Managed by

European Research Consortium for Informatics and Mathematics
ERCIM

CoreGRID: European Research Network on Foundations, Software Infrastructures and Applications for large scale distributed, GRID and Peer-to-Peer Technologies

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Information Society Technologies

CoreGRID objectives

- To build a European-wide research center
  - To avoid fragmentation of Grid research activities in Europe
  - Create the European “Grid Lighthouse” and be seen as such worldwide
  - To achieve integration and sustainability
- To build solid foundations for GRID and P2P technologies
  - Both on a methodological basis and a technological basis
  - Support medium and long term research activities
- Achieve and promote scientific and technological excellence within & beyond the Grid research community
- Gather and disseminate European research
- A think-tank for spin-off projects
  - EC funded, bilateral projects, international cooperations, …

CoreGRID Membership

42 partners from 18 Countries (1 from S. America)

CoreGRID researchers

- Sep 2004: 118 researchers
- Aug 2005: 145 researchers
- 7 researchers left the Network, 34 new ones were included

CoreGRID PhD students

- Sep 2004: 163 PhD students
- Aug 2005: 169 PhD students
- 22 left the Network, 28 new ones were included

Vision:

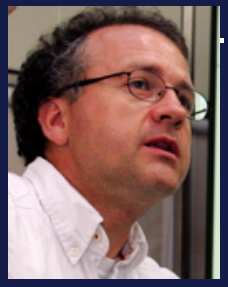
- Build a Virtual Research Center
  - on GRID and P2P systems
- A VRC consists of Virtual Research Institutes
  - on specific topics such as
  - Data management, Programming Models
  - Scheduling, Monitoring
  - Architecture, etc.
- A VRI consists of Virtual Research Labs
  - 2-10 researchers from different organizations
    - closely working on the same subject

Operating the Network

- Administrative & Financial Management
  - ERCIM

    - Bruno Le Dantec (Administrative & Financial Coordinator)
    - Celine Bitoune (Assistant to the AFC)

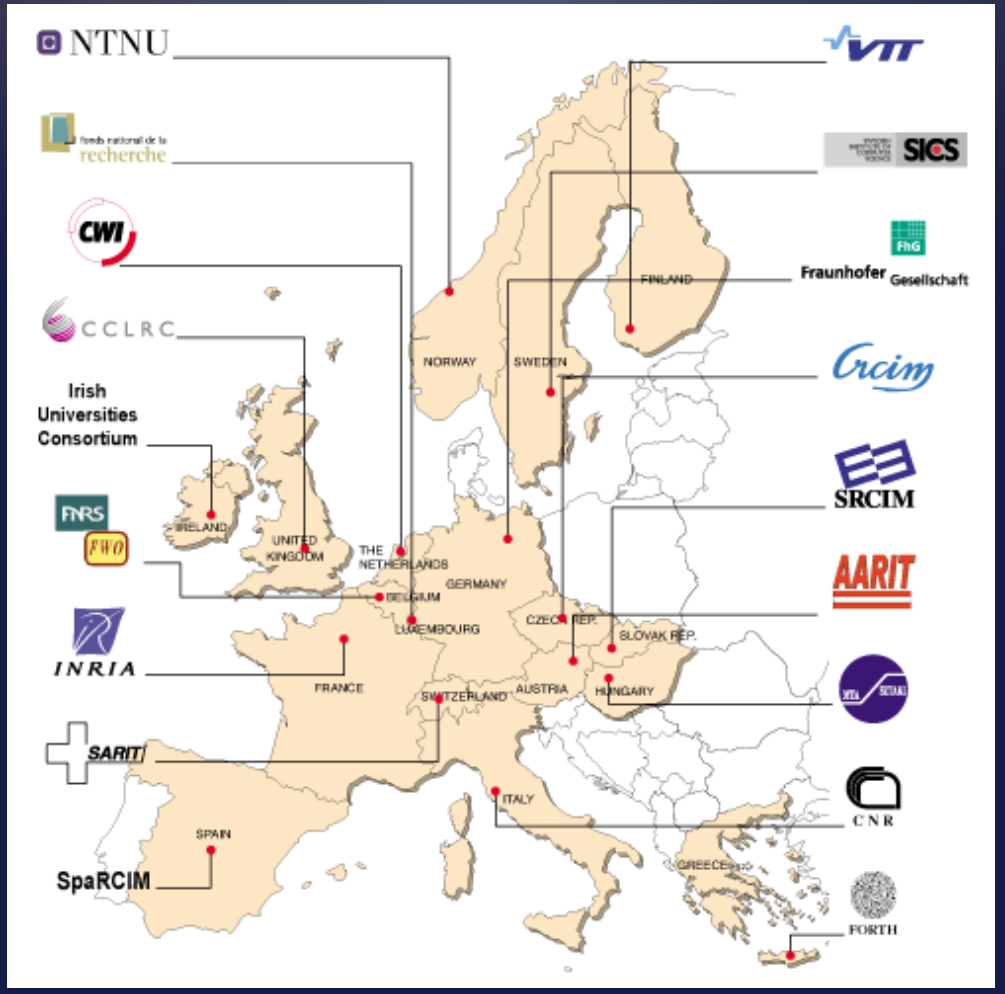
- Scientific & Technical Management
  - INRIA



    - Thierry Priol (Scientific Coordinator)
    - Päivi Palosaari (Assistant to the SCO)

A brief description of ERCIM

ERCIM is a consortium of leading research institutions from **18 European countries** committed to information technology and applied mathematics.



Organizational map

Scientific Advisory Board

Industrial Advisory Board

Specific Task Forces
- NPTF: New Participants

Members General Assembly

Chair: D. Laforenza (CNR-ISTI)

Integration Monitoring Committee

Chair: R. Perrott (U. Belfast)

Administrative & Financial Co-ordinator

Scientific Co-ordinator

Executive Committee

Head of the "Spreading Excellence"

Head of the "Integrated Activities"

Heads of CoreGRID Institutes

Head of the "Collaboration Gateway"

Scientific Advisory Board (SAB)

Objectives:

- Deliberate on science-related matters of the Network
- Annual external assessment of the scientific quality of the work
- Provide guidance to the strategic orientations
- Formulate recommendations to the Executive Committee
  - → on content, planning and execution of the Joint Programme of Activities

Three senior Network scientists and three external advisors + SCO

Internal members:

- Jarek Nabrzyzki (PSNC - Poland)
- Henri Bal (Vrije U. - The Netherlands)
- Uwe Schwiegelshohn (Dortmund U. - Germany)

External members:

- Dennis Gannon (Indiana U. - USA)
- Michel Cosnard (Nice U. - France)
- Sato Sekiguchi (AIST - Japan)

Industrial Advisory Board (IAB)

IAB has four primary objectives:

- To communicate to the Network European Industry's long-term Grid-related technology needs and challenges
- To provide the Network with Grid validation cases
- To help identify the market sector(s) to be addressed within the Grid User Community, in order to ensure a quick adoption of next generation Grid technologies within European industry
- To report to the Scientific Advisory Board its recommendation with respect to future strategic GRID-related research objectives

Industrial Advisory Board

First IAB meeting: June 15, 2005, at UPC, Barcelona

Report written by Monica Marinucci-Lopez, Oracle, CoreGRID IAB secretary

New Participant Task Force

- Set up end of the first year
  - No new participant for the first year
- Objectives
  - Set up procedures to integrate new participants
  - Interaction with the SAB, IAB, IMC and MGA
- Membership
  - D. Laforenza (MGA), B. Le Dantec (AFC), R. Perrot (IMC), T. Priol (SCO)

A set of well identified research challenges

Knowledge & Data Management

- Handling information/data that are required/produced by a wide range of diverse processing power

Programming Model

- Making the programming of Grid infrastructures as simple and transparent as possible

System Architecture

- Designing the next generation Grid middleware

Grid Information, Resource and Monitoring Services

- Scalable information service to implement a service view of the Grid

Resource Management & Scheduling

- Scheduling jobs/applications/tasks/computation within a Grid environment

Systems, Tools and Environments

- Integrating various middleware, tools and applications for problem solving

A Network operated as a European-wide Research Laboratory

Coordination approach for preparing joint research proposals

Goal: Provide assistance to the CoreGRID members in the preparation of international research proposals by:

- **Establishing a list of funding sources relevant to the NoE's activities**
- **Soliciting collaborative research (at least two countries involved);**
- **Evaluating the quality of the proposals prior to the submission (IMC).**

The CoreGRID private website provides access to information on:

- **Funding programmes at national and European level, including Marie Curie Actions & IST programme;**
- **Accepted proposals;**
- **Rejected proposals .**

url: http://www.coregrid.net/mambo/content/view/117/123/

CoreGRID Integration Workshop 2005

- Summarized the integration work of Year 1
- 28-30 November in Pisa
- 124 attendees: All partners, SAB and IAB.

- 50 reviewed presentations, incl. 46 cooperation papers:
  - 23 full (20 min)
  - 27 short (10 min)
- 179 authors
- 2 keynote speeches (SAB and IAB)
- 2 general discussions (Trust & Security, Panel)

- Preliminary Proceedings: both printed and electronic versions
- Selected papers → Book by Springer-Verlag (early 2006)

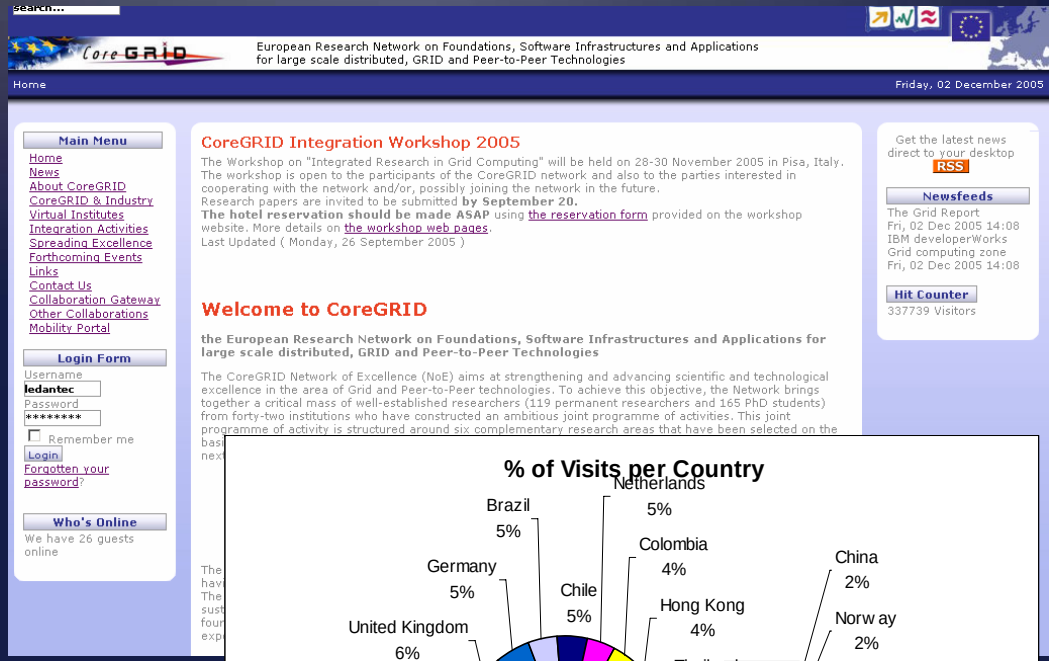
Durable mobility of researchers

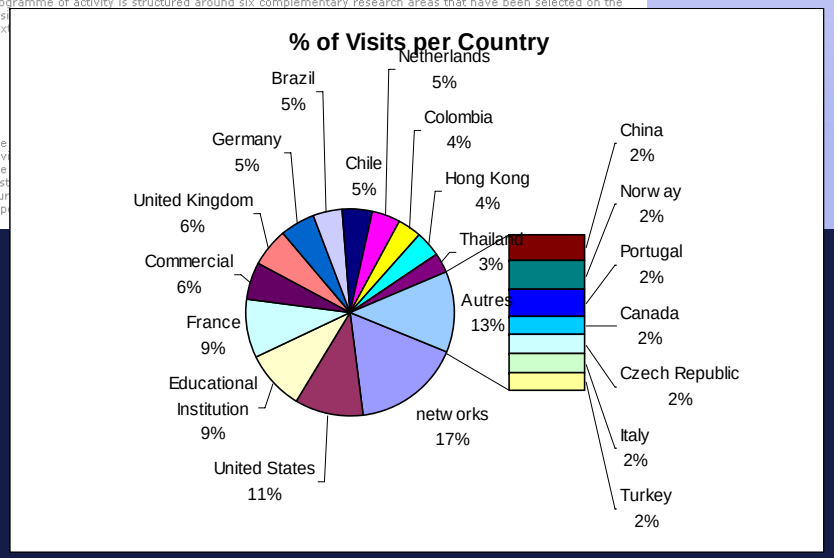
- Internal mobility is essential for integration and to ensure stronger co-operation among partners, promote career development and mobility
- 2 activities :
  - Fellowship Programme - Young researchers hosted by two institutes for two distinct periods ~ 600 k€
    - CALL 1, JANUARY 2005 (12 applications and 3 candidates selected)
    - CALL 2, MAY 2005 (28 applications and 4 candidates selected)
    - CALL 3, DECEMBER 2005 (5 positions offered)
  - Research Exchange Programme - Researcher or student from 1 member to another, two weeks to six months~ 480 k€

Public Website

www.coregrid.net

- Internal and External Communication
- Regularly updated
- Visitors counted since mid April 05
  - Apr 14: 90,508 visits
  - May 31: 123,000 visits
  - Aug 26: 227,701 visits
  - Dec 2: 337,631 visits
- Visibility: score of 8/10 in the Google PageRank

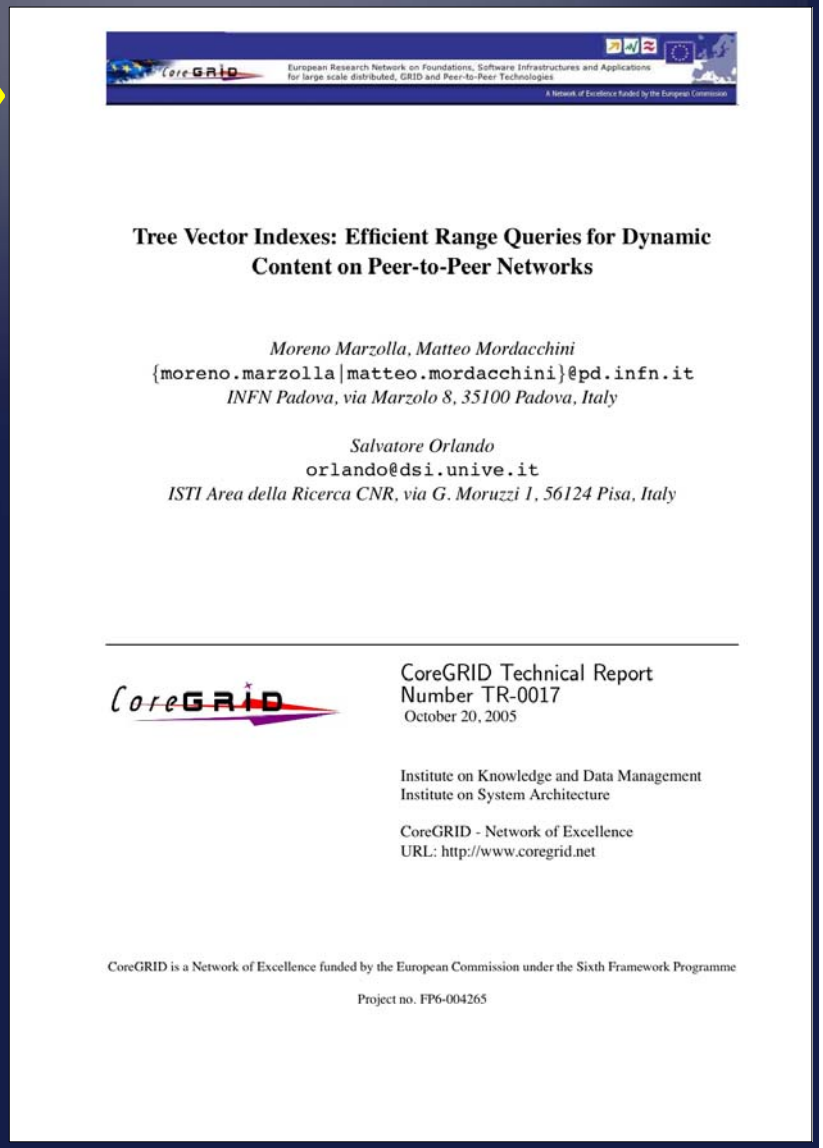




36% from non-european countries

« CoreGRID Publications »

- joint scientific publications
  - Authors from two or more labs
  - Tech Reports
  - Conferences
  - Journals



European Research Network on Foundations, Software Infrastructures and Applications for large scale distributed, GRID and Peer-to-Peer Technologies

A Network of Excellence funded by the European Commission

Tree Vector Indexes: Efficient Range Queries for Dynamic Content on Peer-to-Peer Networks

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CoreGRID Technical Report
Number TR-0017
October 20, 2005

Institute on Knowledge and Data Management
Institute on System Architecture

CoreGRID - Network of Excellence
URL: http://www.coregrid.net

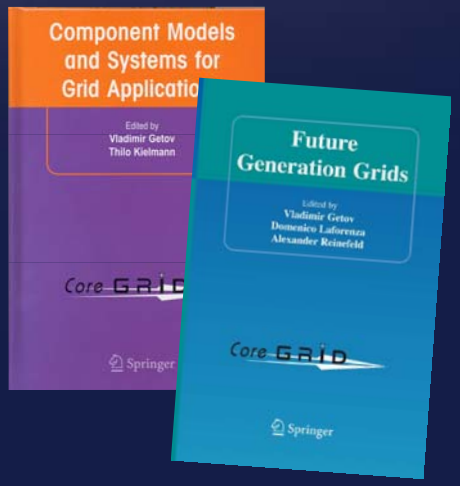
CoreGRID is a Network of Excellence funded by the European Commission under the Sixth Framework Programme

Project no. FP6-004265

CoreGRID Springer series

CoreGRID negotiated a series of books with Springer

1. **Vol 1: Component Models and Systems for Grid Applications (2005)**
2. **Vol 2: Future Generation Grids (2005)**
3. ***Vol 3: Proceedings on the 1st CoreGRID Workshop on Knowledge and Data Management in Grids (to appear)***
4. ***Vol 4: Proceedings on the CoreGRID Integration Workshop 2005 (to appear)***



Grid User Community & Newsletter

Grid User Community

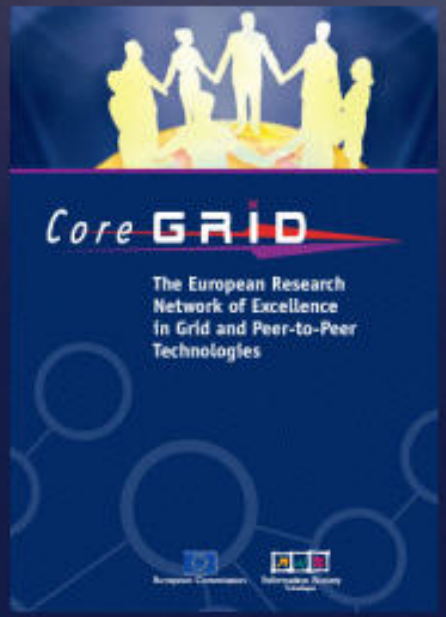
- Electronic mailing list
- Scientific – Industry – Public
- Expanded through other Newsletter mailing lists

Quarterly Newsletter

- Nr. 1: February 2005
- Nr. 2: May 2005
- Nr. 3: September 2005
- Nr. 4: January 2006
- Editorial board: *Anne Falier, Rosa Badia, Ron Perrott, Vladimir Getov, Thierry Priol, Domenico Laforenza and Per Brand*
- Sent to the GUC
- Infos relayed by other Newsletters

CoreGRID Brochure

- Electronic & Paper (4,000 copies)
- Set-up CoreGRID visual identity



Training & Education activities

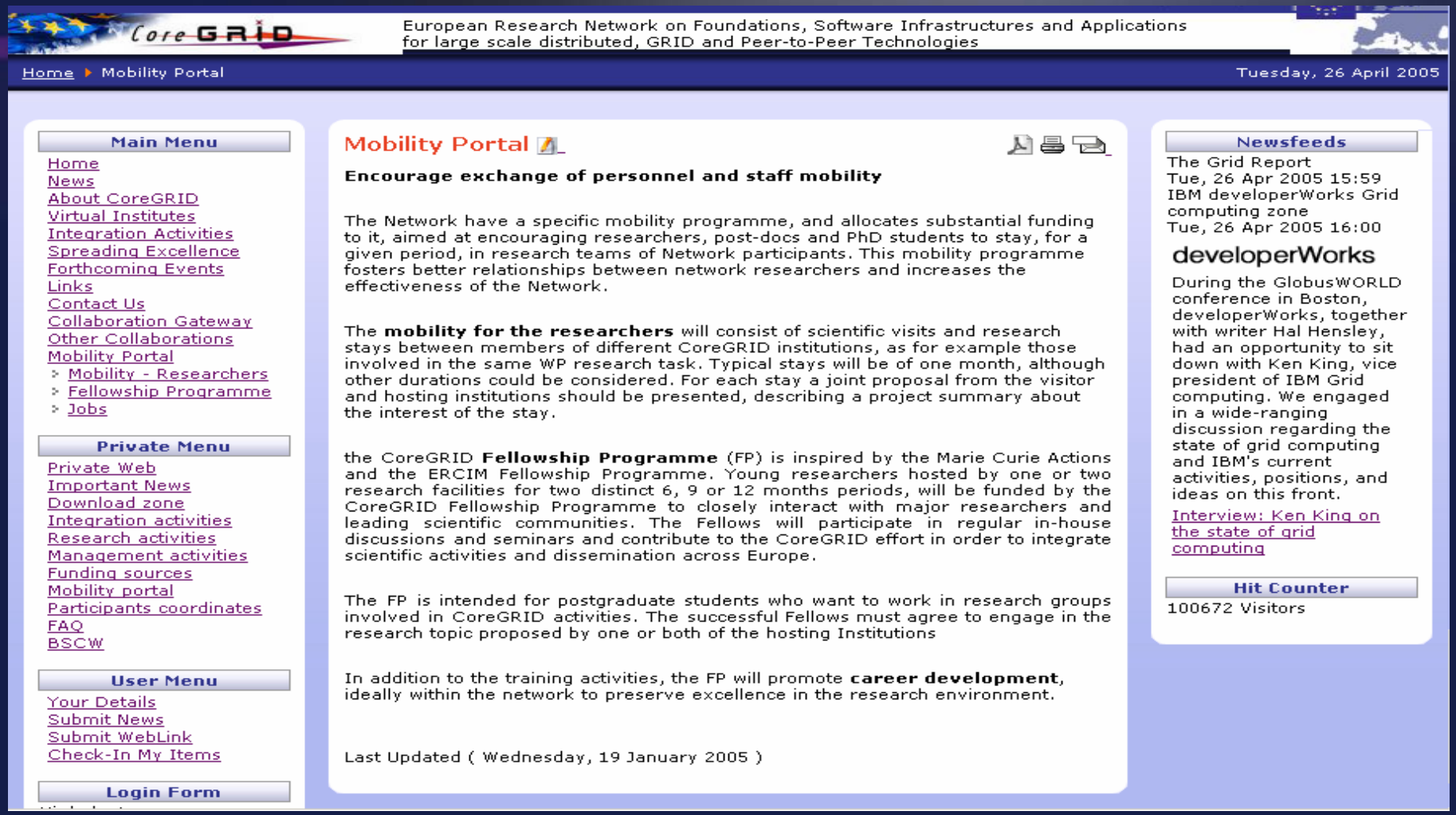
- Training and Education Website
- Annual CoreGRID Summer Schools
- In 2005 :
  - EPFL, Lausanne, Switzerland, 5-9 September
  - Targeted to young computer science PhD students
  - 40 participants (fully booked)

Conclusion

CoreGRID started in September 1st, 2004

- **A very active project that has completed successfully its first year**
- **Involvement of the main European Key players in Grid computing (both institutions and researchers)**
- **The only one Network of Excellence in Grid funded by the EU**

Back up Slides


CoreGRID
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Tuesday, 26 April 2005
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Management activities
Funding sources
Mobility portal
Participants coordinates
FAQ
BSCW
User Menu
Your Details
Submit News
Submit WebLink
Check-In My Items
Login Form
Mobility Portal
Encourage exchange of personnel and staff mobility
The Network have a specific mobility programme, and allocates substantial funding to it, aimed at encouraging researchers, post-docs and PhD students to stay, for a given period, in research teams of Network participants. This mobility programme fosters better relationships between network researchers and increases the effectiveness of the Network.
The mobility for the researchers will consist of scientific visits and research stays between members of different CoreGRID institutions, as for example those involved in the same WP research task. Typical stays will be of one month, although other durations could be considered. For each stay a joint proposal from the visitor and hosting institutions should be presented, describing a project summary about the interest of the stay.
the CoreGRID Fellowship Programme (FP) is inspired by the Marie Curie Actions and the ERCIM Fellowship Programme. Young researchers hosted by one or two research facilities for two distinct 6, 9 or 12 months periods, will be funded by the CoreGRID Fellowship Programme to closely interact with major researchers and leading scientific communities. The Fellows will participate in regular in-house discussions and seminars and contribute to the CoreGRID effort in order to integrate scientific activities and dissemination across Europe.
The FP is intended for postgraduate students who want to work in research groups involved in CoreGRID activities. The successful Fellows must agree to engage in the research topic proposed by one or both of the hosting Institutions
In addition to the training activities, the FP will promote career development, ideally within the network to preserve excellence in the research environment.
Last Updated (Wednesday, 19 January 2005)
Newsfeeds
The Grid Report
Tue, 26 Apr 2005 15:59
IBM developerWorks Grid computing zone
Tue, 26 Apr 2005 16:00
developerWorks
During the GlobusWORLD conference in Boston, developerWorks, together with writer Hal Hensley, had an opportunity to sit down with Ken King, vice president of IBM Grid computing. We engaged in a wide-ranging discussion regarding the state of grid computing and IBM's current activities, positions, and ideas on this front.
Interview: Ken King on the state of grid computing
Hit Counter
100672 Visitors

Testbed Activities

- Objective: giving support by collecting and providing to the NoE:
  - experience made in existing CoreGRID testbeds,
  - information about testbeds in European and national Grid projects,
  - general best practice information with respect to operating Grids,
  - frequent problems and possible solutions.
- We give support for facilitating the access to testbeds by mediating between CoreGRID Grid testbed providers and other CoreGRID partners needing access to a testbed
- We do not create a common, unique CoreGRID testbed, e.g.
  - based on a common middleware,
  - with a common security approach,
  - with a network infrastructure based on VPNs,

Activities on Trust & Security

- A horizontal integration activity across the NoE, with the following objectives :
  - Provide survey material summarising work on trust and security carried out outside CoreGRID
  - Conduct a critical analysis of the requirements of each CoreGRID research WP from a trust and security perspective
  - Establish a Web portal on Trust & Security, as a communication forum on these issues
  - Liaise with standardisation organisations (GGF, W3C, IETF, OASIS) and other Grid projects

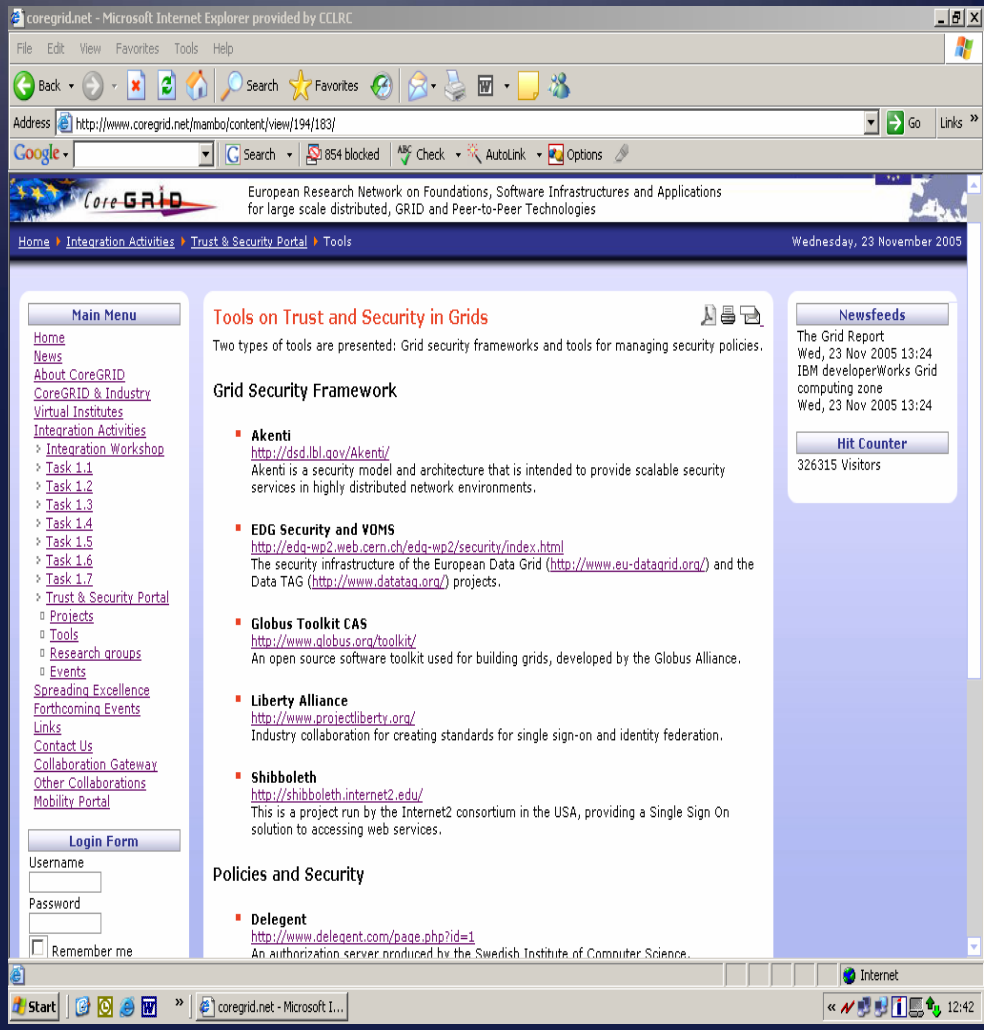
Web Portal on Trust and Security

- Serving as a communication forum on Trust & Security for the Grid community

  http://www.coregrid.net/mambo/content/view/192/181/

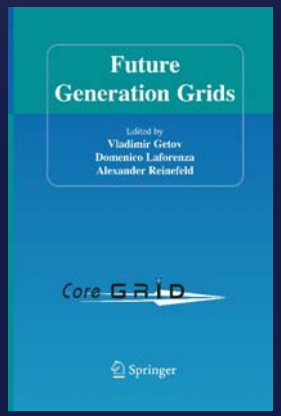
- Includes information about
  - Projects
  - Tools
  - Research groups
  - Events related to the area

- Will be updated regularly



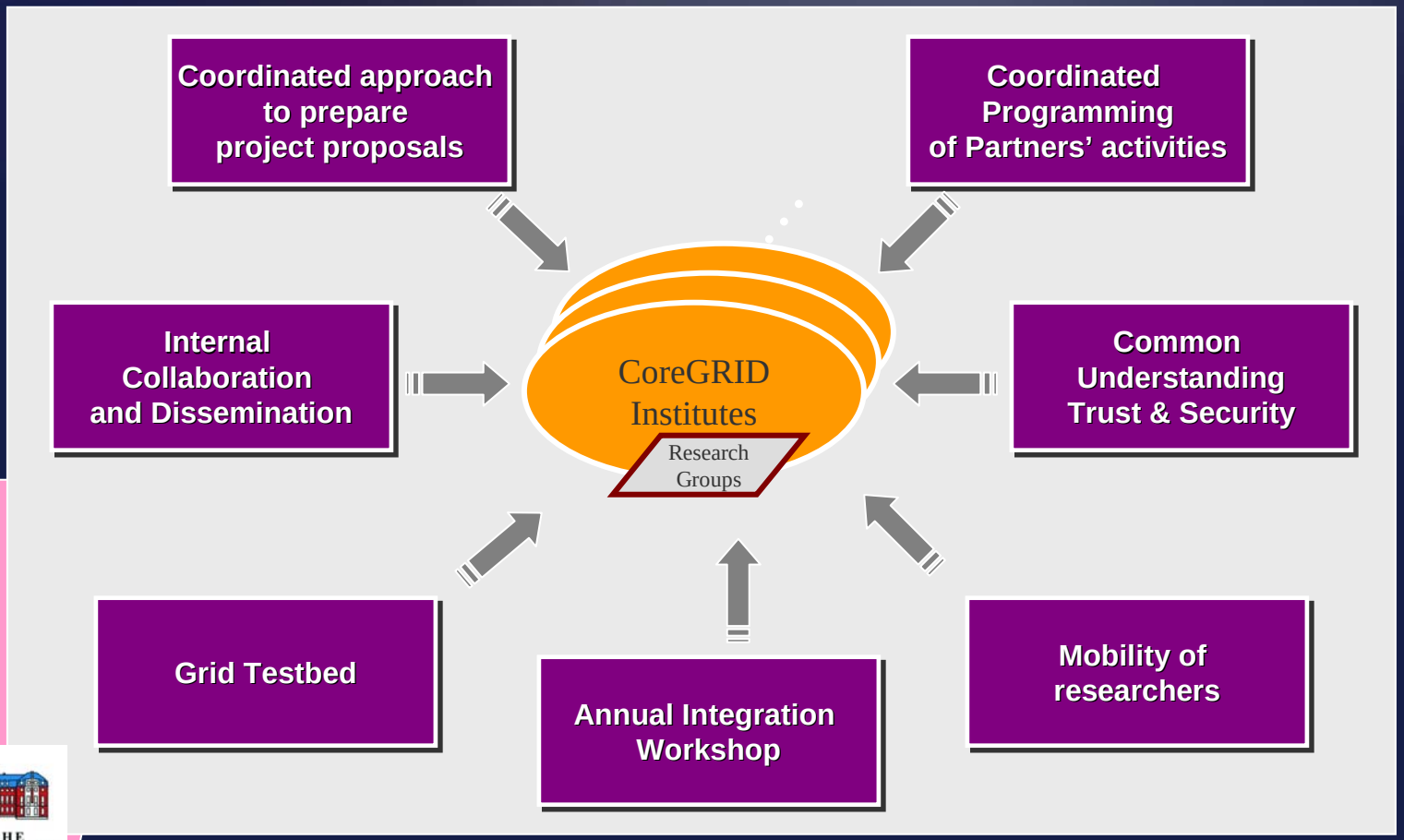
CoreGRID Integration Workshop

- **Annual workshop to discuss . . .**
  - **possible overlappings and synergies between partners within every Institute, and between Institutes,**
  - **interdisciplinary topics within the NoE,**
  - **future collaboration activities.**



- **Workshop schedule**
  - **Workshop 2004**: Future Generation Grids
    - 1.-5.November 2004, Dagstuhl/Germany
    - 45 invited participants, about 40 from CoreGRID
    - Selected papers after reviewing --> second book in the CoreGRID Series by Springer-Verlag
  - **Workshop 2005**: To present and discuss the results of integration in Year 1 (held 28-30.11.05 in Pisa)
  - **Workshop 2006**: planned for October 2006

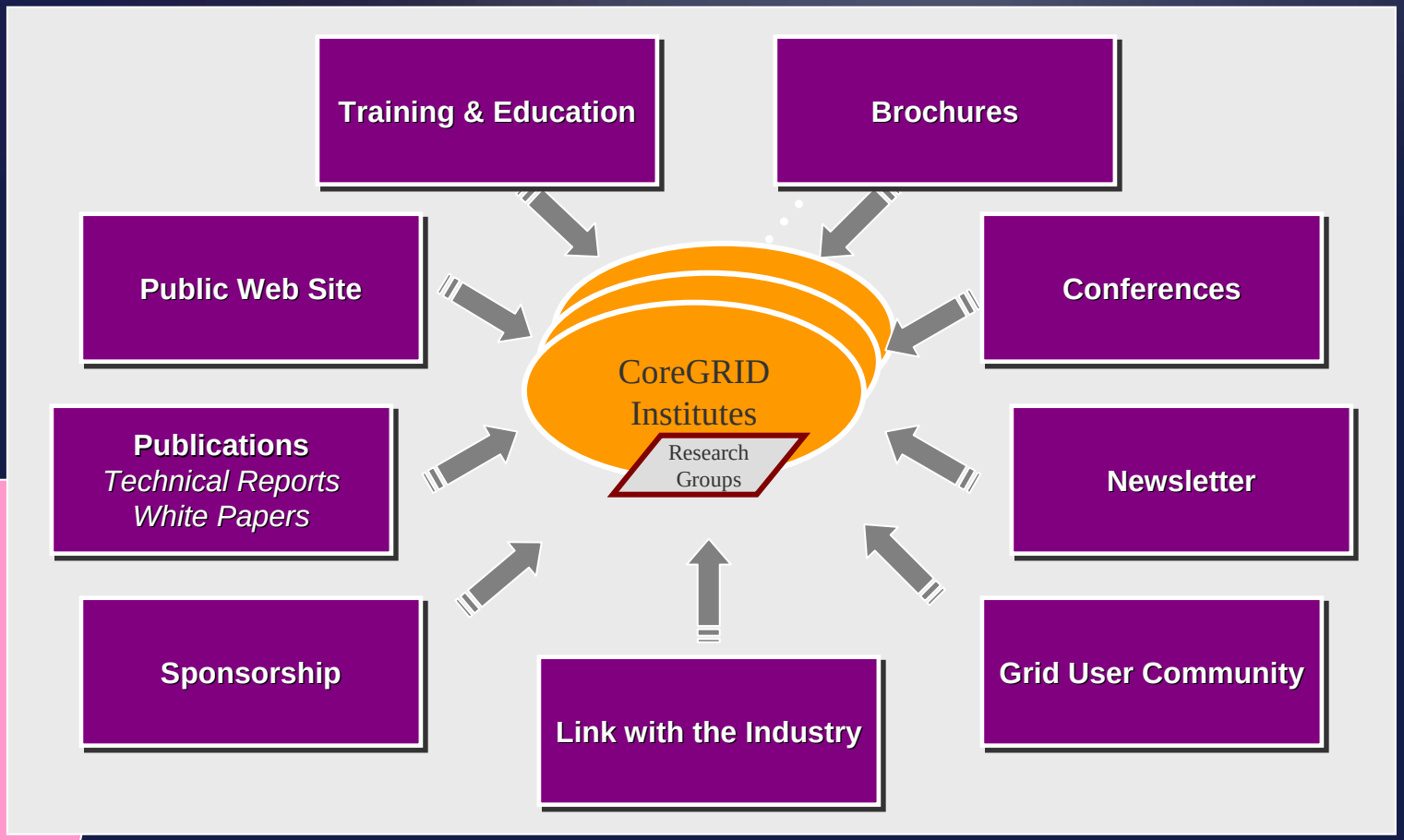
A set of services to foster Integration



Sergei Gorlatch

WESTFÄLISCHE WILHELMS-UNIVERSITÄT MÜNSTER

A set of Services to Spread Excellence



Pierre Guisset

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