

Lessons learnt from the EGEE Application Porting Support activity

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- **Application Porting Support in EGEE**
 - Concept, services
 - Main achievements
- **Lessons learnt**
- **The future – application porting support in EGI**

- **MTA SZTAKI, Budapest**
 - Grid Application Support Center (GASuC)
 - <http://www.lpds.sztaki.hu/gasuc>
- **UCM, Madrid**
 - Distributed Systems Architecture Research Group
 - <http://asds.dacya.ucm.es/doku.php?id=start>
- **INFN, Catania**
 - GILDA Team
 - <https://gilda.ct.infn.it/>
- **ASGC, Taipei**
 - Academia Sinica Grid Computing
 - <http://grid.sinica.edu.tw/>
- **CEA, Paris**
 - Laboratoire d'informatique système
- **CSIC, Santander**
 - Institute of Physics of Cantabria
 - <http://grid.ifca.es/>
- **University of Melbourne, Melbourne**
 - Academia Sinica Grid Computing
 - <http://grid.sinica.edu.tw/>

- **Consultancy and porting**

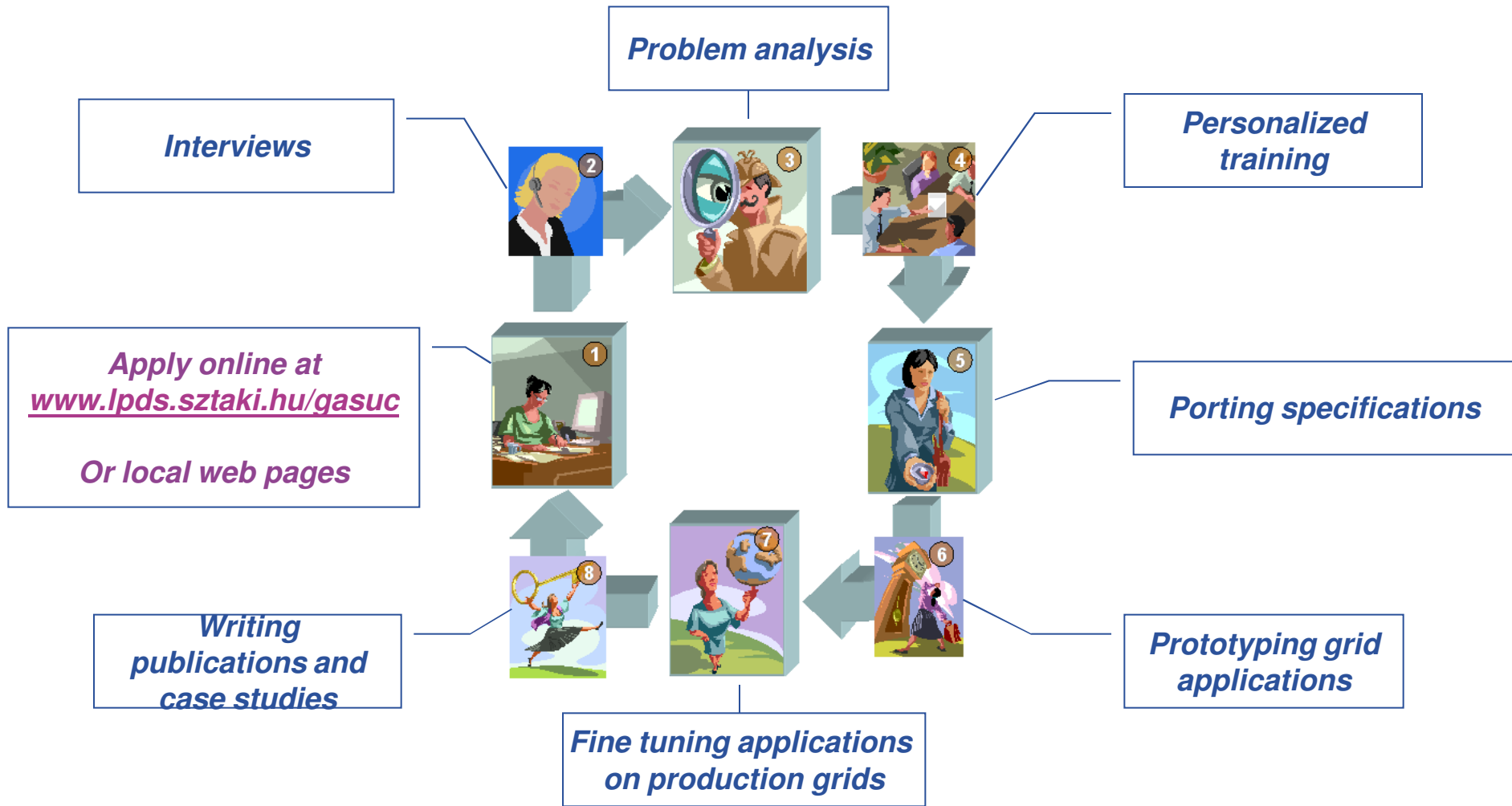
- ~60% of total effort

***31 applications
ported in 21
months***

- **Training**

- **Infrastructure services for porting**

- **Public relations**



Visit porting centre to make the cycle more effective!

GASuC

Grid Application Support Centre

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NEWS

9/Apr/2010 A new application is under porting development to the EGEE Grid by the porting team of Netherlands with the support of SZTAKI. The dutch team is porting the Developing bioinformatics tools for processing and statistical analysis of LC-MS data obtained for biomarker discovery from the Life Sciences domain to EGEE, the world largest computational grid. To read the details of the current porting projects and for additional applications under development please visit the "Current applications" section of our webpage.

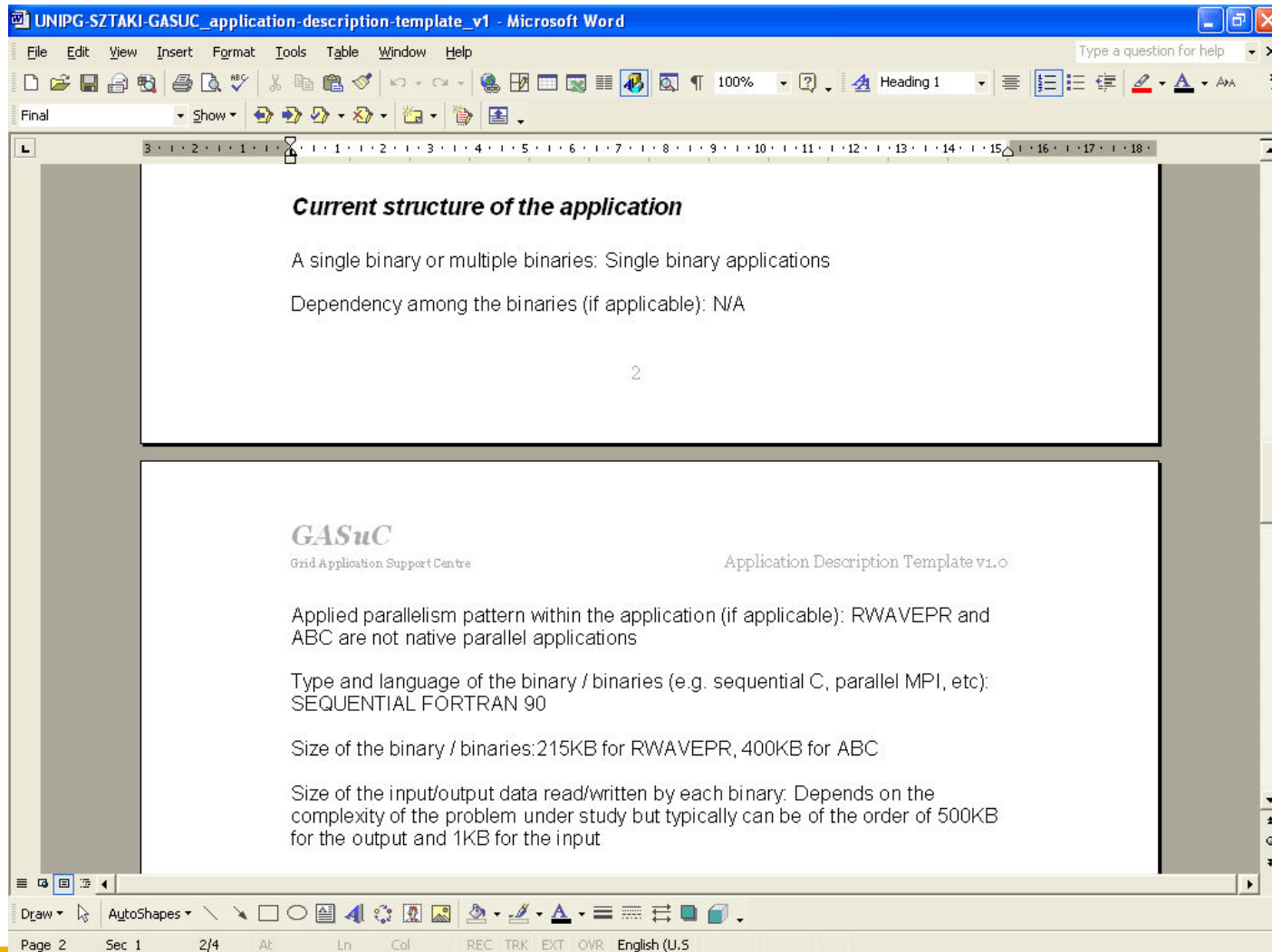
7/Apr/2010 Three new applications have been ported to the EGEE Grid by the porting teams of Hungary and Istanbul with the support of SZTAKI. The Hungarian team successfully ported the Numerical Modeling of Mantle Convection (NMMC3D) from the Earth Science/Seizmology domain to EGEE, the world largest computational grid. Our colleagues from Italy ported the Fault Plain Solution Application (FPS) and the Earthquake Location Finding Application (ELF) to the same infrastructure. To read the details of the porting projects and for additional porting stories please visit the "Success stories" section of our webpage.

[news archive »](#)

What service do we offer?

Porting legacy applications onto grid infrastructures is usually called "gridification". The **Grid Application Support Centre (GASuC)** provides assistance to current and future grid users and application developers during the application gridification process. GASuC helps

Application Description Form on www.lpds.sztaki.hu/gasuc



- **gLite command line tools and scripts**

- Interfacing with the infrastructure

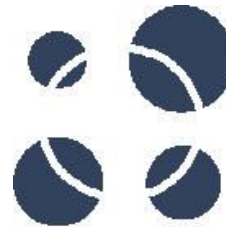
- **P-GRADE Portal and WS-PGRADE**

- www.pgrade.hu, www.wspgrade.hu
- Workflows and parameter studies
- Application specific science gateways



- **GridWay**

- www.gridway.org
- Metascheduling on clusters and grids
- Programming abstractions



- **GILDA services**

- www.gilda.ct.infn.it
- gLite infrastructure for training and prototyping
- Services for applications with special needs



- **MPI utilities**

- <https://twiki.cern.ch/twiki/bin/view/EGEE/MpiTools>
- Enabling parallel code on gLite

- **GANGA, DIANE**

- www.cern.ch/ganga



EGEE RESPECT programme:

<http://technical.eu-egee.org/index.php?id=290>

UCM

- 5 applications
- 25 publications, presentations
- 3 PhD thesis

INFN

- Reconstruction of musical instruments (ASTRA project)
- Porting support for EELA-2, EUAsiaGrid projects
 - set up a Gridification FAQ

MTA SZTAKI

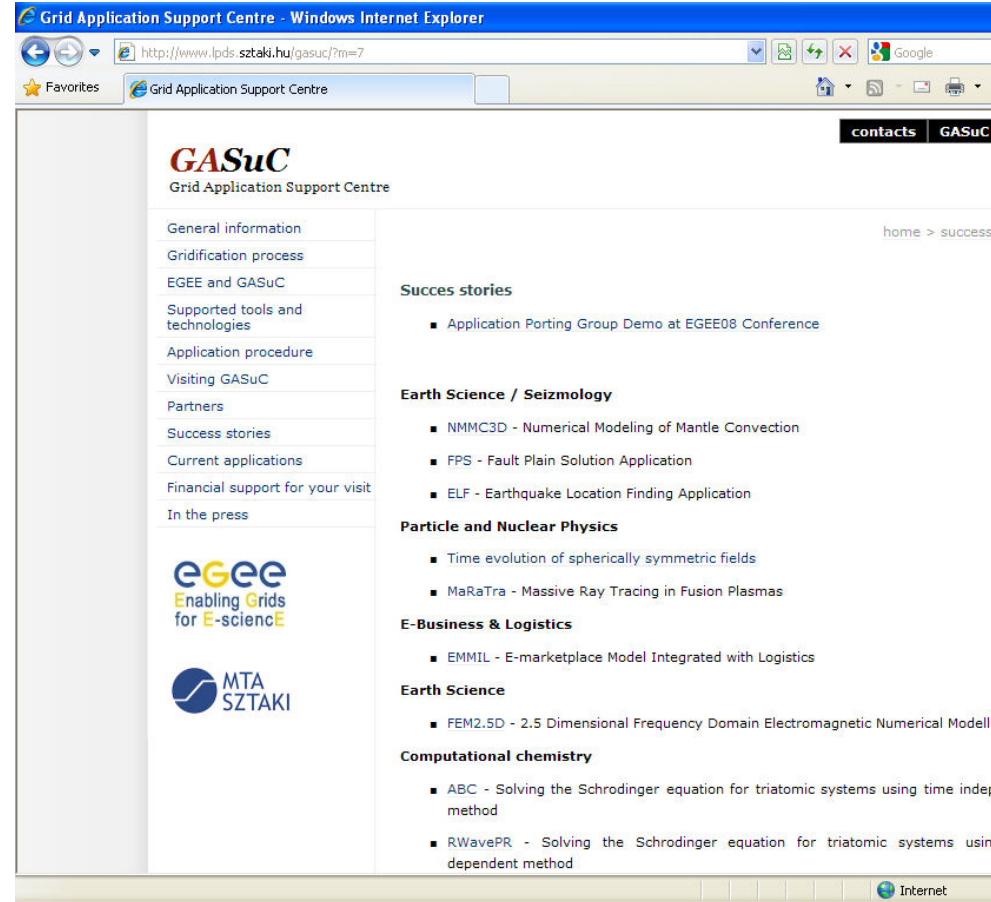
- Management of NA4 VO for porting
- Already ported 15 applications, currently supporting 5 more

CEA

- Monte Carlo simulation Grid portal
- Genetic algorithm with GANGA

CSIC

- Astrophysics, comp. chemistry applications
- MPI task force



Grid Application Support Centre - Windows Internet Explorer

http://www.lpds.sztaki.hu/gasuc/?m=7

Grid Application Support Centre

GASuC
Grid Application Support Centre

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Success stories

- Application Porting Group Demo at EGEE08 Conference

Earth Science / Seizmology

- NMMC3D - Numerical Modeling of Mantle Convection
- FPS - Fault Plain Solution Application
- ELF - Earthquake Location Finding Application

Particle and Nuclear Physics

- Time evolution of spherically symmetric fields
- MaRaTra - Massive Ray Tracing in Fusion Plasmas

E-Business & Logistics

- EMMIL - E-marketplace Model Integrated with Logistics

Earth Science

- FEM2.5D - 2.5 Dimensional Frequency Domain Electromagnetic Numerical Model

Computational chemistry

- ABC - Solving the Schrodinger equation for triatomic systems using time independent method
- RWavePR - Solving the Schrodinger equation for triatomic systems using time dependent method

Internet

- **Application porting is a localized activity**
 - Visiting a foreign porting team is not attractive for users
 - Distributed teams can better adapt to local needs – EGI structure is good
- **Do not regret the time for discussions with the user**
 - Application Description Forms can help, but are not enough
 - Plan the whole lifecycle of the application at the beginning
 - Choose porting tool
 - Choose porting tool that is optimal in the long term!
- **Relatively small projects so far**
 - ESFRI, EIRO applications can bring difference here
 - EGI.eu will need to coordinate the work of multiple NGIs
- **Success stories are the most attractive on the Webpage**
 - Make your achievements visible!
 - Write easy to understand stories (such as [these](#))
 - Register applications in the [EGEE Application Database](#)

- **Porting support will be provided by NGIs**
 - Consultancy and coding
 - Local VOs, catch-all VOs
 - Operating porting tools
 - Overlap with NGI training teams is expected
- **EGI.eu coordinator: User Community Support Team**
 - Support for NGIs without porting team
 - Coordination of international porting projects
 - ...
- **Services that remain:**
 - [EGEE Application Database](#) remains
 - MTA SZTAKI will continue with its international porting service:
www.lpds.sztaki.hu/gasuc

- **Monday**
 - P-GRADE grid portal family
 - Latest achievements of the MTA SZTAKI Grid Application Support Centre
 - GILDA training infrastructure: present successes and future triumphs
- **Tuesday**
 - Offering GridWay users more power by means of the Amazon public cloud
- **Wednesday**
 - Complex Scientific Workflows exploiting Grid and HPC
 - Overview of the grid fusion applications and the possible workflows among them
 - Montera: a framework for efficient executions of Monte Carlo codes on the Grid
- **Thursday**
 - Services for advanced workflow programming on gLite with WS-PGRADE portal
 - MPI support and improvements in gLite/EGEE - a report from the MPI Task Force

Full report will be available soon
EGEE Deliverable DNA4.4.2
UTILIZATION OF EGEE SUPPORT SERVICES
AND INFRASTRUCTURE

Apply for porting assistance:
www.lpds.sztaki.hu/gasuc