

SEE-GRID-2 - Applications

www.see-grid.eu



Asli Zengin, Onur Temizsoylu
asli@ulakbim.gov.tr, onurt@ulakbim.gov.tr
TUBITAK ULAKBIM

Applications



SEE-GRID
South Eastern European GRid-enabled
eInfrastructure Development

- 23 applications from 12 different disciplines, 11 countries supported by SEE-GRID-2:
 - Grid Applications Questionnaire: 17 applications accepted at the beginning of the project as a result of the survey.
 - Continuous Grid Applications Questionnaire: 6 new applications accepted during the project.

<http://questionnaire.rcub.bg.ac.yu/index.php>

Strategy for New Applications



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development

- There is **“Gridification Guideline”** document to **provide initial help to developers**. (application life-cycle, policy and methodology to run and support an application on Grid)
- There is **“SG Gridification Guide”** on **SEE-GRID-2 Wiki** to **provide comprehensive help to developers**. (porting an existing application to the Grid)
- **ARC (Application Review Committee)** **recommendations** push applications towards collaborations with other applications and projects.
- **Applications are required to provide update** on their established user community and collaborations within their periodic Application Progress Report.

EGEE and Regional Users How to Collaborate?



- How can non-EGEE scientists make use of EGEE VOs?
 - Mainly it is VO decision.
 - Usually individual non-EGEE users can register in EGEE VOs.
 - In case of a large scientist group, resource commitment can be required. Solution:
 - Site migration to EGEE or other solutions?

- How can EGEE user community make use of SEE-GRID applications?
 - Sharing know-how, scientific results
 - Making use of results of regional applications (such as seismic, meteorological applications)
 - More stable sites, improved infrastructure by applications result in more SEE-GRID sites migrated to EGEE.

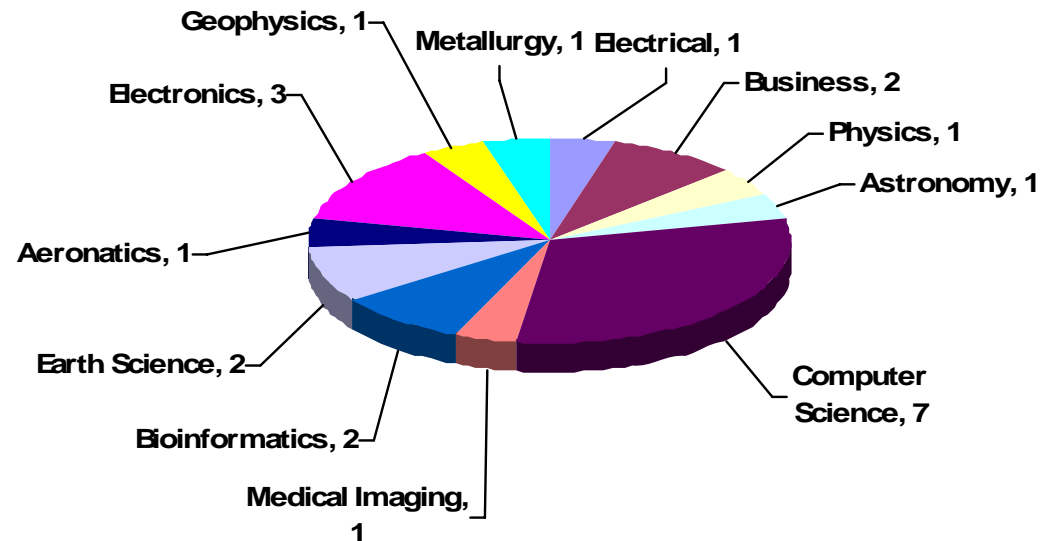
Application Categorization



SEE-GRID

South Eastern European GRid-enabled
Infrastructure Development

Discipline	Number of App.
Astronomy	1
Physics	1
Bioinformatics	2
Earth science	2
Computer science	7
Medical imaging	1
Business	2
Electrical	1
Electronics	3
Aeronatics	1
Geophysics	1
Metallurgy	1
TOTAL	23



- Applications can also be categorized based on their infrastructural requirements:
 - High performance requiring applications (MPI etc...)
 - Data intensive applications (Additional services like AMGA, FTS ...)
 - Applications stressing the infrastructure (making use of geographically distributed resources at many sites without having limitations)

Cross Project Communities Identification



SEE-GRID

South Eastern European GRid-enabled
Infrastructure Development

- SG Gridification Wiki – a valuable online resource to share know-how:
http://wiki.egee-see.org/index.php/SG_Gridification_Guide
- 5 SEE-GRID-2 Applications presented at OGF20/EGEE User Forum, 7-11 May 2007, Manchester.
- EGEE-II has been provided with related SEE-GRID and SEE-GRID-2 deliverables.
- Health e-Child Project has made use of SEE-GRID-2 document “Gridification Guideline”
- Earth science application SDA: Cross project collaboration with DEGREE (Dissemination and Exploitation of Grids in Earth science) FP6 Project.
- Leaders / Application leaders of several projects (EUMEDGRID, EUChinaGrid, EELA, Baltic Grid...) has been contacted. Feedback is still being expected!

Application Selection Criteria



SEE-GRID

South Eastern European GRid-enabled
Infrastructure Development

- Each country selected its own applications at the beginning of the project.
- After the initial selection, Application Review Committee (ARC) established:
 - assess new candidate SEE-GRID-2 applications
 - evaluate the progress of the existing ones
- Application Selection Criteria:
 - Scientific/Social Impact
 - Grid Added Value
 - Why Application needs the Grid
 - Why Grid needs the Application
 - User Communities
 - Infrastructural Requirements
 - Computing/Storage requirements
 - Middleware and parallelization requirements
 - Network Requirements including BoD

Gridification Guides



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development

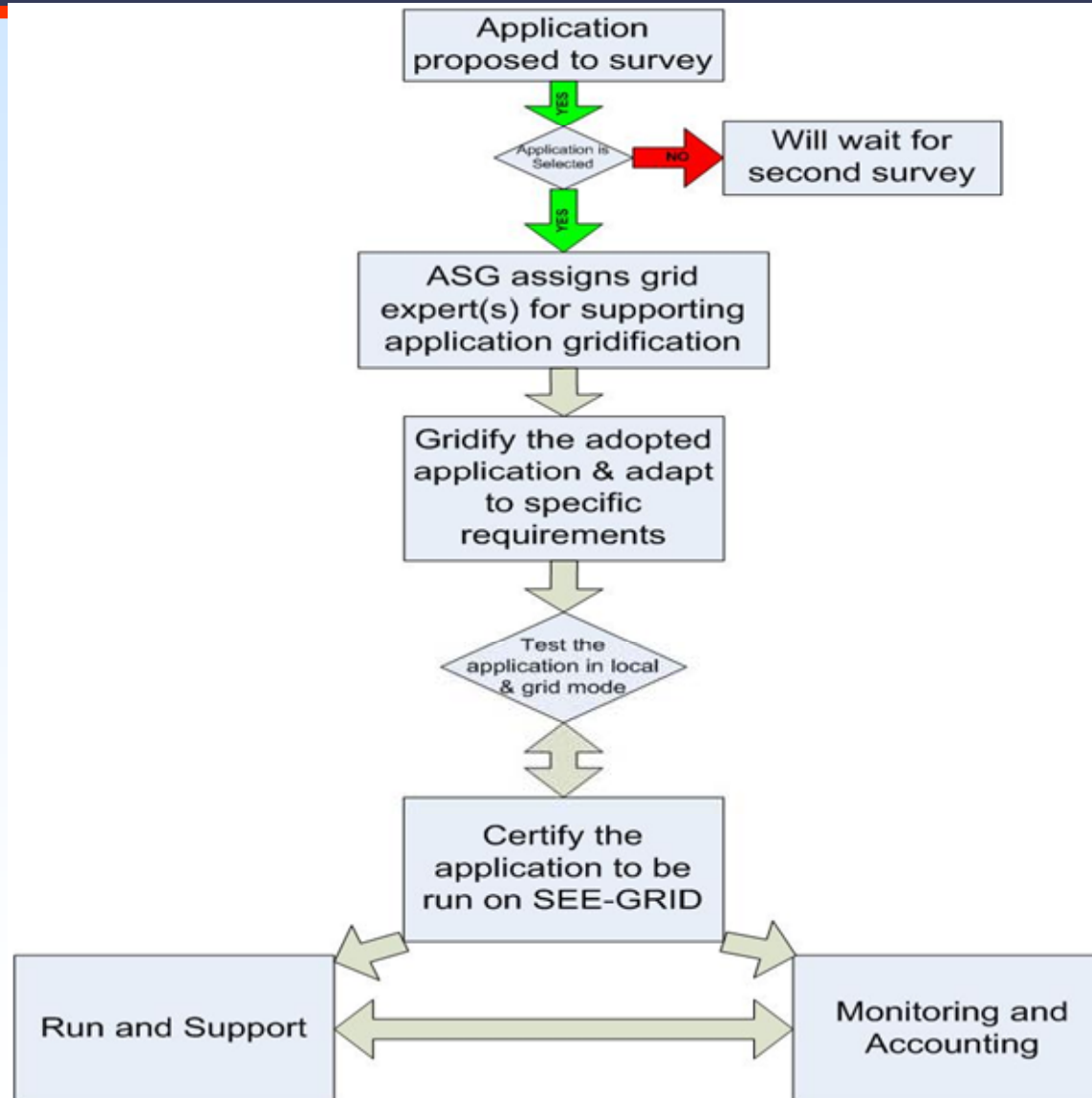
- **An initial guide** for the developer including the **application life-cycle**, VO and site policies, gridification methodology:
 - **Gridification Guideline**
http://www.see-grid.eu/content/modules/downloads/SEEGRID2-WP4-TR-008-Gridification_Guideline-n-2006-11-22.doc
- **Detailed wiki pages** with illustrations for gridification issues:
 - **SG Gridification Guide**
http://wiki.egee-see.org/index.php/SG_Gridification_Guide
- **ASG (Application Support Group)** created to provide fast and continuous gridification support to developers.

Application Life-Cycle



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development



VO Resource Allocation Policies



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development

- seegrid VO is used for all applications:
 - Utilization of groups and roles:
/seegrid/COUNTRY_CODE/SHORT_APP_NAME/Role=production
/seegrid/COUNTRY_CODE/SHORT_APP_NAME/Role=software
- For gridification testing phase,
 - no role or group is used, **all sites support all applications.**
- For deployed applications,
 - sites are encouraged to **support as many applications as possible.**
- **MoU template** between SEE-GRID-2 Project and the Application created.

Applications improving the infrastructure...



SEE-GRID

South Eastern European GRid-enabled
Infrastructure Development

- Applications directly contribute to the quality and stability of the infrastructure.
- Applications pushed sites to have new grid services for the infrastructure such as AMGA and FTS.
- MPI support at sites improved.
- Applications require recent middleware releases:
 - Migration to glite3.1, SL4.5 (Java 1.5)
 - Migration from Classic SE to DPM, dCache
- Application-level accounting enabled.

Success Stories



SEE-GRID

South Eastern European GRid-enabled
eInfrastructure Development

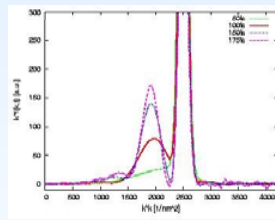
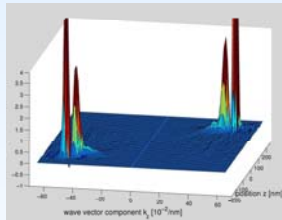
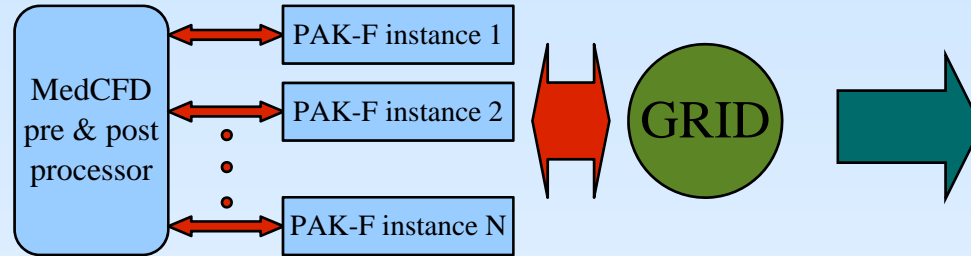
- Currently we have 5 presentable applications that have been deployed in SEE-GRID-2:
 - SALUTE (BG, Simulation, electronics)
 - EMMIL (HU, Simulation, business-marketing)
 - DRMR (RO, Analysis, aeronautics)
 - PBFS (RS, Simulation, medical imaging)
 - SDA (TR, Analysis, earth science)
- SE4SEE, GridAE, PBFS published on ISGTW magazine.
- SDA has been presented in DEGREE Workshop, June 14-15, 2007.
- PBFS is used by communities in USA, Germany and Austria.
- Several publications were published with the results from gridified SALUTE.

SEE-GRID-2 Flagship Applications

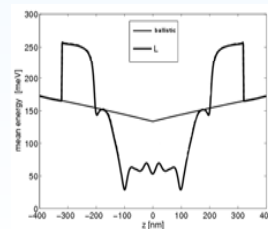
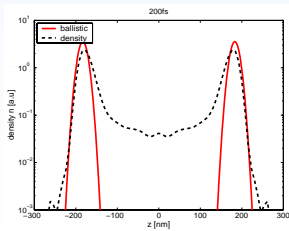


SEE-GRID
South Eastern European GRId-enabled
eInfrastructure Development

PBFS



Salute



Home Stations Earthquake Search

66 items found, displaying 1 to 20 (First/Prev) 1, 2, 3, 4 (Next/Last)

Date	Time	Latitude	Longitude	Depth	Magnitude
2005-04-14	08:29:26	39.35	34.22	14.52	6.08
2003-02-11	18:25:08	39.97	33.35	2.77	5.68
2005-01-18	20:47:13	40.45	32.21	82.76	6.58
2002-11-28	10:13:29	39.68	30.76	7.56	5.38
2005-01-20	11:48:04	39.11	33.38	63.15	5.38
2006-11-18	03:39:38	40.28	28.66	8.51	6.55
2004-05-25	11:12:42	36.58	38.22	13.79	5.96
2003-05-18	13:29:12	41.55	35.40	76.78	6.29
2003-09-30	10:21:35	39.89	41.92	60.00	5.06
2004-05-31	18:21:50	36.91	35.33	24.27	6.64
2004-12-01	02:05:09	39.48	42.58	93.58	5.94
2003-05-14	18:30:18	36.89	39.26	33.33	5.93
2002-10-14	11:21:19	38.93	44.12	10.02	5.31
2006-06-18	18:21:58	38.59	36.10	38.03	6.88
2006-01-17	08:19:55	39.62	28.98	52.11	6.96
2006-07-08	22:42:16	38.88	32.39	20.21	5.36
2005-10-05	22:48:31	39.22	41.96	44.45	5.03
2004-03-21	03:50:28	37.17	27.93	47.14	5.52
2002-08-29	18:47:36	36.46	38.40	17.55	6.08

**S
D
A**

Hide the map

Map showing earthquake locations with a callout box for a specific event:

Lat: 39.33 Date: 2003-12-22
Lon: 31.76 Time: 00:34:49
Mgn: 5.2 Depth: 33.35

Map Satellite Hybrid

This project is created by Brian Dewey & Steve Baker
Imagery ©2007 NASA, Terms of Use



SEE-GRID

South Eastern European GRid-enabled
Infrastructure Development

Thank you!