

CrossGrid testbed status

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Main focus on interactive
and parallel applications

First Prototype of the CrossGrid Testbed

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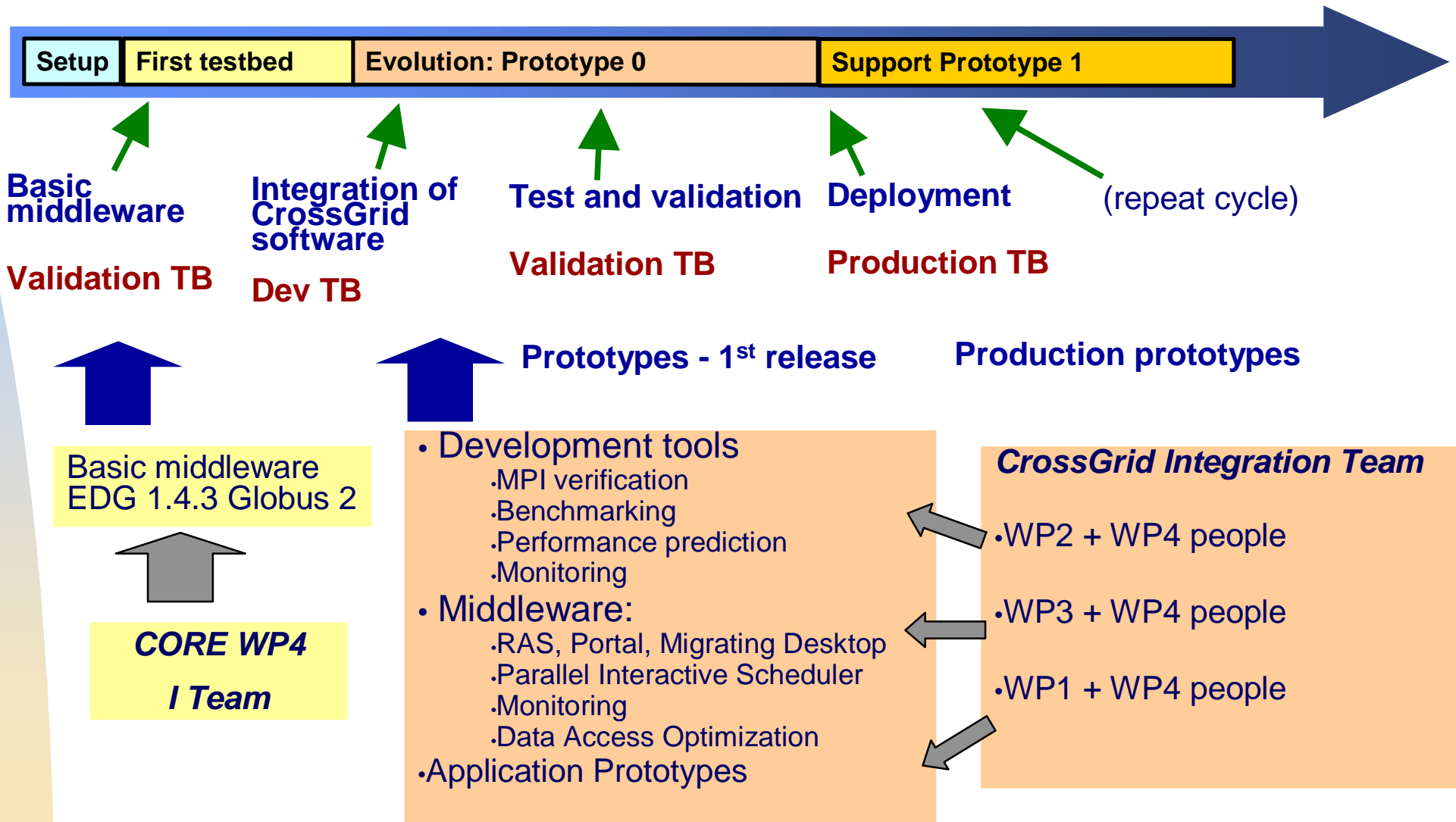
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- **WP1 – CrossGrid Application Development**
 - 1.1 - Interactive simulation and visualization of a biomedical system
 - 1.2 - Flooding crisis team support
 - 1.3 - Distributed data analysis in HEP
 - 1.4 - Weather forecasting and air pollution modeling
- **WP2 – Grid Application Programming Environment**
- **WP3 – New Grid Services and Tools**
- **WP4 – International Testbed Organization**
- **WP5 – Project Management**



- **MARMOT** – Tool for MPI app debugging
 - 1st dev release ready, C & Fortran, MPI 1.2
 - N+1 nodes (debugging server)
- Performance prediction / evaluation tools
 - Use application kernels
- **GridBench** – benchmarking

- Application Portal
- Migrating Desktop and RAS
- Resource management (MPI apps)
- Santa-G
 - Info from external sensors into R-GMA (tcpdump, snort)
- Optimization of data access

- JDL:

Executable=...

JobType= mpi mpich-p4 mpich-g2

NumCPU=16

- MPI jobs:

- In cluster (mpich-p4)

- on EDG 1.4 middleware – testing stage

- Across clusters (mpich-g2)

- Main CrossGrid goal – alpha stage

- No private clusters

- Across clusters (PACX-MPI)

- Private clusters

- **Modified RB:**
 - matchmaking (CPU resources, MPICH env)
 - script generation
 - .rsl generation
- **Mpich-p4 jobsubmission:**
 - in test and validation stage
- **Mpich-g2 jobsubmission:**
 - in alpha stage
 - avoid deadlocks and failing clusters blocking the whole job

•Application Portal

- *Specific application oriented GUI*
- *Only basic GUI functionality (html,php)*
- *Usage: system without java eg. internet cafe, airport*
- *Thin client*

•Migrating desktop

- *More sophisticated user friendly Java based GUI*
- *Whole environment for grid user*
- *Possibility of working with many grids at once*
- *Integration of many Crossgrid tools*
- *Local and grid application support*
- *Local and grid file management*

Application Portal



The screenshot shows a Microsoft Internet Explorer browser window displaying the CrossGrid Application Portal. The browser's address bar shows the URL <http://server.egreta.gr/index.php>. The page features a red header with the text "the CrossGrid Application Portal" and the CROSSGRID logo. Below the header, there is a navigation bar with links for "Options" and "Logout", and the date "December 20, 2002". The main content area is divided into three columns. The left column contains three sections: "Grid Utilities" with links for Home, User session, Grid benchmarks, Grid monitoring, File transfer, and Grid resources; "Applications" with links for Biomedical, Floods, Particle Physics, and Meteo; and "Application Tools" with links for MPI verification and G-PM. The right column contains a heading "The CrossGrid Application Portal" followed by a paragraph: "This is the main page of the CrossGrid Application Portal. This portal provides a front end to Grid applications in general, but is specifically aimed at the four applications developed in the context of the CrossGrid project:" and a bulleted list of four applications: "PreTreatment Planning in Vascular Interventional and Surgical Procedures", "Support System for Flood Prevention and Protection", "Distributed Data Analysis in High Energy Physics", and "Weather Forecast and Air Pollution Modelling". At the bottom of the page, there is a footer with the text "CrossGrid is supported by the IST Programme of the European Commission." and the Information Society logo.

the CrossGrid Application Portal - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Mail Print Edit Discuss Messenger

Address <http://server.egreta.gr/index.php> Go Links Best of the Web Channel Guide Customize Links Dictionary Thesaurus EMAIL THIS

the CrossGrid Application Portal

Welcome user1: [Options](#) | [Logout](#) December 20, 2002

Grid Utilities

- [Home](#)
- [User session](#)
- [Grid benchmarks](#)
- [Grid monitoring](#)
- [File transfer](#)
- [Grid resources](#)

Applications

- [Biomedical](#)
- [Floods](#)
- [Particle Physics](#)
- [Meteo](#)

Application Tools

- [MPI verification](#)
- [G-PM](#)

The CrossGrid Application Portal

This is the main page of the CrossGrid Application Portal. This portal provides a front end to Grid applications in general, but is specifically aimed at the four applications developed in the context of the CrossGrid project:

- PreTreatment Planning in Vascular Interventional and Surgical Procedures
- Support System for Flood Prevention and Protection
- Distributed Data Analysis in High Energy Physics
- Weather Forecast and Air Pollution Modelling

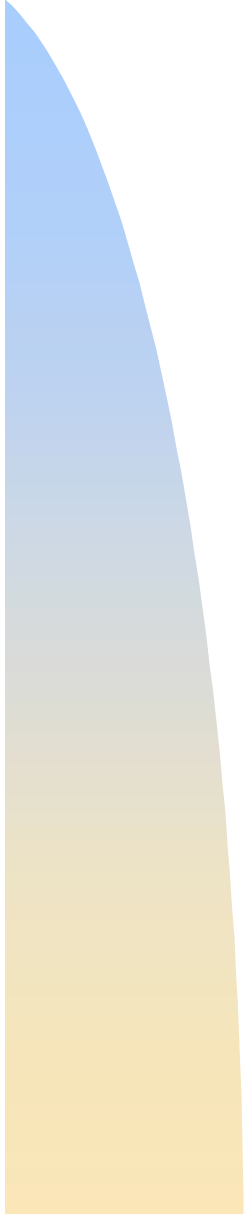
CrossGrid is supported by the IST Programme of the European Commission.

Information Society

Done Internet



Migrating Desktop



Clear integration procedure:

- Code into CVS
- Tests in ad-hoc development TB
- Code **autobuilds**
- Software **announced** in Iteam list
- Installation in DevTB
- Request test to test & validation group (LIP)
- Tests conducted in T&V TB
- Package gets approved, announced to Iteam
- **Release** tagged, installation in ProdTB

- Integration procedure took place for
 - Modified RB
 - Santa-G
- WP4 technical work to do:
 - Nodes – services relationship
 - Security updates for EDG 1.4 (RH 6.2)
- Coding guides
- Quality control group

Comments:

- Site profiles in CVS (*)
- Common LCFG profiles (*)
 - #include ".././common/ng_source/***.h"
- Developer Workstation
 - DW = UI + Building Environment
- LCFG server amalgamation
 - LCFG + LCFGng
 - UML LCFGng servers

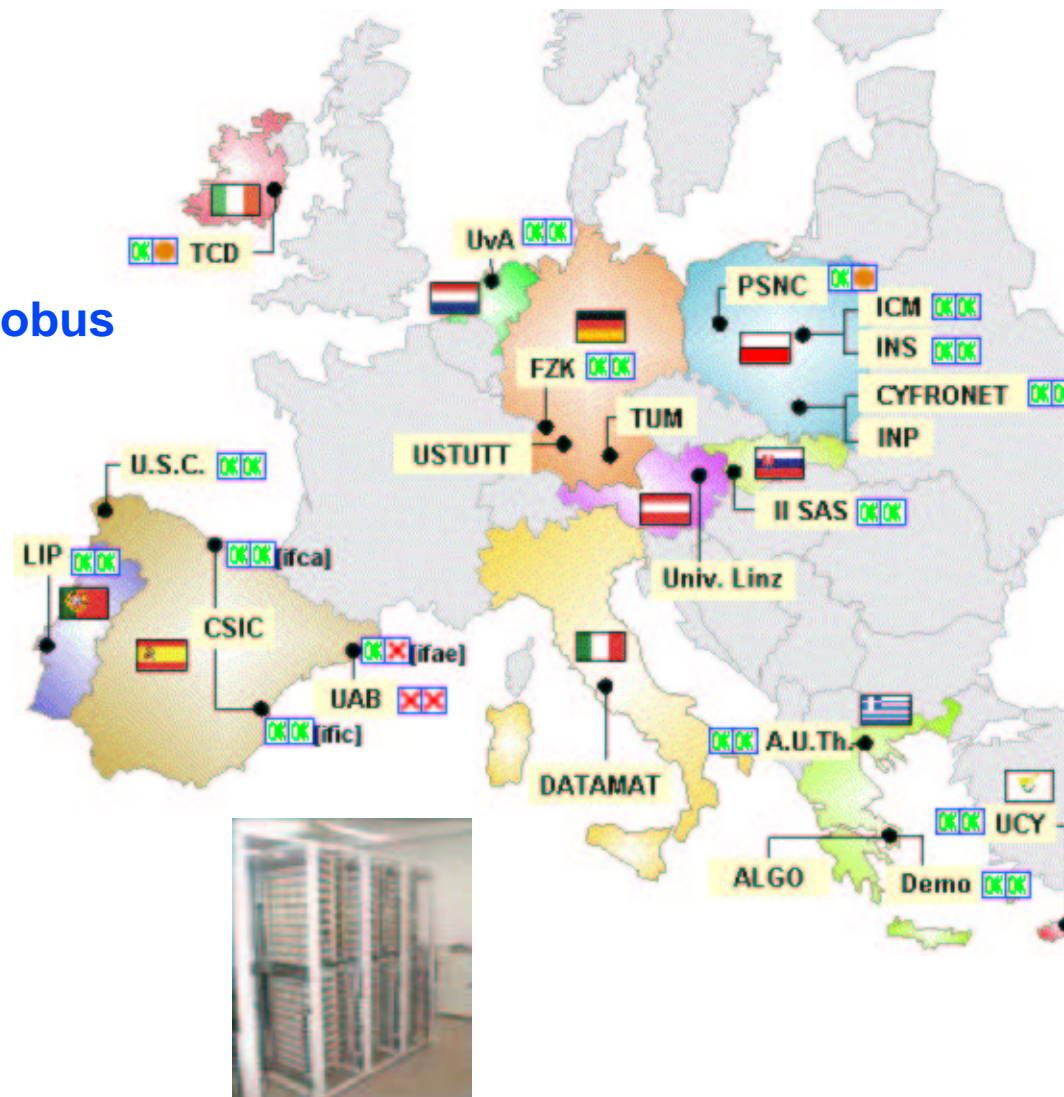
Partners in the CrossGrid Testbed



17 partners in
9 countries

Geant network

Based on EDG/Globus
middleware



- Production TB – EDG 1.4.12
 - RB, II, MyProxy, RC, VO server at LIP
 - Monitoring (Mapcenter and hostchecking)
- Test & Validation TB – EDG 1.4.12
 - LIP & Demokritos
 - Modified RB at LIP
- Development TB – EDG 1.4.12
 - Modified RB at Valencia, II at Crakow
- Development TB – EDG 2.0
 - LIP + FZK
 - RB, RGMA at LIP

Helpdesk

<http://cg1.ific.uv.es/hlpdesk/>

- In collaboration with DataGrid
- Question-Answer Mechanism: "tickets"
- Interaction levels:
 - User
 - Supporter
 - Administrator
- Based on **OneOrZero v1.4**
 - a GPL web based helpdesk system based on PHP, MySQL, Javascript

The screenshot shows a web browser window titled "Crossgrid Helpdesk - Konqueror". The address bar contains the URL <http://cg1.ific.uv.es/hlpdesk/index.php?t=tcre&sg=3&platform=5>. The page content includes a "Supporter / Administrator" header, a "crossgrid" logo, and a "Create Ticket" form. The form is divided into several sections: "User Options" (with links for Create Ticket, My Open Tickets, My Closed Tickets, Knowledge Base, and Edit Profile), "Ticket Options" (with dropdowns for Supporter Group: "Using testbed resources" and Ticket Priority: "High"), "FAQ Options" (with a Knowledge Base link), and "Ticket Info" (with a Short Description: "How do I store my files" and a larger Description field). At the bottom of the form are "Create Ticket" and "Reset" buttons. The footer of the page includes "home | logout", "Crossgrid Helpdesk", "Contact the Administrator", and "Powered by OneOrZero v1.4 RC2 Red Lava".

Software repository

<http://gridportal.fzk.de>

- Customized GNU Savannah
 - Projects with
 - Mailinglists/forums
 - Bugtrackers
 - CVS access
 - Webpages
- CVS repository (viewcvs)
- RPM repository
- EDG repository mirror

The screenshot shows a web browser window displaying the GridPortal website. The page title is "gridportal: #X Joint entrance page - Konqueror". The address bar shows "http://gridportal.fzk.de/cvs/tutorial/". The website has a green and white theme. On the left, there is a navigation menu with sections like "GridKa", "GridPortal", "Logged in as ariel", "gridportal Administration", "Search", "gridportal Connection", "gridportal Information", and "GRID-Links". The main content area is titled "X# Links" and lists various resources. Below this, there is a table titled "Crossgrid Projects" with the following data:

Project	CVS	Files	MailingForums	Bug Tracker
CrossGrid-Task-1.1	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-1.2	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-1.3	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-1.4	CVS	Download	(0 msgs / 0 forums)	(1 open / 1 total)
CrossGrid-Task-2.1	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-2.2	CVS	Download	(1 msgs / 1 forums)	(1 open / 1 total)
CrossGrid-Task-2.3	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-2.4	CVS	Download	(0 msgs / 0 forums)	(1 open / 1 total)
CrossGrid-Task-2.5	CVS	Download	(1 msgs / 1 forums)	(0 open / 3 total)
CrossGrid-Task-3.1	CVS	Download	(0 msgs / 0 forums)	(22 open / 33 total)
CrossGrid-Task-3.2	CVS	Download	(0 msgs / 0 forums)	(0 open / 2 total)
CrossGrid-Task-3.3	CVS	Download	(0 msgs / 0 forums)	(2 open / 3 total)
CrossGrid-Task-3.4	CVS	Download	(68 msgs / 1 forums)	(5 open / 23 total)
CrossGrid-Task-3.5	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-4.1	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-4.2	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-4.3	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-4.4	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-5.1	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-5.2	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)
CrossGrid-Task-5.3	CVS	Download	(0 msgs / 0 forums)	(0 open / 0 total)

Software repository

<http://gridportal.fzk.de>

- Current usage:
 - ca. 70 web-visits/day
 - 1.100.000 code-lines
51.000 doc-lines
 - 18 packages autobuilding

Autobuild

- EDG autobuild (Yannick Patois)
- Mild patching to make it more customizable
- RH 6.2 & 7.3

Mapcenter

<http://mapcenter.lip.pt>

Site checking

[http://www.lip.pt/
computing/
cg-services/site-check](http://www.lip.pt/computing/cg-services/site-check)

- Daily checks
- On demand checks

CROSSGRID HOST CHECK

This page contains links to the Host Check diagnostics pages. Host check is an automated procedure that verifies the CrossGrid testbed systems located at several distributed sites. The checks are run twice a day at midnight and midday (CET) for all registered testbed systems (both CEs and SEs).

Host Check is a tool developed at LIP in the context of the CrossGrid WP4 - "International Testbed Organisation" Task 4 - "Verification and Quality Control". The tool is intended to support both the CrossGrid test and validation activities and the site managers in verifying the correct installation, configuration and behaviour of grid systems.

The Host Check diagnostics can also be executed at user request through the link below. This feature is intended to be used by the site administrators to check their own systems.

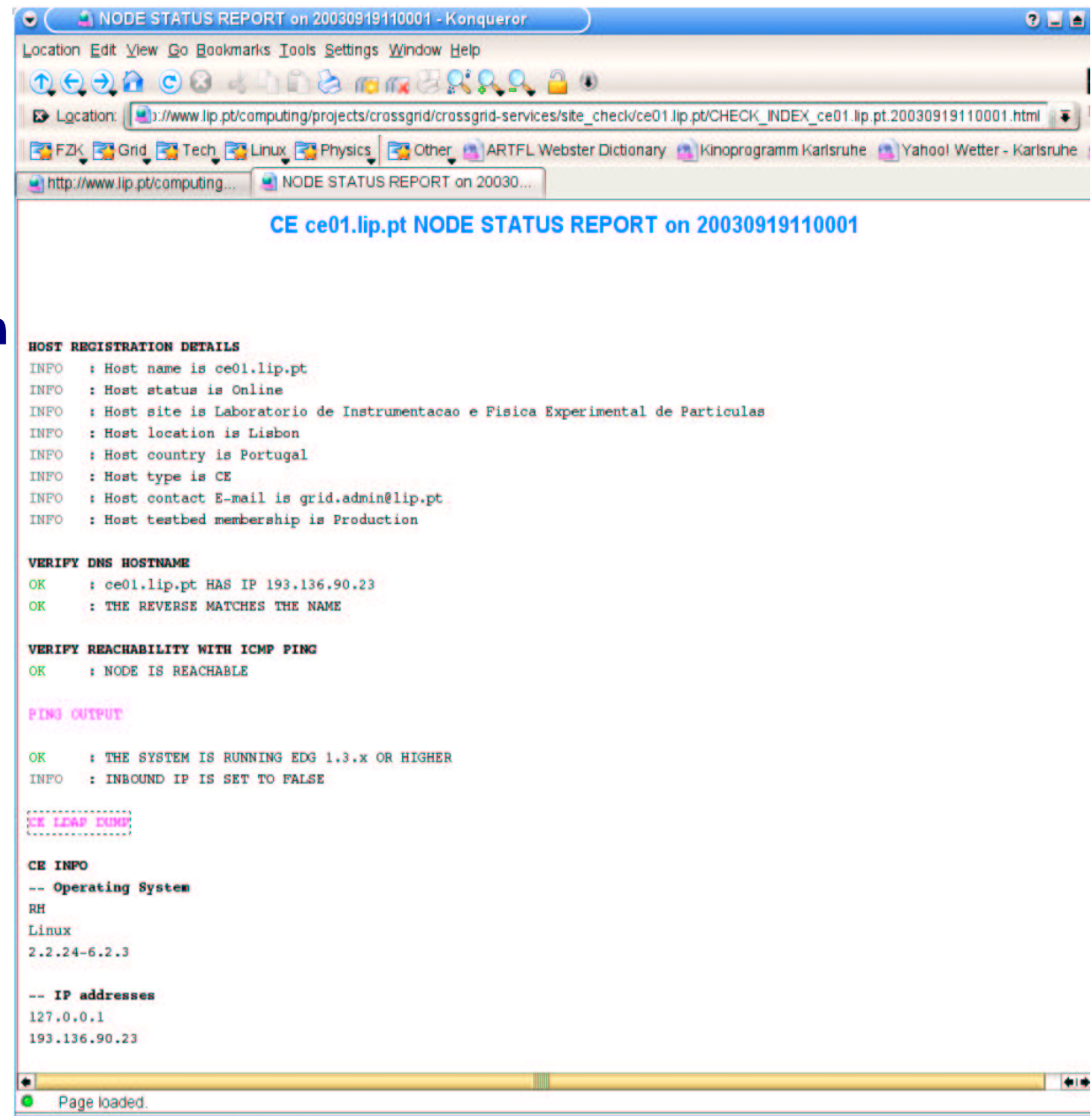
[Schedule an earlier test.](#)

abcegrid.uab.es	abcegrid.uab.es	aperatis.grid.ucy.ac.cy	bee001.ifc.uv.es	bee003.ifc.uv.es	cagnode46.cs.tud.ie
cagnode47.cs.tud.ie	ce.grid.cesga.es	ce001.fzk.de	ce01.lip.pt	ce010.fzk.de	ce02.lip.pt
cedar.crossgrid.man.poznan.pl	cgnode000.ci.usa.gr	cgnode004.ci.usa.gr	cluster1a.sav.sk	cms.fuw.edu.pl	cmsa.fuw.edu.pl
flood-vo.ui.sav.sk	fs1.das2.nikhef.nl	fs2.das2.nikhef.nl	grid01.physics.auth.gr	grid04.physics.auth.gr	globg01.fca.unican.es
oak1.man.poznan.pl	oak5.man.poznan.pl	se.crossgrid.man.poznan.pl	se.grid.cesga.es	se001.fzk.de	se001.grid.ucy.ac.cy
se01.lip.pt	se010.fzk.de	se02.lip.pt	se2.das2.nikhef.nl	summary.dat.10092003	sg001.mp.demokritos.gr
sg003.mp.demokritos.gr	sgnd.icm.edu.pl	sgndse.icm.edu.pl	Zeus24.cyf-kr.edu.pl	Zeus25.cyf-kr.edu.pl	

LIP 2002

Site checking

- Using globus-job-run
- Port checking
- MDS info checking
- PBS configuration
- Gsiftp tests
- CA certs and CRLs checks
- VO config checks
- Etc



```
NODE STATUS REPORT on 20030919110001 - Konqueror
Location Edit View Go Bookmarks Tools Settings Window Help
Location: http://www.lip.pt/computing/projects/crossgrid/crossgrid-services/site_check/ce01.lip.pt/CHECK_INDEX_ce01.lip.pt.20030919110001.html
http://www.lip.pt/computing... NODE STATUS REPORT on 20030...

CE ce01.lip.pt NODE STATUS REPORT on 20030919110001

HOST REGISTRATION DETAILS
INFO : Host name is ce01.lip.pt
INFO : Host status is Online
INFO : Host site is Laboratorio de Instrumentacao e Fisica Experimental de Particulas
INFO : Host location is Lisbon
INFO : Host country is Portugal
INFO : Host type is CE
INFO : Host contact E-mail is grid.admin@lip.pt
INFO : Host testbed membership is Production

VERIFY DNS HOSTNAME
OK : ce01.lip.pt HAS IP 193.136.90.23
OK : THE REVERSE MATCHES THE NAME

VERIFY REACHABILITY WITH ICMP PING
OK : NODE IS REACHABLE

PING OUTPUT
OK : THE SYSTEM IS RUNNING EDG 1.3.x OR HIGHER
INFO : INBOUND IP IS SET TO FALSE

CE LEAP DUMP

CE INFO
-- Operating System
RH
Linux
2.2.24-6.2.3

-- IP addresses
127.0.0.1
193.136.90.23

Page loaded.
```

- Participation in the GriDis testbed
 - GGF and CERN summer schools
 - Several demos

- Move to EDG 2.x
 - Applications already under Autobuild RH 7.3
 - Evaluation sites running
 - Several months timeframe (stability ;-)
- Network QoS
- Extension to new sites (cgext VO)
- Security!
- Next middleware steps?

- *CrossGrid testbed is operative*
 - Regular tests and use, including direct MPI execution
- Evolution
 - Testing and validation for:
 - Applications (WP1)
 - Programming environment (WP2)
 - New services & tools (WP3)
 - Emphasis on interoperability with DataGrid
 - Extension of GRID across Europe
 - Advice to follow GT3 while need to follow LCG...

A decorative graphic on the left side of the slide, consisting of a vertical gradient bar that transitions from light blue at the top to light yellow at the bottom, with a curved right edge.

Questions ?

Thanks for your attention!