

Εισαγωγή στο Grid, EGEE και το HellasGrid

Introduction to Grid, EGEE and HellasGrid



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Grid Technologies (Grids)



Contents

What is the Grid?

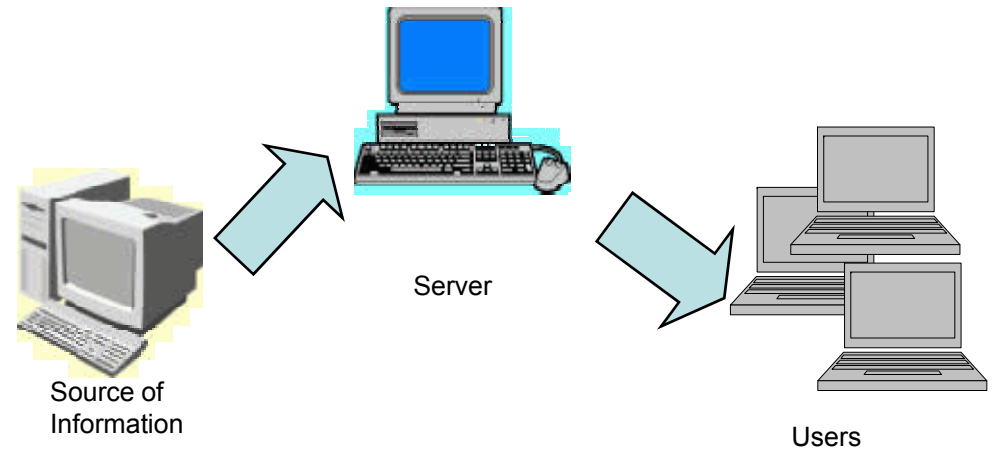
Grid paradigms

Enabling Grid for E-scienceE (EGEE)

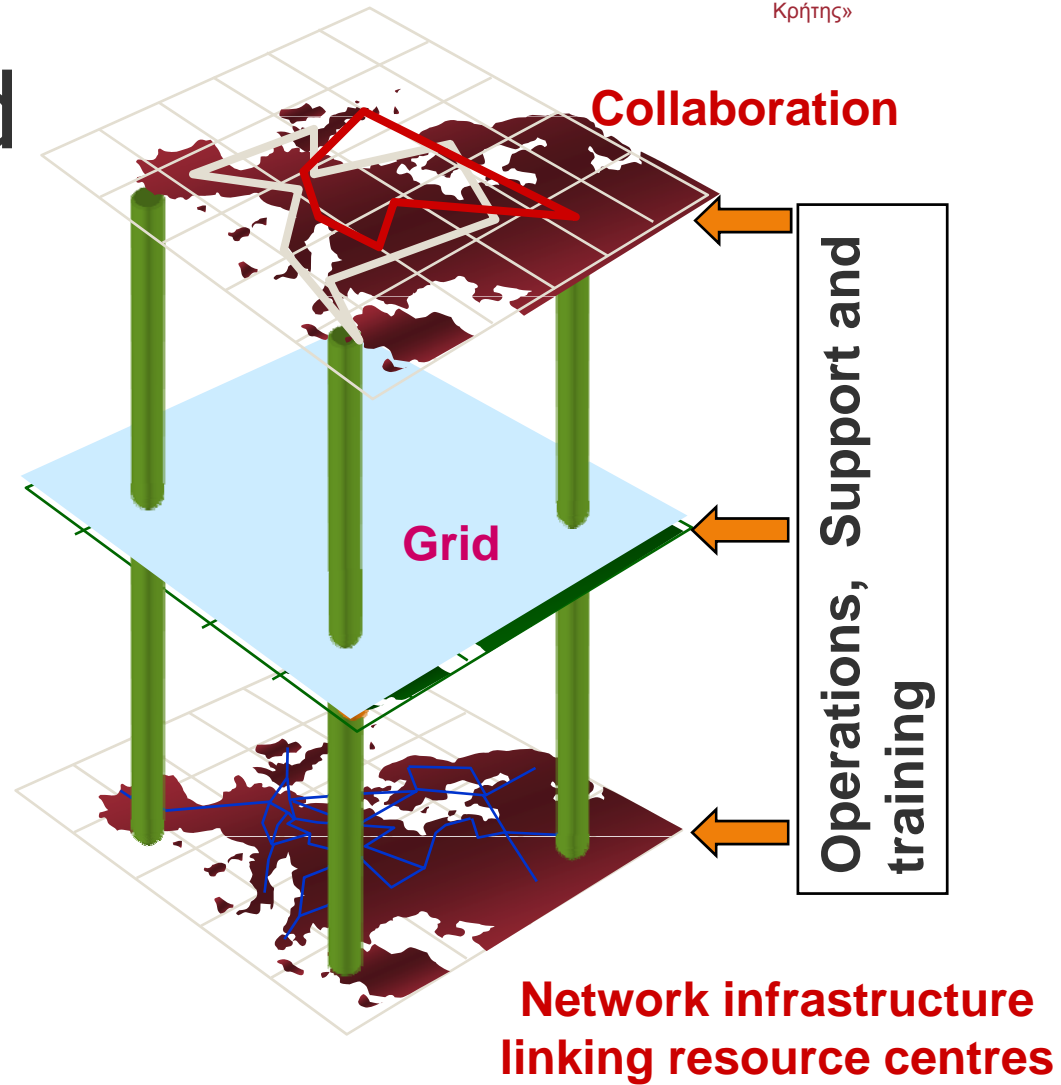
HellasGrid Taskforce

What is the Grid?

- The *World Wide Web* provides seamless access to information that is stored in many millions of different geographical locations
- The *Grid* is an emerging infrastructure that provides seamless access to computing power and data storage capacity distributed over the globe



The Grid



Definition of Grid systems

- Collection of geographically distributed heterogeneous resources
“Most generalized, globalized form of distributed computing”
- “An infrastructure that enables flexible, secure, coordinated resource sharing among dynamic collections of individuals, institutions and resources”
Ian Foster and Carl Kesselman
- Offers access to a virtual and very powerful computing system
- A user does not care, in which resource his / her job / jobs is going to be executed

Defining the Grid

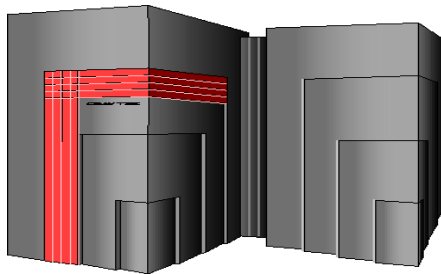
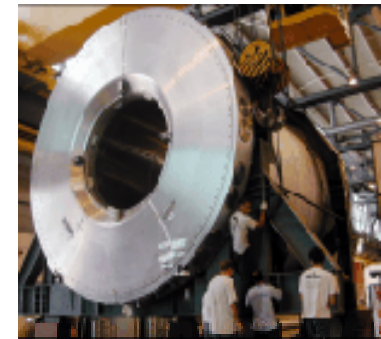
- A Grid is the combination of networked resources and the corresponding middleware, which provides services for the user.

Resources

- An entity that is going to be shared

such as:

- ✓ computational units
- ✓ storage units
- ✓ sensors
- ✓ visualization tools
- ✓ software



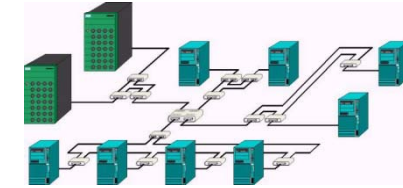
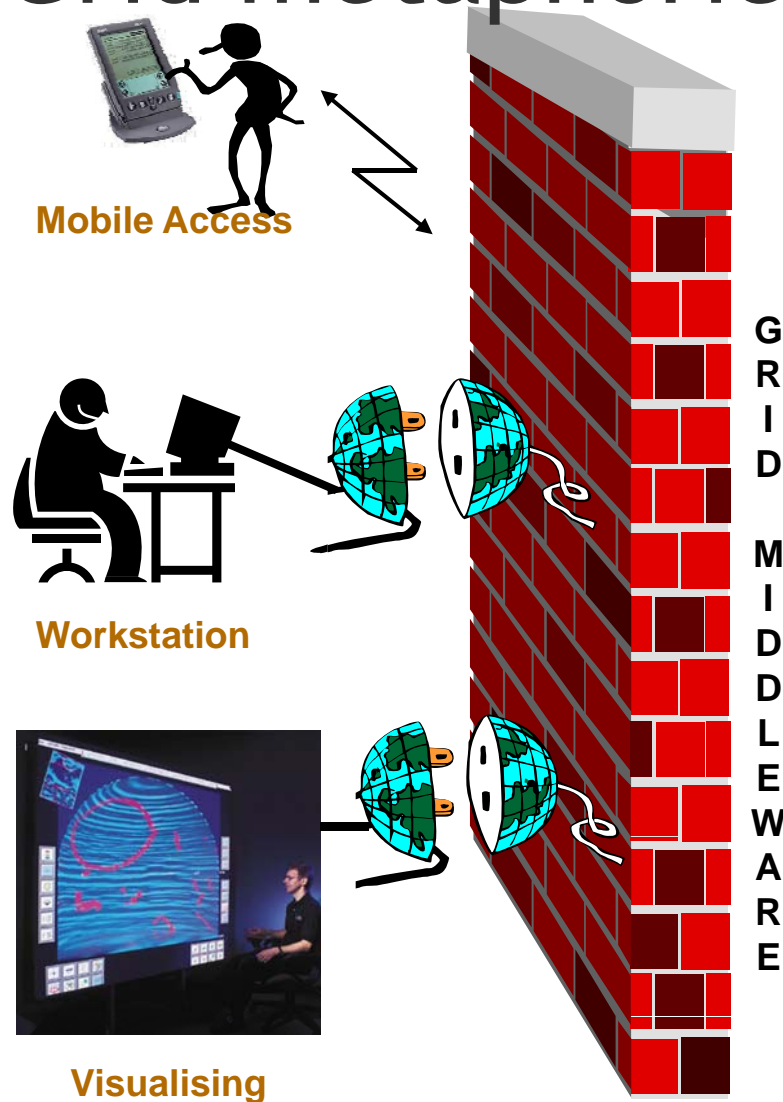
Principles of grid

- Resource sharing
 - Geographically distributed resources offer computational power, storage capacity and bandwidth to the users
- Secure and reliable access
 - Authentication
 - Authorization
 - Access policy
- Open standards
- Co-operation among people belonging to different organizations, institutes, groups

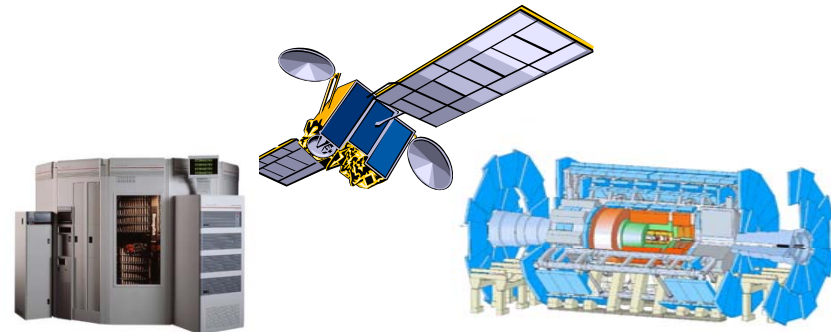
Grid metaphorically ...

Εκπαίδευση στο
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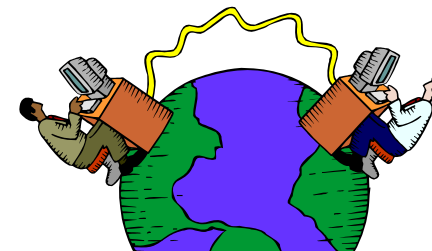
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Supercomputer, PC-Cluster



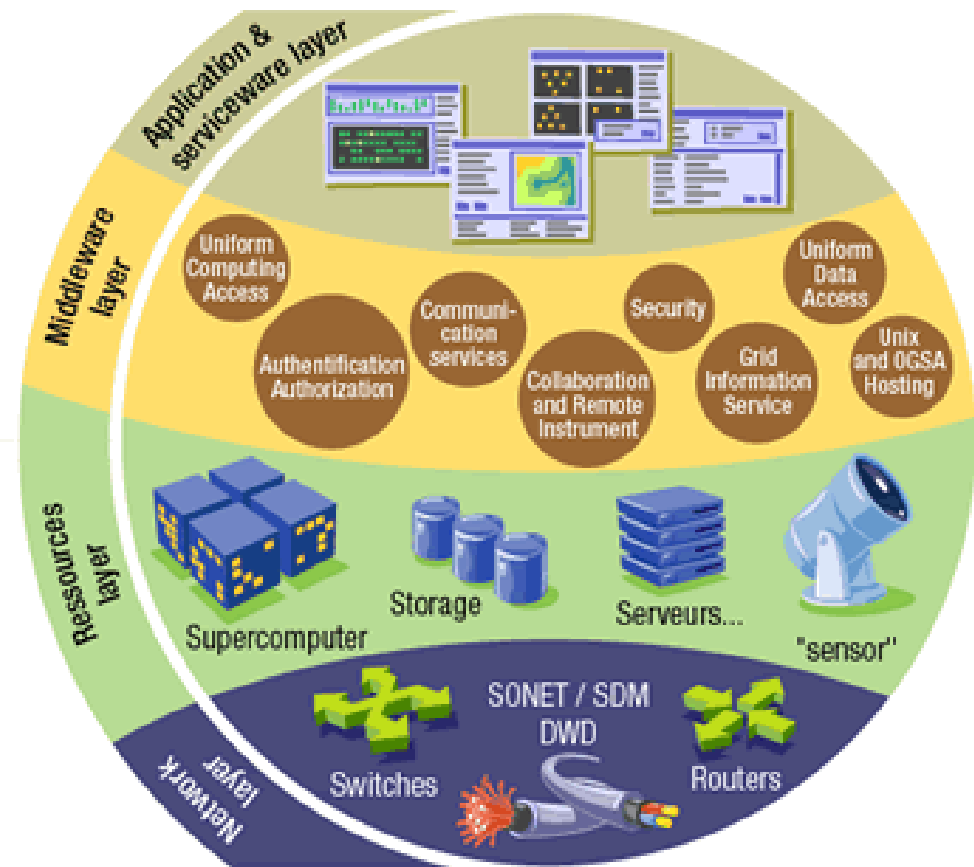
Data-storage, Sensors, Experiments



Internet, networks

Grid middleware

- The Grid relies on advanced software between resources and the application
- The Grid middleware:
 - **Basic services**
 - Secure and effective access to resources
 - **High level services**
 - Optimal use of resources
 - Authentication to the different sites that are used
 - Job execution & monitoring of progress
 - Problem recovery
 - Transfer of results back to the user



Grid Middleware

- When using a PC or workstation you
 - Login with a username and password (“Authentication”)
 - Use rights given to you (“Authorisation”)
 - Run jobs
 - Manage files: create them, read/write, list directories
- Components are linked by local hardware
- Operating system
- One admin. domain
- **When using a Grid system**
 - Login with digital credentials – single sign-on (“Authentication”)
 - Use rights given you (“Authorisation”)
 - Run jobs
 - Manage files: create them, read/write, list directories
- **Services are linked by the Internet**
- **Middleware**
- **Many admin. domains**

Why now?

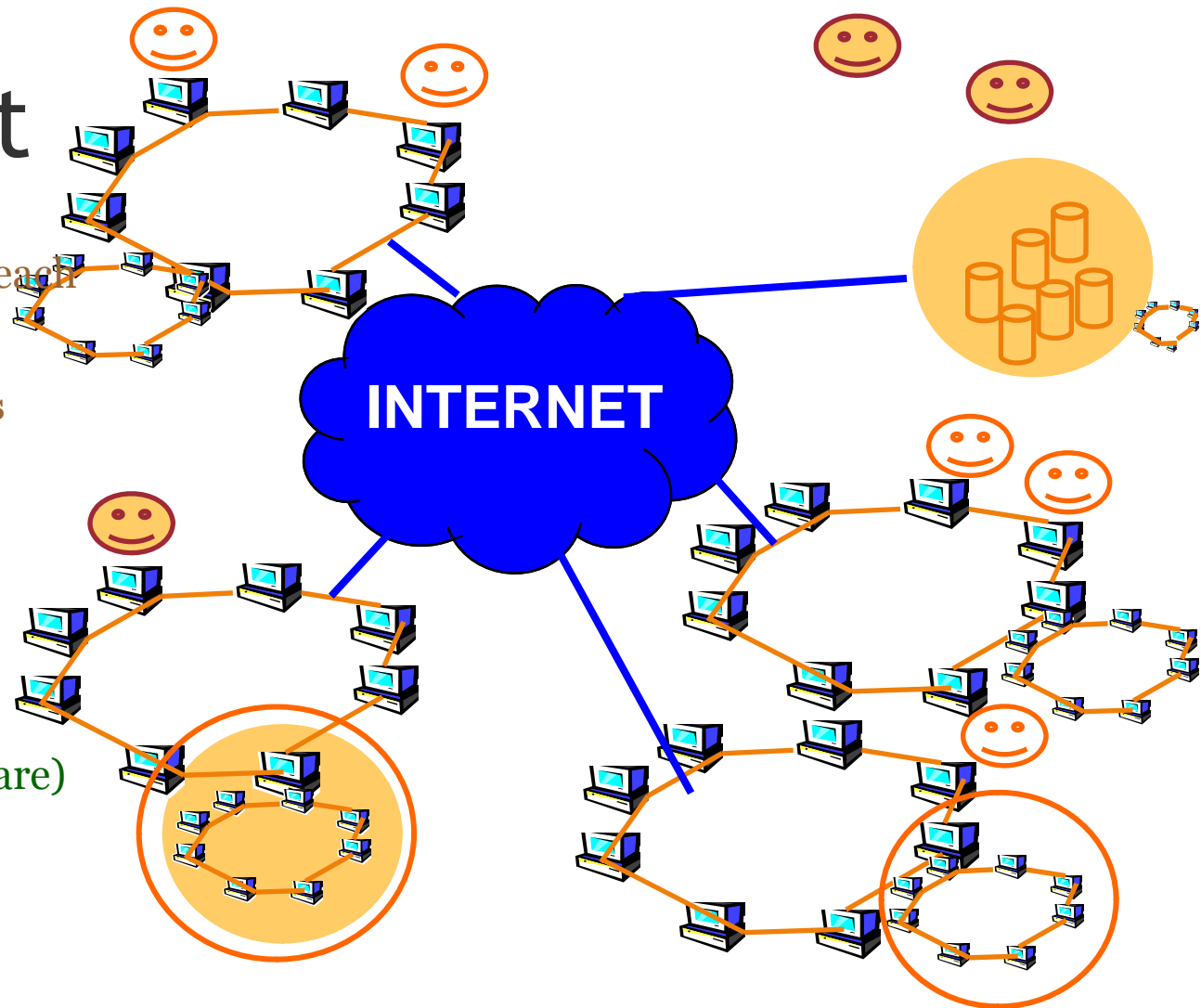
- Development of networking technology (doubling every nine months or so over the last years) and high-speed networks
 - ✓ widespread penetration of optical fibers
 - ✓ wireless connections
 - ✓ new Internet technologies (ADSL, WiMax)
- Moore's law everywhere
 - ✓ Instruments, detectors, sensors, scanners, ...
 - ⇒ Organising their effective use is the challenge
- Applications require a huge amount of computations to be executed and the collaboration among scientists

E-science

- Science that became feasible and promiscuous by resource sharing (sharing of data, scientific instruments, computational resources, colleagues) across the Internet
 - ✓ Often very compute intensive
 - ✓ Often very data intensive (both creating new data and accessing very large data collections) – data deluges from new technologies
 - ✓ **Crosses organisational and administrative boundaries**

V0 concept

- gLite middleware runs on each shared resource to provide
 - **Data services**
 - **Computation services**
 - **Security service**
- Resources and users form Virtual organisations: basis for collaboration
- Distributed services
- (both people and middleware) enable the grid



Virtual Organizations

- **Virtual Organization**

“A set of individuals and / or institutions defined by highly controlled sharing rules, with resource providers and consumers defining clearly and carefully just what is shared, who is allowed to share and the conditions under which sharing occurs”

Ian Foster

- Abstract entities grouping users, institutions and resources in the same administrative domain

⇒ What is going to be shared ?

- ✓ resources

- ✓ software

- ✓ special equipment

- ✓ licenses

- ✓ services

- ✓ Internet bandwidth

Virtual Organizations (VOs)

- Astrophysics, astro-particle physics
 - Biomedical and Bioinformatic Applications
 - Computational chemistry
 - Earth sciences
 - Finance
 - Fusion
 - Geophysics
 - High-energy physics
 - Infrastructure
 - Other ...
-
- Our regional VO: SEE
 - VO for trainings : hgdemo
-
- List of existing VOs
 - <http://cic.gridops.org/index.php?section=home&page=volist#1>

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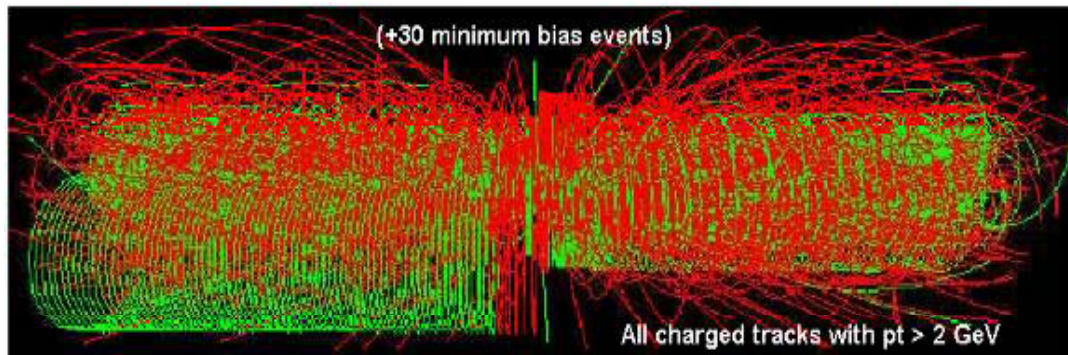
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Enabling Grid for E-scienceE (EGEE)

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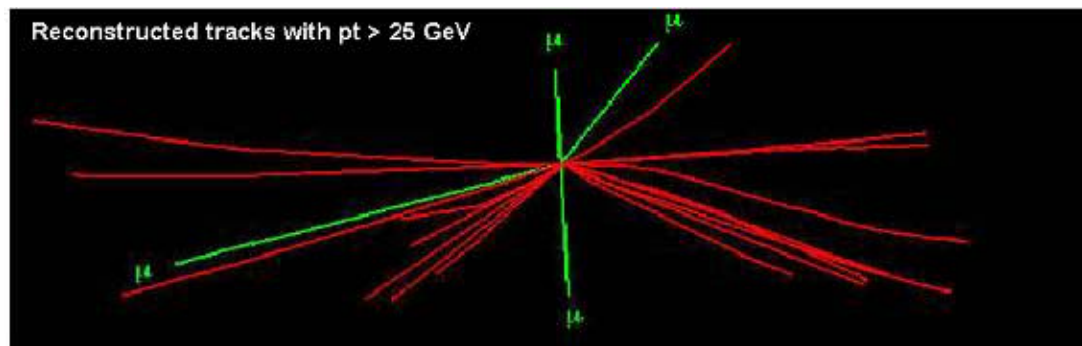
LHC Data Challenge

Starting from this event (particle collision) ...



- ✓ Data Collection
- ✓ Data Storage
- ✓ Data Processing

You are looking for this “signature”...



• **Selectivity: 1 in 10¹³**

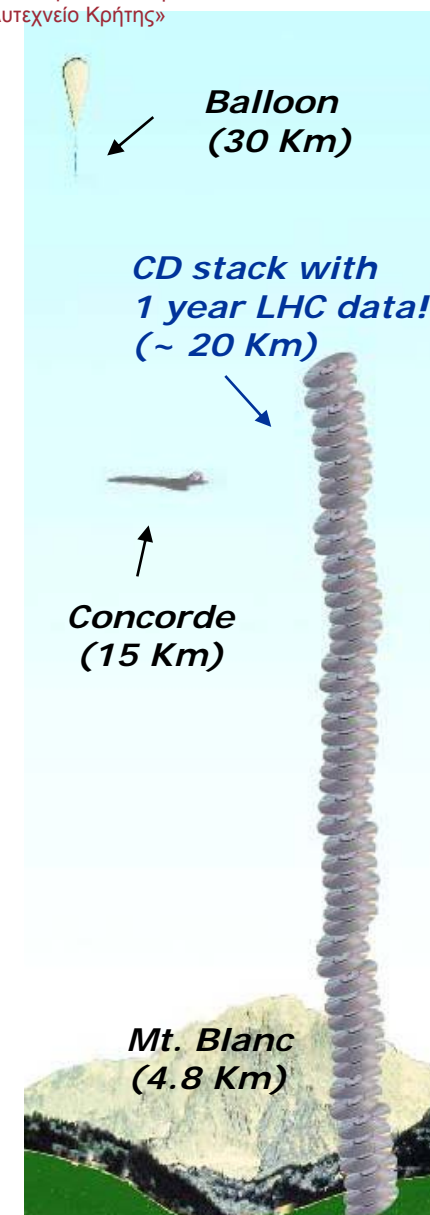
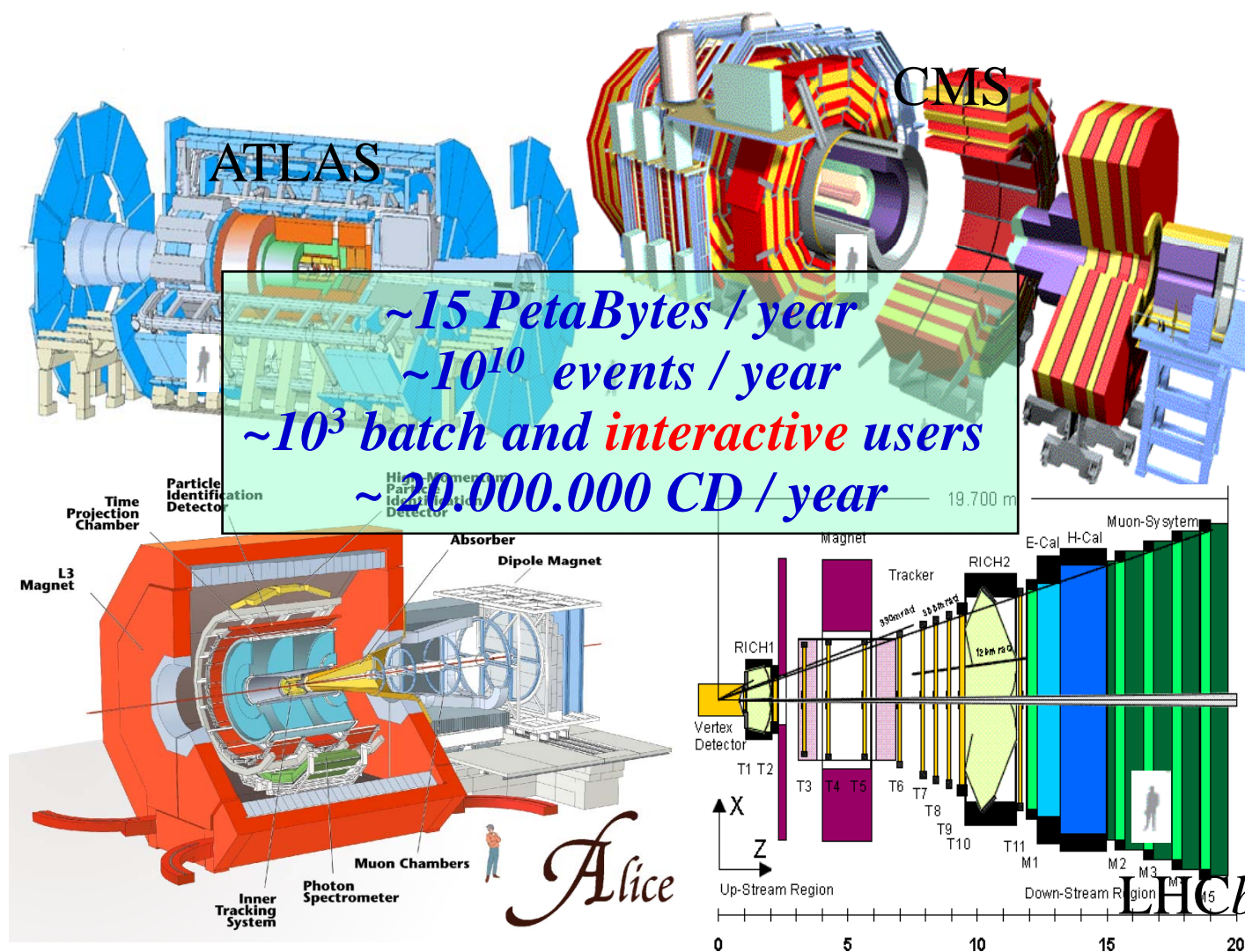
✓ *Like looking for 1 person in a thousand world populations!*

✓ *Or for a needle in 20 million haystacks!*

Amount of data from the LHC detectors

Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

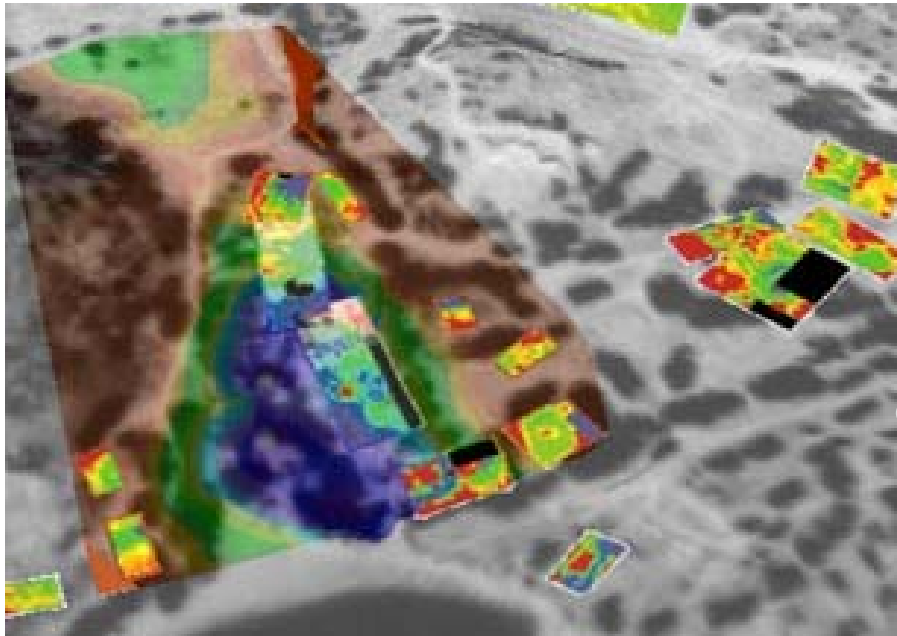
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LHC Computing Grid

- The LHC Computing Grid Project (LCG) was born to prepare the computing infrastructure for the simulation, processing and analysis of the data of the Large Hadron Collider (LHC) experiments.
- ⇒ The processing of the enormous amount of data, that will be generated, will require large computational and storage resources and the associated human resources for operation and support.
- ⇒ Preparation of a common infrastructure of
- ✓ libraries
 - ✓ tools
 - ✓ frameworks
- required to support the physics application software



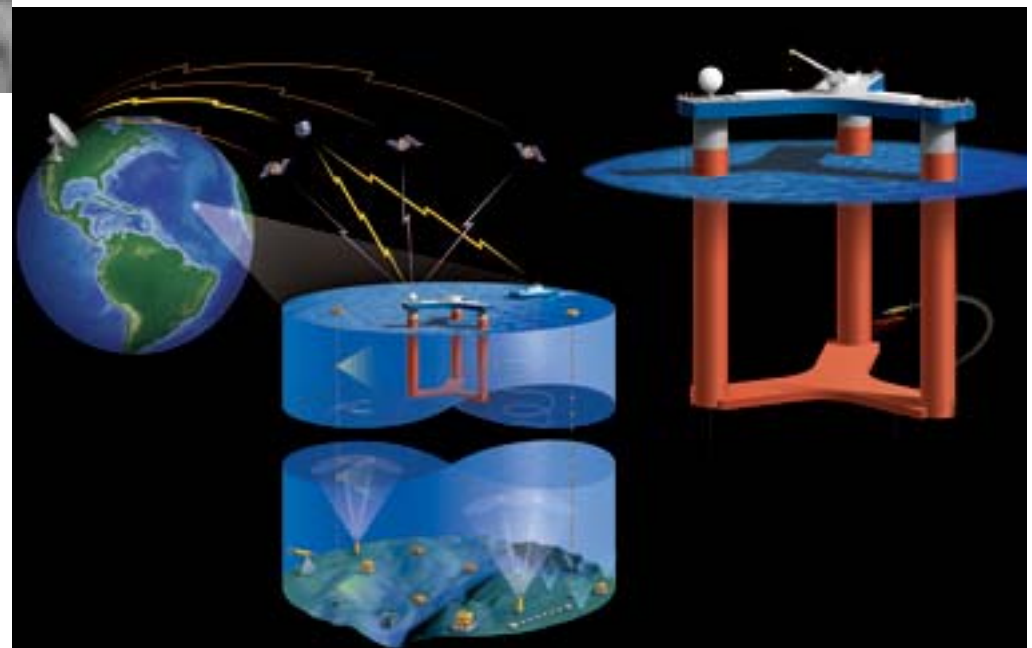


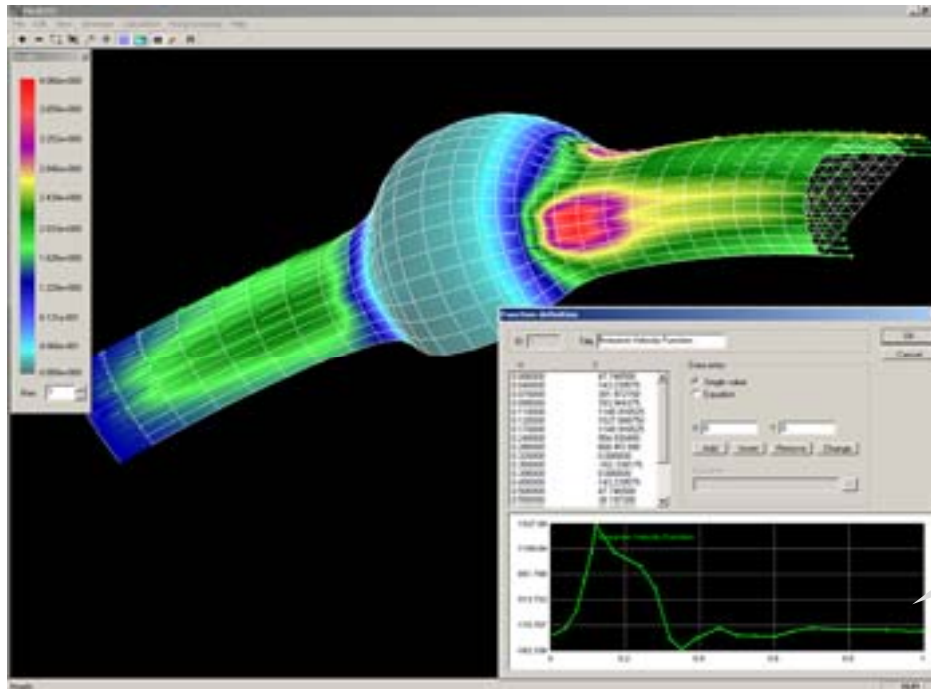
ArchaeoGrid

Create a computer model that weaves together data from many sources and predicts feedback interaction

LOOKING

Observe and analyze data streams in real time. A sensor grid with thousand of different sensors providing real time data and measurements from ocean-going researchers enabling an enormous data grid infrastructure.



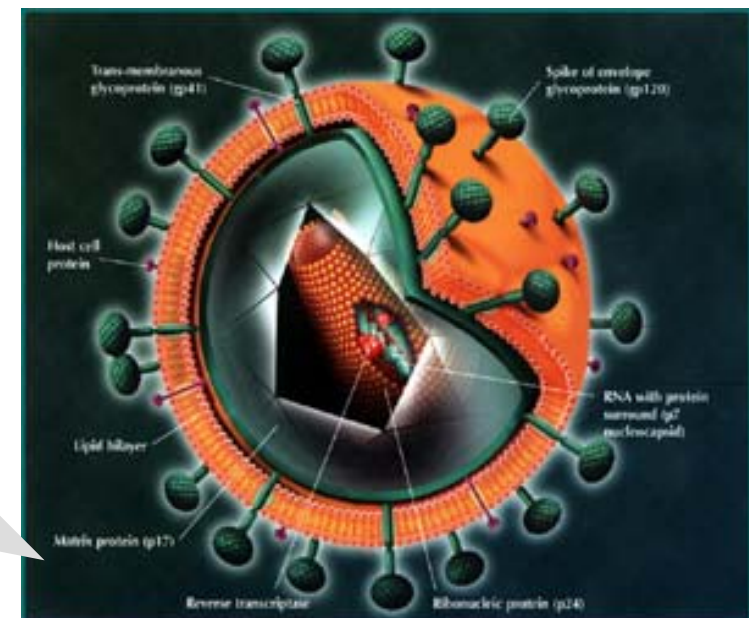


Parallel Blood Flow Simulation

Allows surgeons to perform virtual stent surgery until they get it just right. It combines parameters such as blood velocity and pressure with a series of medical images to automatically create a 3D computational model.

ViroLab

Aims to create a collaborative virtual laboratory for grid-based decision support for viral disease treatment. HIV treatment in the increasingly common case of HIV drug resistance is mainly studied. ViroLab “vertically” integrates biomedical information relating to viruses, patients and literature resulting in a rule-based decision support system for drug ranking.



Some examples

Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

05/05/2009

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All rights reserved.



Polar Grid

A planned project for an advance cyberinfrastructure, empowering smaller universities, and provide scientists with a gateway to teraflops of power: enough to drive new and improved high-performance simulations and enable measurement and prediction of ice sheet response to climate change and effect on ocean levels.



MoSES (Modelling and Simulation for e-Social Science)

Runs predictive models integrating real Census data, survey data, healthcare data of UK population. Determine the impact of different policy decisions and various social aspects like increasing life expectancy, immigration, aging population.

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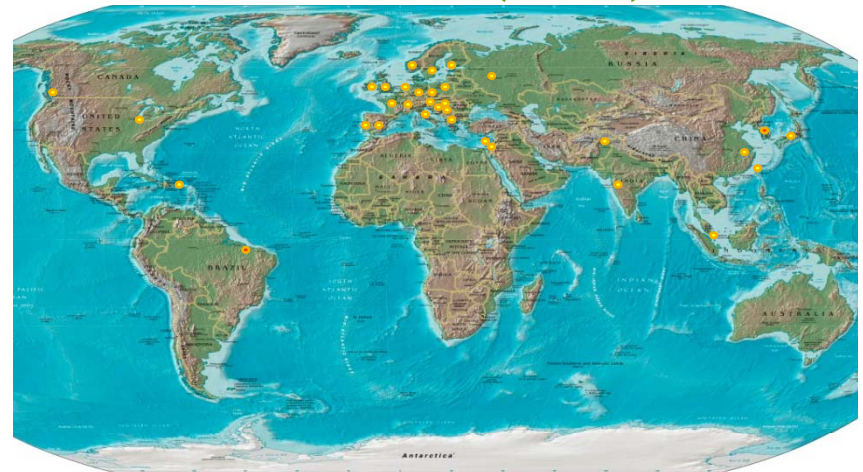
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Enabling Grid for E-scienceE (EGEE)

HellasGrid Taskforce

From EGEE to EGEE III

- EGEE objective:
“to establish a seamless European Grid infrastructure for the support of the European Research Area (ERA)”
- EGEE:
 - Accomplished all of its objectives
 - Scope expanded beyond Europe
- EGEE II:
 - Full capacity from day one
 - Large-scale, production-quality infrastructure
 - Supporting a wide range of applications
 - Staff with extensive knowledge of Grid technology



- EGEE-II aims to provide a production quality Grid infrastructure across the European Research Area and beyond.

⇒ EGEE-III started on 1 April 2008

⇒ Available infrastructure to the Research and Academic community 24 hours per day and 7 days per week

⇒ Participants:

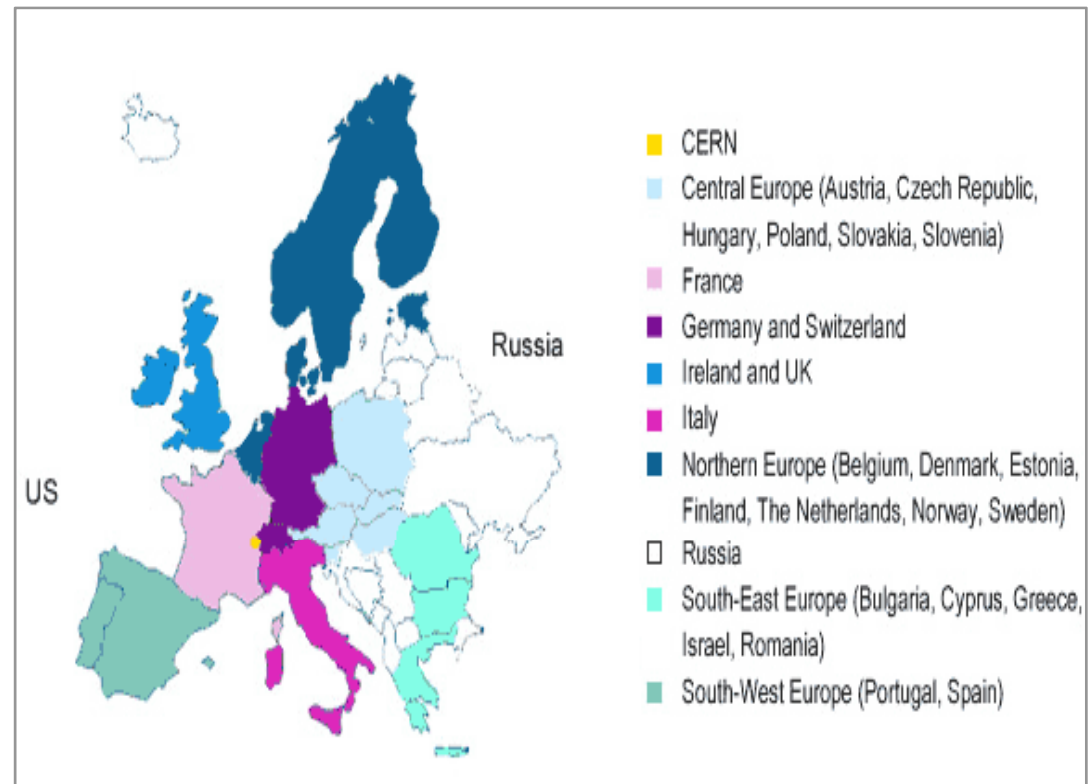
- ✓ 240+ institutions
- ✓ 45 countries

⇒ Consists of:

- ✓ 202 sites
- ✓ ≈41.000 CPUs
- ✓ ≈5 PB
- ✓ ≈ 200 VOs
- ✓ 100,000 concurrent jobs

EGEE Enabling Grids for E-Science

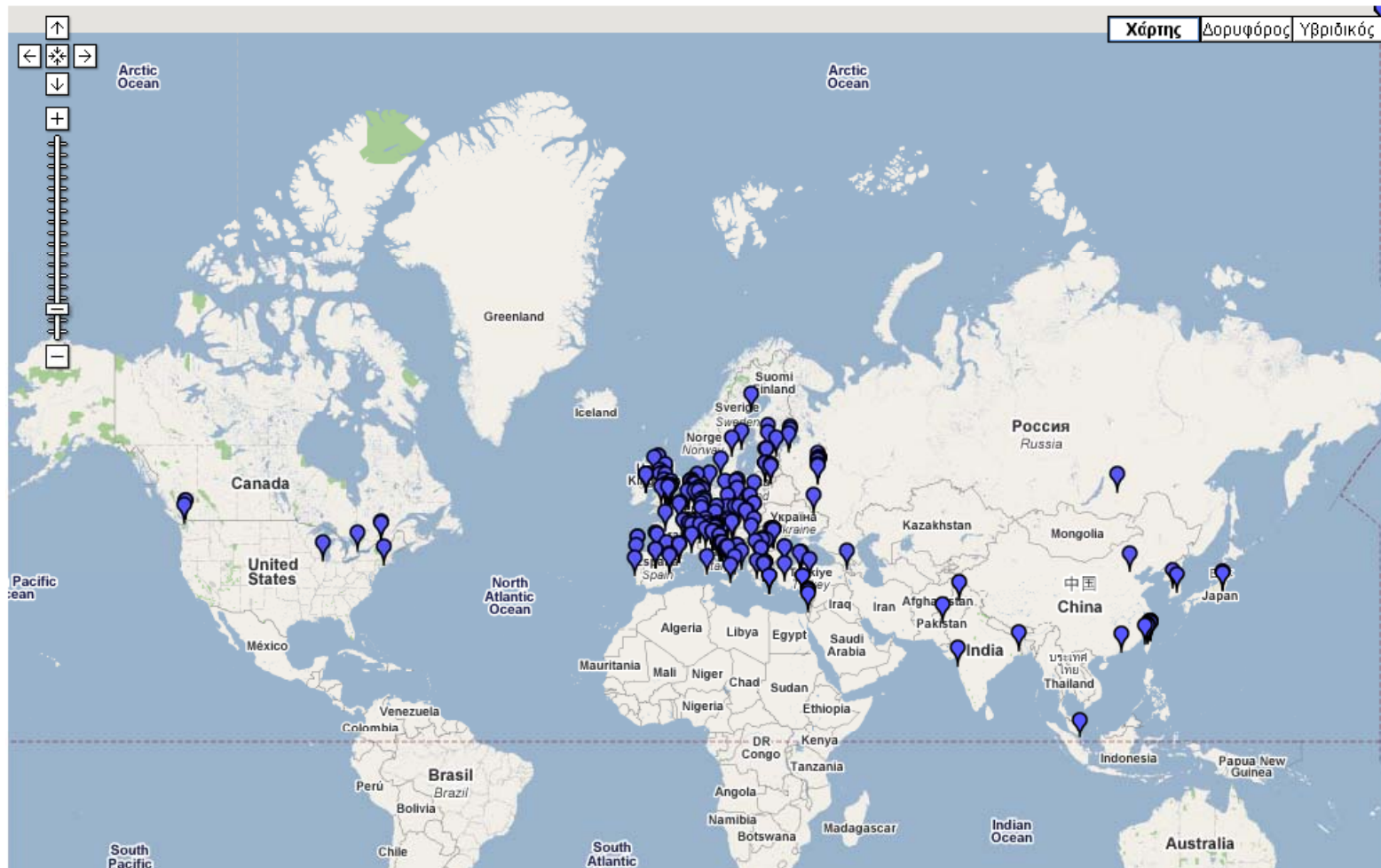
- <http://www.eu-egee.org/>



Infrastructure of EGEE

• Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

05/05/2009



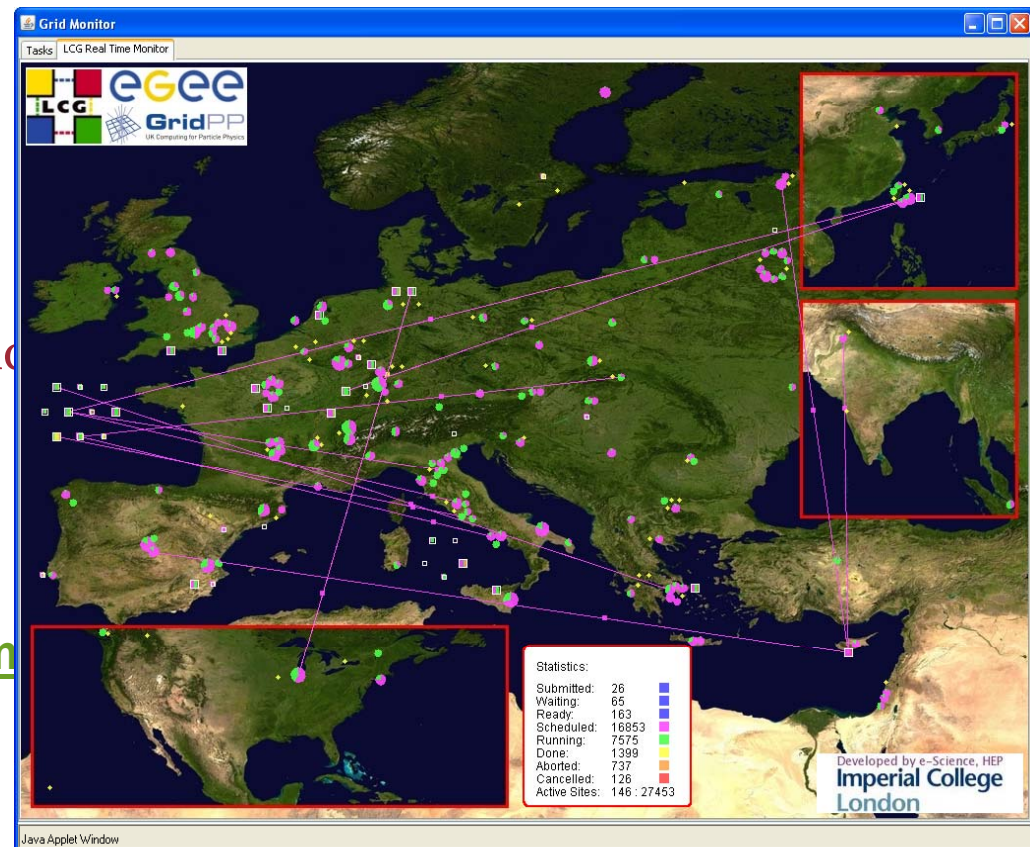
- Information about sites: <http://goc.grid.sinica.edu.tw/gstat/>

What is happening now?

Real Time Monitor

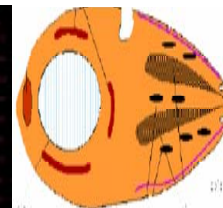
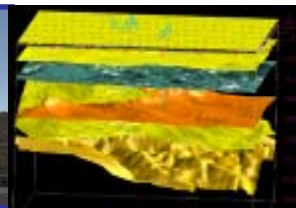
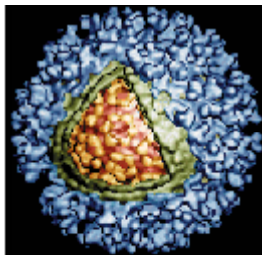
- Java tool
- Displays jobs running (submitted through RBs)
- Shows jobs moving around world map in real time, along with changes in status

• <http://gridportal.hep.ph.ic.ac.uk/rtm/>



EGEE Mission

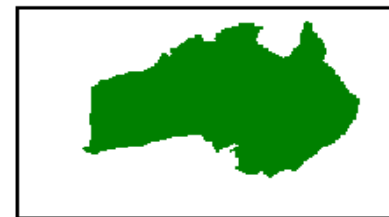
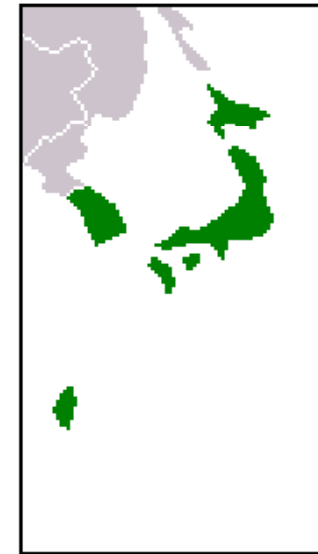
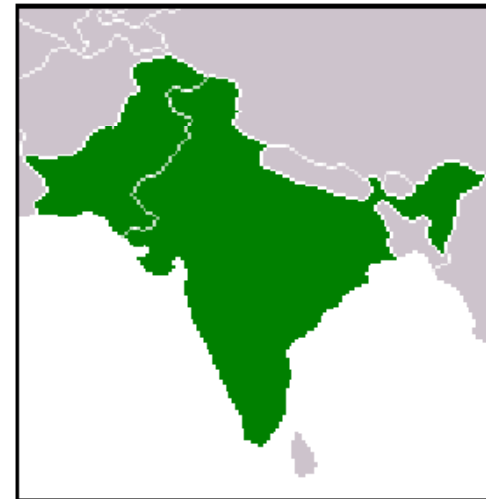
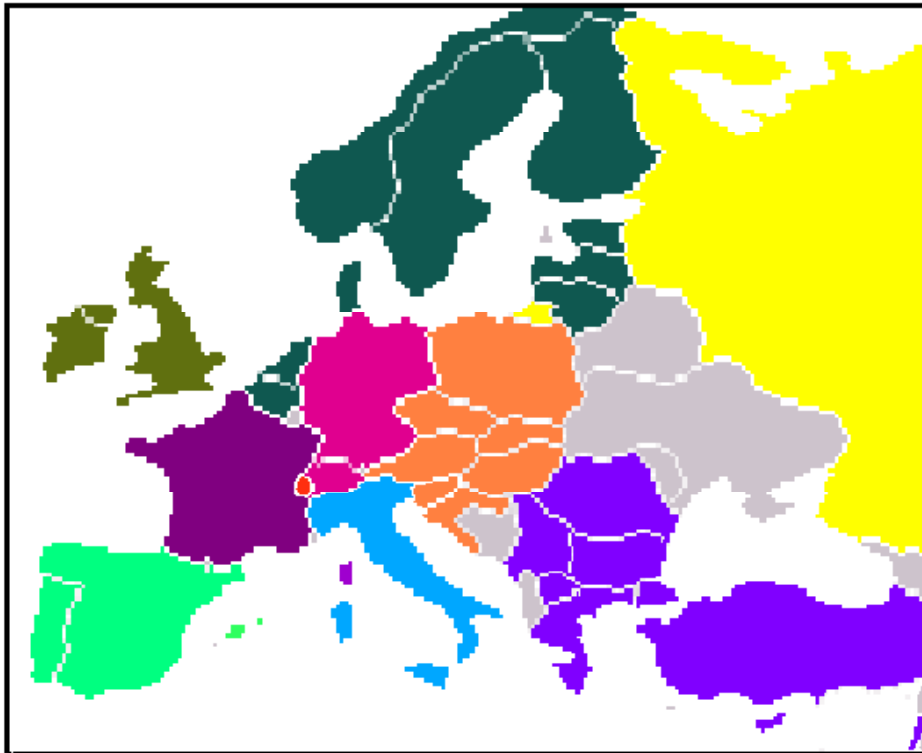
- ✓ Manage and operate production Grid infrastructure for the European Research Area
- ✓ Interoperate with e-Infrastructure projects around the globe (Open Standards-GGF) and Contribute to Grid standardisation efforts
- ✓ Incorporate new users from the industry and from the research community as well assuring the best possible training and support
- Support applications deployed from diverse scientific communities:
 - ✓ High Energy Physics
 - ✓ Earth Sciences
 - ✓ Computational Chemistry
 - ✓ **Fusion**
 - ✓ Biomedicine
 - ✓ Astrophysics
 - ✓ Finance, Multimedia
 - ✓ Geophysics
 - ...
- Prepare for a permanent/sustainable European Grid Infrastructure (in a GÉANT2-like manner)



Operations centres in EGEE

Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

05/05/2009



Regional Operations Centres (ROC)

- Front-line support for user and operations issues
- Provide local knowledge and adaptations
- One in each region – many distributed

User Support Centre (GGUS)

- In FZK: provide single point of contact (service desk), portal

• <https://gus.fzk.de/pages/home.php>

EGEE Infrastructures

- Production service
 - Scaling up the infrastructure with resource centres around the globe
 - Running only well-tested and reliable middleware
 - Separated into ~200 Virtual Organizations
- Pre-production service
 - Run in parallel with the production service (restricted number of sites)
 - First deployment of new versions of the gLite middleware
- T-Infrastructure (Training & Education) - GILDA
 - Complete suite of Grid elements
 - Everyone can register and use GILDA for training and testing

gLite

Lightweight Middleware for Grid Computing

- Part of the EGEE project
- Next generation middleware for grid computing
- In its development participate from different academic and industrial European centers
- *Provides services for computing element, data management, accounting, logging and bookkeeping, information and monitoring, service discovery, security, workload management*



EGEE Related Projects

• Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

05/05/2009

• <http://www.eu-egee.org/grid/more-projects>

The screenshot displays the EGEE website interface within a Mozilla Firefox browser window. The address bar shows the URL <http://www.eu-egee.org/grid/more-projects>. The website features a blue header with the EGEE logo and navigation links. A left sidebar contains a vertical menu with categories like 'EGEE & INDUSTRY', 'USERS AND EGEE', 'EGEE EVENTS', 'GRID INITIATIVES', and 'NEWSROOM'. The main content area is titled 'More Projects' and lists several initiatives under the heading 'EC Policy Initiatives' and 'Projects'. These include ESFR, e-IRG, ACGT, Akogrimo, @neurIST, AUGERACCESS, BIOPATTERN, Center for Enabling Distributed Petascale Science (CEDPS), CoreGRID, DataGrid, and DataMiningGrid. Each project entry provides a brief description and a link to more information. On the right side, there are sections for 'Latest News', 'Technical sites', 'Try the GRID', 'Become a User', and 'Related Projects'. The browser's taskbar at the bottom shows several open applications, including 'More Projects - Ena...', 'Adobe Reader', and 'Microsoft PowerPoint'.

More Projects — Enabling Grids for E-scienceE - Mozilla Firefox

Αρχείο Επεξεργασία Προβολή Ιστορικό Σελιδοδείκτες Εργαλεία Βοήθεια

http://www.eu-egee.org/grid/more-projects

Windows Media Windows Δωρεάν Hotmail Προσαρμογή συνδέσε...

egEE Enabling Grids for E-scienceE

Home - WORLDWIDE GRID > More Projects

Register as a Community Member Log-in EVENTS NEWS

EGEE OBJECTIVES | EGEE RESULTS | HOW DOES EGEE WORK | EGEE PARTNERS | COMMUNITY DISCUSSIONS | SEARCH COMMUNITY | FAQ

More Projects

EC Policy Initiatives

- **ESFR** The role of the European Strategy Forum on Research Infrastructures (ESFR) is to support a coherent approach to policy-making on research infrastructures in Europe, and to act as an incubator for international negotiations about concrete initiatives. ESFR prepared a European Roadmap for new research infrastructures of pan-European interest, download it [here](#)
- **e-IRG** The Infrastructure Reflection Group (e-IRG) Meeting coordinates on a high European level the introduction of a (grid based) infrastructure for e-Science. The main objective of the eIRG is to support on the political, advisory and monitoring level, the creation of a policy and administrative framework for the easy and cost-effective shared use of electronic resources in Europe (focusing on Grid-computing, data storage, and networking resources) across technological, administrative and national domains. Download [here](#) the e-IRG Report.

Projects

- **ACGT** project is developing a GRID platform to support and stimulate further exchanges of both clinic and genetic information, with a particular focus on breast cancer treatment. ACGT hopes to trigger the emergence of latent clinico-genomic synergies to ensure faster diagnosis more efficient therapy
- **Akogrimo** is aiming to radically advance the pervasiveness of Grid computing across Europe. To achieve this goal, in addition to embracing layers and technologies which are supposed to make up the so-called Next Generation Grids (e.g. knowledge-related and semantics-driven Web services), Akogrimo will architect and prototype a blueprint of an NGG which exploits and closely co-operates with evolving mobile Internet infrastructures based on IPv6.
- **@neurIST** will provide an IT infrastructure for the management, integration and processing of data associated with the diagnosis and treatment of cerebral aneurysm and subarachnoid haemorrhage.
- **AUGERACCESS** using Grid concepts aims to improve the real-time access capabilities of European research groups working with the data produced by the Pierre Auger Observatory in Argentina for measuring the flux of primary cosmic rays
- **BIOPATTERN** Network of Excellence is a groundbreaking project that integrates key elements of European research to enable Europe to become a world leader in eHealth. The Grand Vision is to develop a pan-European, coherent and intelligent analysis of a citizen's bioprofile; to make the analysis of this bioprofile remotely accessible to patients and clinicians; and to exploit bioprofile to combat major diseases such as cancer and brain diseases.
- **Center for Enabling Distributed Petascale Science (CEDPS)** will produce technical innovations designed to allow for (a) rapid and dependable data placement within a distributed high-performance environment and (b) the convenient construction of scalable science services that provide for the reliable and high-performance processing of computation and data analysis requests from many remote clients. CEDPS will also address the important problem of troubleshooting these and other related ultra-high-performance distributed activities from the perspective of both performance and functionality
- **CoreGRID** Network of Excellence (NoE) aims at strengthening and advancing scientific and technological excellence in the area of Grid and Peer-to-Peer technologies. To achieve this objective, the Network brings together a critical mass of well-established researchers (119 permanent researchers and 165 PhD students) from forty-two institutions who have constructed an ambitious joint programme of activities. This joint programme of activity is structured around six complementary research areas that have been selected on the basis of their strategic importance, their research challenges and the recognised European expertise to develop next generation Grid middleware.
- **DataGrid** was the predecessor to the EGEE project. It was one of the first projects that aimed to enable intensive computation and analysis of shared large-scale databases holding millions of gigabyte of data, across widely distributed scientific communities. It enabled next generation scientific exploration and data processing capabilities that we know today as The Grid.
- **DataMiningGrid** or 'The Data Mining Tools and Services for Grid Computing Environments' project is a shared cost Strategic Targeted Research Project (STREP) granted by the European

Discussion Forum egEE

ISGTW INTERNATIONAL SCIENCE GRID THIS WEEK

Latest News

A number of Training sessions and Workshops are being organised in conjunction to the EGEE User Forum in Clermont Ferrand. Five main groups of training and workshops are on the programme: Embrace, gLite, gEclipse, Health grids and OMIL-Europe. All of the training sessions and workshops will be starting on Thursday 14 February after the end of the User Forum and carry on the for rest of the day both at the Polydôme and at the Mercure hotel.

[Read more](#)

Technical sites

- [EGEE technical sites](#)
- [EGEE Training Site](#)
- [gLite Site](#)

Try the GRID

[Click here](#)

Become a User

Want to become a user of the EGEE Grid? [Click here](#)

Related Projects

If your project is related to EGEE, please register it [here](#)

http://www.ithanet.org/

zotero

έναρξη

More Projects — Ena... Adobe Reader - [Itha... Microsoft PowerPoint ...

EN 12:37 πμ

Ποιοι έχουν δικαίωμα πρόσβασης

- Γενικά όλη η Ελληνική επιστημονική και ερευνητική κοινότητα:
 - Πανεπιστήμια
 - Ανώτατα Τεχνολογικά Εκπαιδευτικά Ιδρύματα
 - Ερευνητικά Κέντρα και Ινστιτούτα
- EGEE Access Users Policy (AUP):
 - Δικαίωμα πρόσβασης στην υποδομή του Grid έχουν:
 - Η ακαδημαϊκή ερευνητική και εκπαιδευτική κοινότητα.
 - Οργανισμοί χρηματοδοτούμενοι από το δημόσιο, ινστιτούτα και ερευνητικά εργαστήρια τα οποία σχετίζονται με την έρευνα και την εκπαίδευση.
 - Άλλου τύπου οργανισμοί, όπως για παράδειγμα εμπορικές εταιρίες, οι οποίες συνεργάζονται στον τομέα της ακαδημαϊκής έρευνας και εκπαίδευσης με τους παραπάνω οργανισμούς.

Categories of users

- New experimental users: want to port their applications in the Grid environment
- New production users: execute their applications on the production testbeds
- Experienced production users: their applications run on production infrastructures for long time (e.g. High Energy Physics, Bio- Medical)



European Network - GÉANT 2



European Commission
Information Society
and Media



- “GÉANT2 is the seventh generation of pan-European research and education network, successor to the pan-European multi-gigabit research network GÉANT”

<http://www.geant2.net/>

- The project officially started on 1 September 2004 and will continue to take place for the next 4 years
- The project is supported by the European Committee and by 30 European National Research and Education Networks (NRENs) in 34 countries and is administrated by DANTE (*Delivery of Advanced Network Technology to Europe*).
- It provides services of high quality and readability in the European Education and Research community and connects all the National Research Networks of European Union, Centre and East Europe, Israel and Cyprus

GÉANT 2

- It provides:
 - Basic IPs services
 - Quality of service levels
- Two main services:
 - Routed (Internet) and switched (L1-L2)
- Backbone mixed:
 - Part of will be based on dark fiber
 - Part of it on leased services
- Greece interconnection:
 - 2 * 10Gbps lambdas

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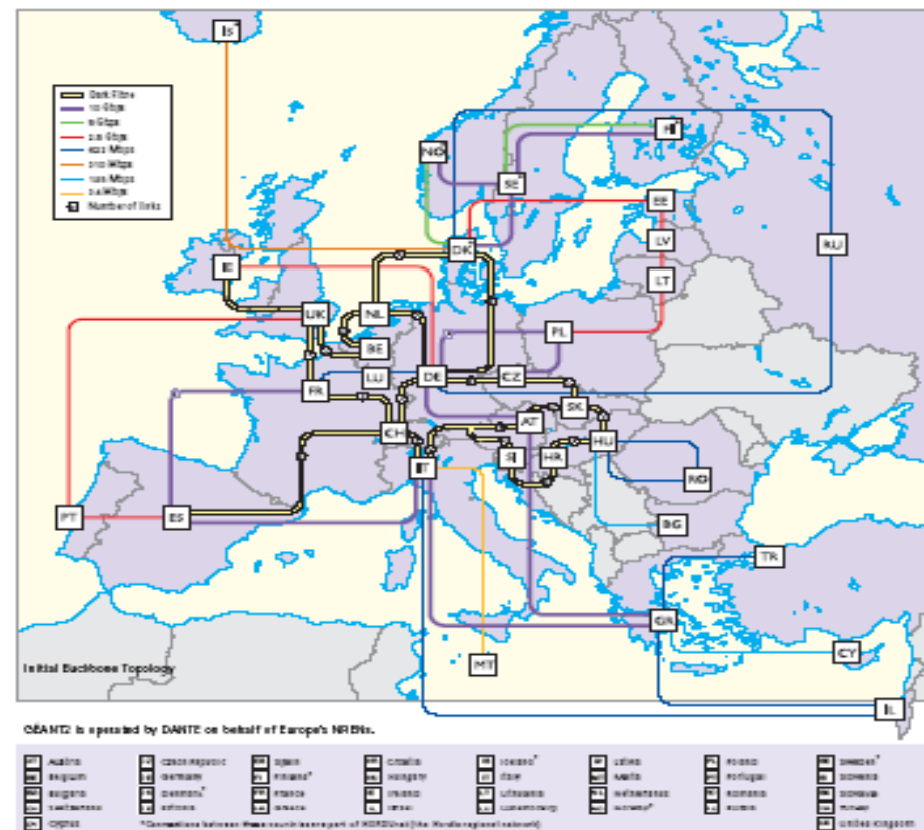
GEANT2
www.geant2.net

GÉANT2

The world-leading research and education network for Europe.

★ Connect ★ Communicate ★ Collaborate

DANTE
www.dante.net



GÉANT2 is co-funded by the European Commission within its 6th R&D Framework Programme.



Software packages for Grid systems

- Operating system:
 - Linux (+GNU utilities), usually a RHEL3-like, for example Scientific Linux, Fedora Core, etc
- Middleware:
 - gLite v3.x (LCG)
- Libraries and Applications
 - Defined by the system and VOs administrators' foresight
 - The user can install and execute its own programmes

VOs software

Each VO according to its needs installs experimental software:

- ATLAS: atlas software (a big collection, v12.2.0 etc)
- CMS: cmkin, cobra, famos, geometry, ignominy, orca, oscar
- ALICE: alien, alice, root, proof
- LHCb: dirac, boole, DC, decfiles, gauss, paramfiles
- BIOMED: gate, cdss, gps@, gromacs, simri3d, gptm3d
- ESR: (earth science specific... eg, idl package)
- The users can negotiate with their VOs for the installation of needed software

Infrastructure Sites

• Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
κόμβου GRID στο Πολυτεχνείο Κρήτης»

05/05/2009

<http://www.grid.auth.gr/pki/seegrid-ca/>

http://wiki.egee-see.org/index.php/SEE-GRID_Wiki

http://www.egee-see.org/User_documentation.php

• **EGEE Helpdesk:**

<https://helpdesk.egee-see.org/index2.php>

<https://voms.irb.hr:8443/edg-voms-admin/seegrid/index.html>

Contents

What is the Grid?

Grid paradigms

Enabling Grid for E-science (EGEE)

HellasGrid Taskforce

HellasGrid Infrastructure, Phase I & II

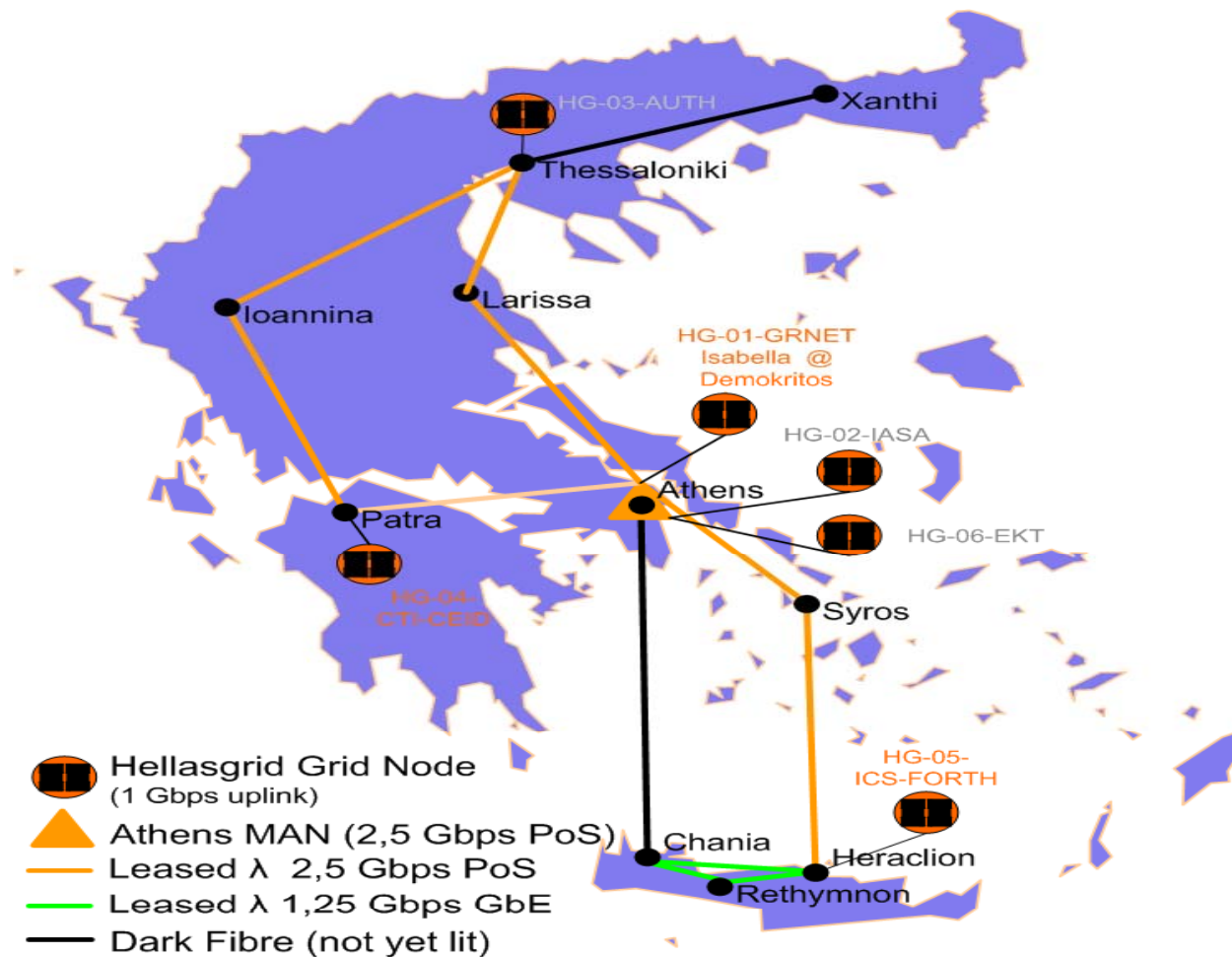
<http://www.hellasgrid.gr/>

- HellasGrid I
 - Located at N.C.S.R. Demokritos (a.k.a. Isabella)
 - 34 dual Intel **P4 Xeon @ 2.8GHz, 1GB RAM, 2x 70GB SCSI HDD, 2x Gbit**
 - IBM FASTT900 Storage Area Network
 - 2x Redundant Fiber Channel Controllers with 1Gbyte Cache each
 - 70x146.8GB= **10,276TB raw storage capability**, over 5 disk shelves
 - Tape Library ~30 TBytes, integrated monitoring
 - December 2004
- HellasGrid II
 - 5 sites: EKT (>220), ΙΕΣΕ (48), ΑΠΘ (128), ΙΤΕ (128), ΙΤΥ (128)
 - ~700 CPUs **x86_64, 2 GB RAM, 1x 80GB SATA HDD, 2x Gbit**
 - ~20 TBytes storage space in SAN (5x 4TBs)
 - ~50 TBytes Tape Library in National Documentation Center

HellasGrid e-Infrastructure

Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
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05/05/2009



HellasGrid structure

- Main site: HG-01-GRNET (Isabella, cslab@ICCS/NTUA)
- HG-02...HG-06 sites @ (NDC, IASA, AUTH, FORTH, CTI)
- Smaller sites (AUTH, UoM, FORTH, Demokritos, HEP-NTUA, IASA)

- HG CA and VOMS (AUTH):

<http://www.grid.auth.gr/pki/seegrid-ca/>

- Helpdesk (CTI):

user-support@hellasgrid.gr

- Regional monitoring tools (FORTH):

<http://hellasgrid-ui.ics.forth.gr/acctROC/>

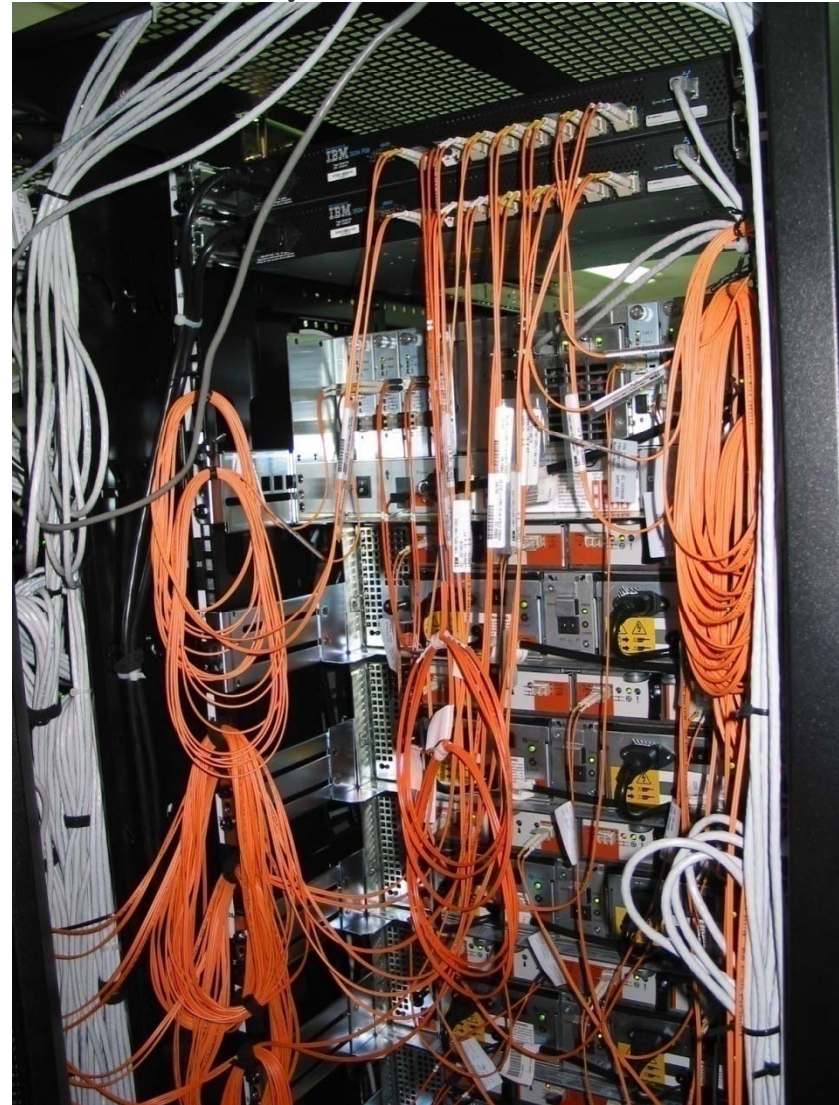
- Apps support (IASA):

application-support@hellasgrid.gr

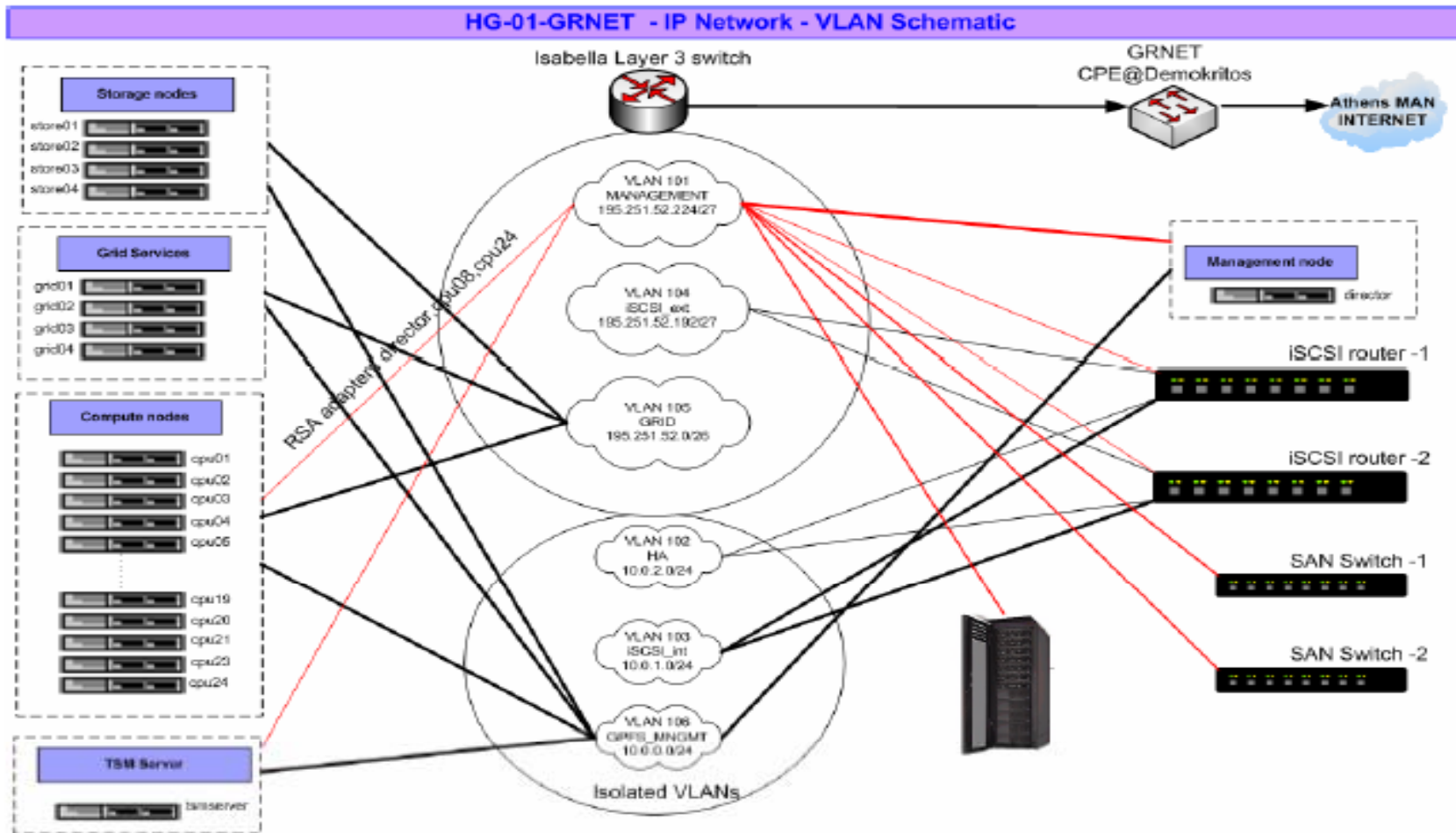
CSLab



HellasGrid I Infrastructure, Isabella

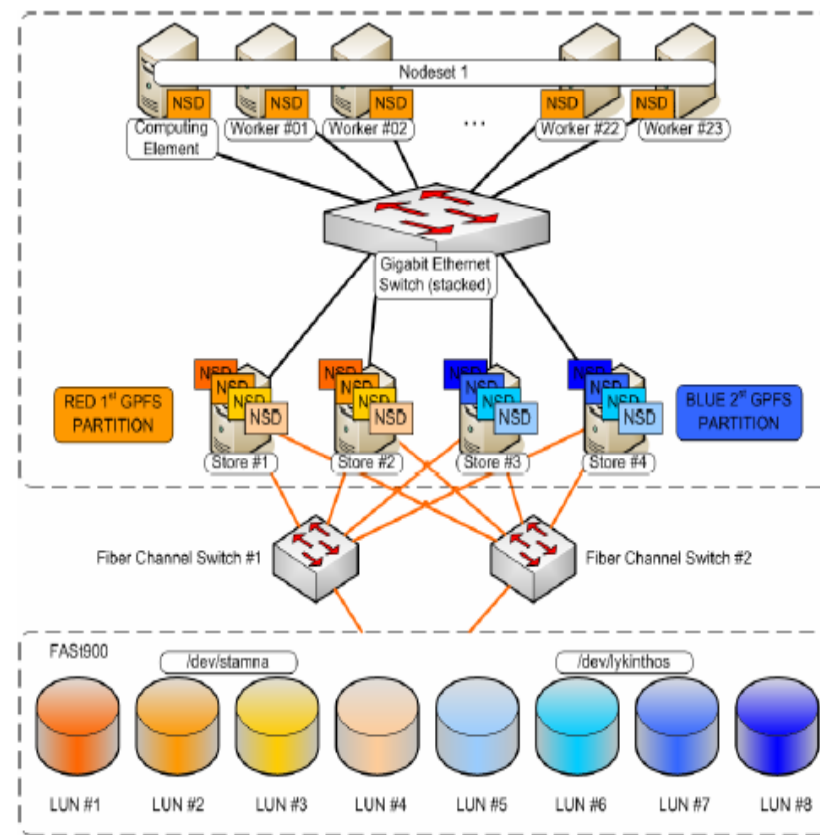


HellasGrid I, Isabella: Network



HellasGrid I, Isabella: Storage

- The first node of the Greek Grid Infrastructure, consisting a prototype for the next HellasGrid nodes
 - Remarkable and innovative organization of SAN and filesystems
- ⇒ Scientific Linux, gLite 3.x, LCG, MPICH, CODESA3D-1.0, VO-alice, VO-atlas, VO-biomed, VO-dteam, VO-cms, VO-esr, VO-lhcb, VO-see (octave), VO-seegrid, ...



Core Services (HG-01-GRNET)

- Core Services
 - Central LCG File Catalog (LFC) for the users of the VOs:
 - eumed, hgdemo, see
 - Workload Management System and Information Index (BDII) which can be accessed by the users of the VOs:
 - atlas, alice, lhcb, cms, dteam, sixt, biomed, esr, magic, compchem, see, planck, hgdemo, eumed
 - Catch-All User Interface for HellasGrid
 - Registration is handled through the Hellasgrid User-Support Team
 - UI services are offered by all HG sites
- Certification Services for new sites (SFTs)
 - <https://mon.isabella.grnet.gr/sft/lastreport.cgi> (Needs a valid HellasGrid Certificate)

HellasGrid II Infrastructure



Registration to HellasGrid

https://access.hellasgrid.gr/register/registration_form

Not Logged In

Final Beta

HellasGrid
National Grid Infrastructure

Εγγραφή νέων χρηστών > Φόρμα Εγγραφής Χρήστη

Διαδικασία
Καταχώρηση προσωπικών
στοιχείων
Αίτηση ψηφιακού
πιστοποιητικού
Αποστολή αιτήσεως

Επικοινωνία
GridAUTH Support

Εγγραφή νέου χρήστη

Όνομα

Ελληνικά

Αγγλικά

Επώνυμο

Ελληνικά

Αγγλικά

E-mail

Οργανισμός

Ανωτάτη Σχολή Καλών Τεχνών

Τηλέφωνο
εργασίας

Επιστημονικός
τομέας

Άλλο

Τμήμα

Ιδιότητα

Ερευνητής

Καταχώρηση

Υπάρχοντες Χρήστες

Αν στο παρελθόν είχατε
αποκτήσει ψηφιακό
πιστοποιητικό από την Α.Π.
HellasGrid CA το οποίο έχει πλέον
λήξει, συμπληρώστε στο πεδίο
που ακολουθεί το e-mail σας για
να προχωρήσετε στη διαδικασία
αίτησης καινούργιου ψηφιακού
πιστοποιητικού.

Αναζήτηση E-mail

Αναζήτηση

GridAUTH (HellasGrid User Registration)

ΕΥΡΩΠΑΪΚΗ ΕΝΩΣΗ





















ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΚΟΙΝΩΝΙΑ ΤΗΣ ΠΛΗΡΟΦΟΡΙΑΣ

HELLAS GRID

ΕΔΕΤ / GRNET
www.edet.gr

- 05/05/2009

[GridICE >> Site::ALL](#)

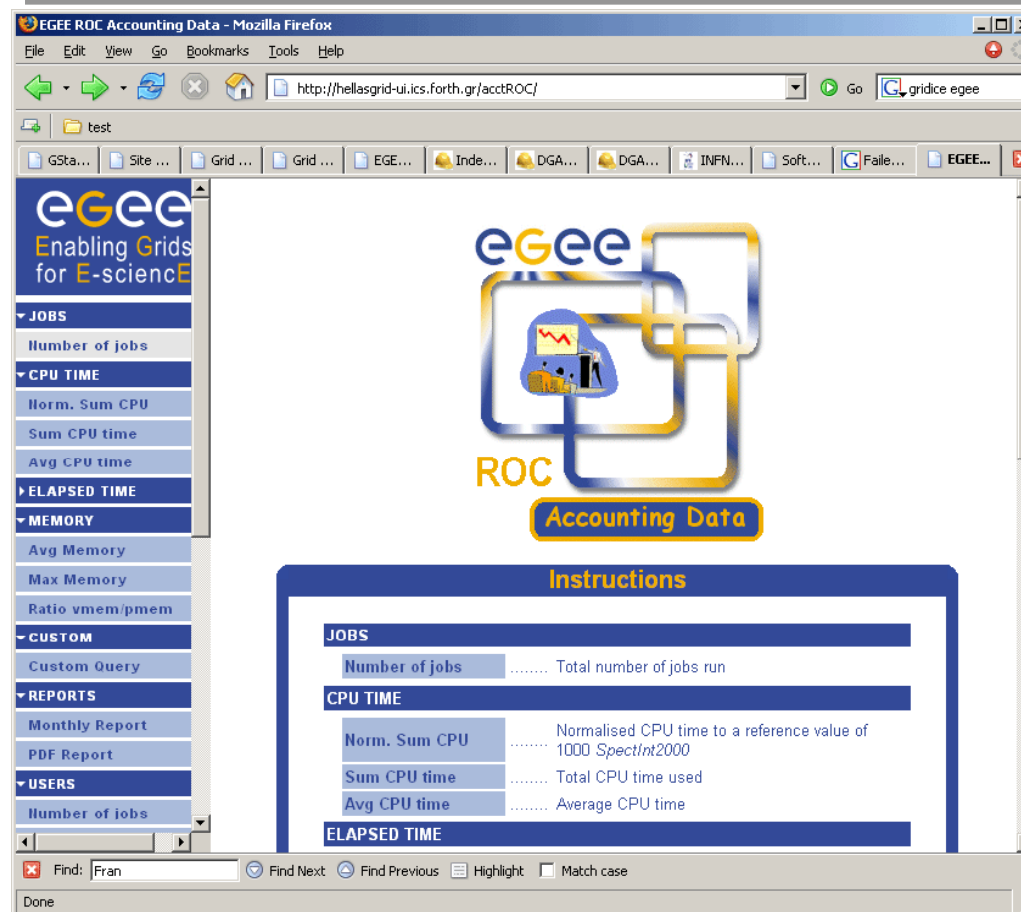
General		Gris	Host	Job	Charts	Network								
							Overview	Computing	Management					
							Computing Resources					Storage Resources		
Site ▼		Region	GK#	Q#	RunJob	WaitJob	JobLoad	Power	WN#	CPU#	CPUload	Available	Total	%
AEGIS01-PHY-SCL		SEE	1	8	90	396	<div><div>90%</div></div>	95K	25	101	<div><div>91%</div></div>	-	-	-
BG-INTRNE		SEE	-	-	-	-	<div><div>16%</div></div>	0	14	25	<div><div>17%</div></div>	-	-	-
BG01-IPP		SEE	2	22	12	954	<div><div>64%</div></div>	0	10	11	<div><div>61%</div></div>	916.2 GB	1 TB	<div><div>11%</div></div>
BG02-IM		SEE	1	6	2	22	<div><div>100%</div></div>	0	3	2	<div><div>100%</div></div>	15 GB	32.9 GB	<div><div>58%</div></div>
BG04-ACAD		SEE	1	12	54	241	<div><div>98%</div></div>	0	40	62	<div><div>96%</div></div>	24.8 GB	63.7 GB	<div><div>61%</div></div>
BG05-SUGrid		SEE	1	8	10	208	<div><div>69%</div></div>	0	5	16	<div><div>88%</div></div>	35.2 GB	83.5 GB	<div><div>58%</div></div>
CY-01-KIMON		SEE	1	10	37	11	<div><div>51%</div></div>	0	37	74	<div><div>44%</div></div>	-	-	-
GR-01-AUTH		SEE	1	12	10	341	<div><div>92%</div></div>	0	8	12	<div><div>75%</div></div>	165.2 GB	217.6 GB	<div><div>24%</div></div>
GR-03-HEPNTUA		SEE	-	-	-	-	<div><div>10%</div></div>	0	15	30	<div><div>7%</div></div>	-	-	-
GR-04-FORTH-ICS		SEE	1	10	2	429	<div><div>100%</div></div>	0	4	3	<div><div>100%</div></div>	-	-	-
GR-05-DEMOKRITOS		SEE	-	-	-	-	-	-	-	-	-	50.1 GB	67.7 GB	<div><div>26%</div></div>
GR-06-IASA		SEE	-	-	-	-	<div><div>20%</div></div>	0	10	20	<div><div>0%</div></div>	-	-	-
HG-01-GRNET		SEE	-	-	-	-	<div><div>100%</div></div>	0	23	64	<div><div>68%</div></div>	-	-	-
HG-02-IASA		SEE	-	-	-	-	<div><div>7%</div></div>	0	59	118	<div><div>9%</div></div>	-	-	-
HG-03-AUTH		SEE	1	16	92	463	<div><div>97%</div></div>	0	58	118	<div><div>90%</div></div>	2.5 TB	2.7 TB	<div><div>9%</div></div>
HG-04-CTI-CEID		SEE	1	15	113	71	<div><div>97%</div></div>	0	59	118	<div><div>100%</div></div>	2.3 TB	2.5 TB	<div><div>6%</div></div>
HG-05-FORTH		SEE	1	15	92	78	<div><div>92%</div></div>	0	59	118	<div><div>100%</div></div>	-	-	-
HG-06-EKT		SEE	1	17	225	280	<div><div>100%</div></div>	0	113	224	<div><div>100%</div></div>	-	-	-
HR-01-RBI		SEE	1	4	2	0	-	0	0	0	-	-	-	-
IL-BGU		SEE	1	2	0	8888	<div><div>0%</div></div>	0	5	5	<div><div>5%</div></div>	153.3 GB	154.9 GB	<div><div>1%</div></div>
LCG-IL-OU		SEE	-	-	-	-	<div><div>100%</div></div>	0	5	8	<div><div>100%</div></div>	-	-	-
MK-01-UKIM_II		SEE	1	5	9	197	-	-	-	-	-	-	-	-

Accounting statistics for the HellasGrid Infrastructure

Εκπαίδευση στο πλαίσιο του έργου «Εγκατάσταση
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05/05/2009

<http://hellasgrid-ui.ics.forth.gr/HG/>



Q&A



Thank you!

Αναφορές

- Grid café:
<http://gridcafe.web.cern.ch/gridcafe>
- Open Grid Forum:
<http://www.gridforum.org/>
- HellasGrid Task Force
<http://www.hellasgrid.gr/>
- EGEE (Enabling Grids for E-science)
<http://public.eu-egee.org/intro/>
- The Globus Alliance
<http://www.globus.org/>
- Worldwide LHC Computing Grid
<http://goc.grid.sinica.edu.tw/seegridwiki/>
- Grid Operations Centre
<http://goc.grid-support.ac.uk/gridsite/gocmain/>
- gLite UserGuide
<https://edms.cern.ch/file/722398//gLite-3-UserGuide.pdf>

Χρήσιμα web links

- EGEE
<http://www.eu-egee.org/>
- EGEE – South East Europe
<http://www.egee-see.org/>
- SEE-GRID
<http://www.see-grid.org/>
- Hellas Grid Task Force
<http://www.hellasgrid.gr/>
- GRNET
<http://www.grnet.gr/>
- gLite
<http://glite.web.cern.ch/glite/>
- SEE-GRID Wiki
<http://goc.grid.sinica.edu.tw/seegridwiki/>
- GOC Wiki
<http://goc.grid.sinica.edu.tw/gocwiki/>
- SEEREN₂
<http://www.seeren.org/>