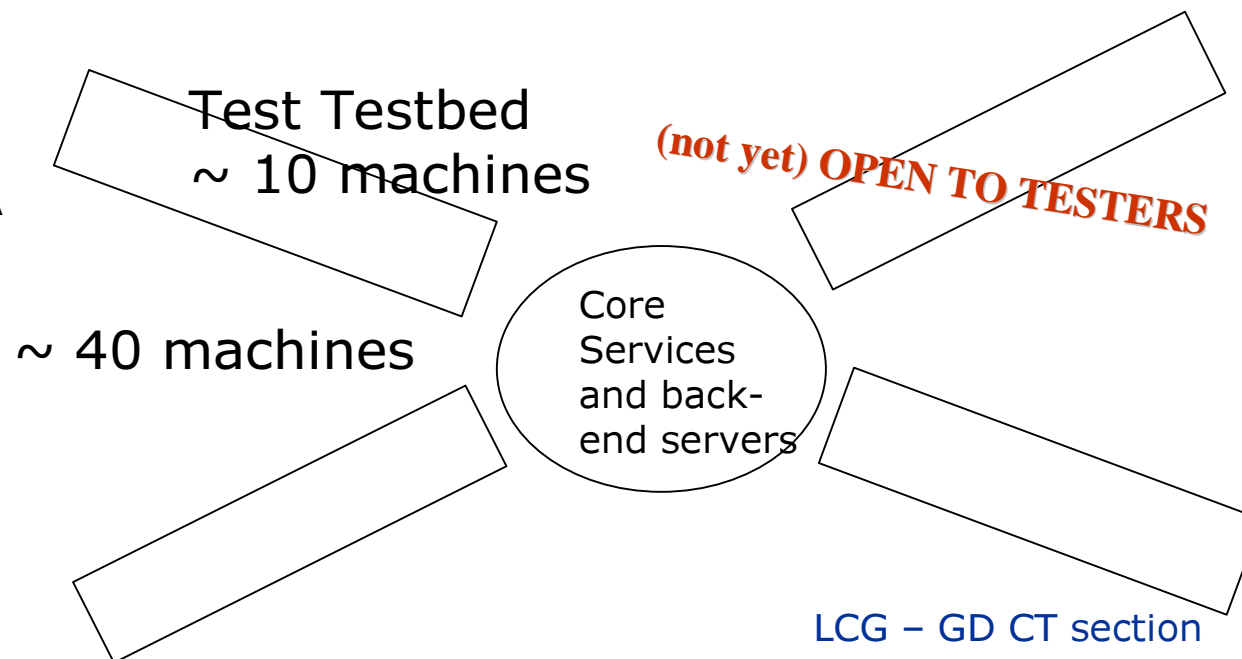


LCG certification testbed

- The architecture will allow the simulation of several independent sites (virtual sites)
- Easily reconfigurable using LCFGng and LCFGng lite + automatic configuration tool
- Several activities, studies and simulation could be held
- Reasonable combinations of virtual sites and services redundancy might be studied
- LCG Test Testbed = one branch of the LCG certification testbed

EDG 1.5.0 :
vdt1.1.8, RLS, RGMA

- RGM-A not stable
- no GLUE schema
- WP1, WP2 not yet integrated





Resource Broker Installation & Testing

- Installation at LAPP under Vmware behind a firewall
- RB + BDII version EDG 1.4.8 running
- Take care of the **Firewall requirements**
- Installing, testing and operating such a service require root privileges

```
$ /etc/rc.d/init.d/broker status
```

```
$ lsof -i /* list open files – connections */
```

```
$ su dguser
```

```
$ psql -U postgres rb /* Access to RB database */
```

```
$ condor_q /* condor _g queue status */
```

- RB hang and Pbs observed when operating in real conditions - Current solution : purge all databases (duplication of persistent information) and lost jobs
- Can a job storm reproduce an RB stuck ?
- Daily check needed but focus on the current version not really useful – concentrate on the new version



Resource Broker Firewall requirements

- **Outbound connectivity** well documented for each service:
 - RB 7771/tcp,
 - Log&Bookeeping 7846/tcp,
 - Local Logger 1580/tcp ...
- Well-known **static inbound ports** used for control connection such as :
 - 2119/tcp Globus Gatekeeper
 - 2811/tcp GridFTP server
- In addition, some **incoming** connections to non-deterministic ephemeral ports are used by the Globus toolkit libraries. It concerns GridFTP data channels and GRAM connections
- This range of dynamic ports is constrained by the GLOBUS_TCP_PORT_RANGE environment variable which is not exported to JSS and RB startup file . (EDG bug ref. 894)



Resource Broker

Job Submission scheme

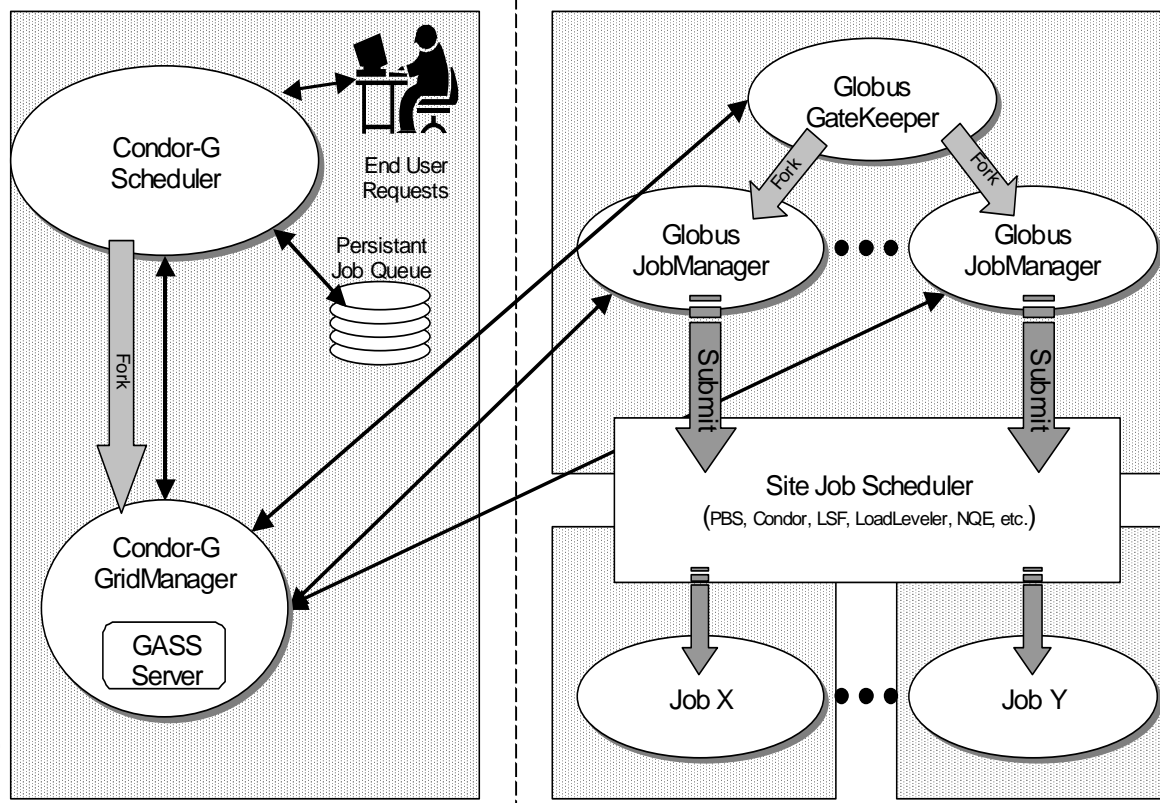
RB machine
Job Submission Machine

CE machine
Job Execution Site

Condor-G

job management part of Condor interfaced with Globus

It uses GRAM protocol to contact the Globus Gatekeeper and to monitor the job's progress



Globus Resource

Resource accessible through Globus interface

James Frey, Todd Tannenbaum, Ian Foster, Miron Livny, and Steven Tuecke, "Condor-G: A Computation Management Agent for Multi-Institutional Grids", Proceedings of the Tenth IEEE Symposium on High Performance Distributed Computing (HPDC10) San Francisco, August 7-9, 2001. **LCG – GD CT section**



Future work



- try to investigate new Mware components as soon as possible
 - I guess Job submission scheme (based Condor-G + GRAM) should remain the same
 - WP1 : RB refactored & glue-aware
 - WP3 : RGMA remains as a key point
- 2003, 1rst of June : Mware selection for LCG-1 !
- ? LCG/EDG test plan ?? shall we
 - provide only tests going through UI ?
 - learn again from installation, documentation ?
 - expect unit testing from WP ?
 - wait for loose canons diagnostics ??



InterGrid Technical Join project Globus and VDT testing

- Regular phone meeting set-up by Gilbert
 - VDT Testers group : Chicago and Wisconsin teams
- Portal :
- <http://grid03.uchicago.edu:5680/savannah/projects/vdttest/>
VDT Test plan and Testing instructions from the home page
- <http://grid.uchicago.edu/ivdgl/vdt-testers/>
- Testing protocol :
- globus and condor tests
 - "grid-level" functionality test
- Reporting :
- Tinderbox development monitoring system
- Collaboration with the LCG certification & testing group foreseen



Globus Testsuite



Globus release 2.2.4

Scott Gose Argonne, Chicago

<http://www-unix.mcs.anl.gov/~gose/bundles/>

- binaries and sources packages available
- not included in the globus distribution
- still under development (no documentation and no support for now)
- packages are collected into bundles created using GPT or rpms
 - globus data management test
 - globus resource management test
 - globus information service test
 - globus replica test
- Grid Packaging Toolkit used since Globus 2.0 release - EDG delivers the Globus Toolkit as GPT packages wrapped into RPMS
 - home page : <http://www.gridpackagingtools.org/>
 - user guide : <http://www.gridpackagingtools.org/book/latest-stable/gpt-book.html>



Globus Testsuite



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- starting from binary bundles
- make a personal installation of the test package and run against a central installation of Globus 2.2.4 not foreseen
- has to be embedded into \$GLOBUS_LOCATION tree
- installing globus-resource-management-test-2.2.4 bundle...

```
$ $GPT_LOCATION/sbin/gpt-install globus-resource-management-test-2.2.4-i686-pc-linux-gnu-bin.tar.gz
```

```
Bundle globus-resource-management-test-2 successfully installed.
```

```
$ ls $GLOBUS_LOCATION/test
```

```
globus_common_test          globus_gram_job_manager_test
globus_gssapi_gsi_test      globus_proxy_ssl_test
globus_gram_client_test     globus_gram_protocol_test
globus_io_test              globus_test
globus_gram_client_tools_test globus_gss_assist_test
globus_openssl_error_test
```

10 packages installed under \$GLOBUS_LOCATION/test
+ a globus_test/test-toolkit to run the tests



Globus Testsuite



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- on-going work : run tests and understand their contents

```
$GLOBUS_TEST/globus_test/test-toolkit -c -  
directory=$GLOBUS_TEST/<test_dir> -r <host>
```

- list-out the useful ones

globus_common_test : Tests of basic functionalities of the globus common library ~ Unit testing of globus

Globus_gram_client_test : Globus Gatekeeper test .. some redundancy with the edg-site-certification suite



Globus Testsuite



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- starting from src bundles needs to deal with flavors

Need to be investigated.....

- Flavors encapsulate compile-time choices
 - compiler, 32-64 bit, debugging or not, threading
 - common flavor : gcc32dbg, gcc32dbgpthr
 - list of flavors supported on the platform
- GPT requires at least one flavor being installed in `$GLOBUS_LOCATION/etc/gpt` by `globus_core` package
- `globus_core` = root dependency of all packages – install the needed flavors to build other packages

...not installed on the LCG CERT Testbed !