

Collaborative Environment for Applications in BalticGrid

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- **Content:**

- **users and applications - collaboration in grid environment**
- **concept of Special Interest Group - SIG**
- **SIG portal - design and implementation**
- **automatic configuration and installation of clusters - Quattor**
- **web-based user registration portal**

- **Users:**



- **Grid computing model - performing higher throughput computing on many networked computers - these vast resources are mainly for projects → groups of users**
- **Group of users → a community with a particular interest in a specific research area**
- **Group of users - on operational level → VO**
- **Groups of users on technical level → ?**

- **Users:**



- **Group of users on technical level → to design, program, debug, test, execute, analyze applications, discuss results**

- **Users need →**

- **application sharing,**
- **file sharing,**
- **data sharing,**
- **forums and mailing lists,**
- **talk to each other, see each other**

- **in the same environment of operation**



- **Special Interest Group (SIG):**
 - **concept, working well in professional or scientific communities, like ACM (Association for Computing Machinery)**
 - **SIG started as an application service in BalticGrid project (www.balticgrid.org)**
 - **the main task of SIG is to enable **group communication** of scientists and researchers, on technical level**



- **Special Interest Group (SIG):**
 - **SIG is designed for implementation as a public service based on grid technology**
 - **the functionality of SIG is based on grid computing infrastructure, introducing new possibilities and features to a virtual space**
 - **the functionality is enabled by web browser**
 - **two components:**
 - **Grid Commander - GridCom**
 - **Web portal - Plone**

Welcome to BalticGrid SIGs



About BalticGrid Special Interest Groups

Services we offer:

- **GridCom** - run applications on grid through your web-browser
- **Forums** - BalticGrid users experience sharing
- **Mailing lists** - learn how to subscribe to SIG mailing list
- **Audio/video conferences** - learn how to connect to SIG audio and video conferences
- **File and documents repositories** - store and share files

BalticGrid Special Interest Groups:

- **Baltic Sea Eco-System Modelling**
- **Text-to-Speech**
- **Text Annotation**
- **Stellar Spectra**
- **Atomic and Nuclear**
- **Computer Modelling**

BalticGrid Special Interest Groups, brings together people working on the design, evaluation, implementation, and study of BalticGrid. BalticGrid SIGs provide an international, interdisciplinary forum for the exchange of ideas about the field of BalticGrid.

In the computer field, a **Special Interest Group** is a community with a particular interest in a specific technical area. It is usually abbreviated SIG. Thus there are SIGs for computing architecture, graphics, security, and so forth. Members of an SIG cooperate to effect or to produce solutions within their particular area, and often meet regularly particularly during computing conferences.

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GridCom

GRID Commander

GridCom (GRID Commander) is a user-friendly web interface for launching application on a grid. User may even not know for example that he is launching an application via gLite UI or that the application has a JDL file. To support this, an application should correspond to the gridcom application format. However, this does not confine an application because the mechanism is very flexible. It is even possible to control the applications by a mobile phone using a WAP browser.

If You need account to be created for You, please write to [tomas.ambinderis\(at\)mif.vu.lt](mailto:tomas.ambinderis(at)mif.vu.lt)

Users and applications:

- test@gridcom (no password is needed)
- danela@gridcom
- zemlys@gridcom [Baltic Sea Eco-System Modelling SIG]
 - SHYFEM application
- tomas@gridcom [Text-to-Speech SIG]
 - durationsModelling application
- keatas@gridcom
 - MPI Testing
- pavlas@gridcom [Atomic and Nuclear Computing SIG]
 - Fortran applications:
 - LAIK.f
 - PRISUO.f
 - ROFORMAT.f
- guntis@gridcom [Text Annotation SIG]
 - textannot application
- julius@gridcom
 - mds application

[Log in to add comments](#)

We are waiting for your comments...

Grid Commander



- 1. GridCom (Grid Commander) is a user-friendly web interface for launching applications on grid**
- 2. user may even do not know for example that he is launching an application via gLite UI or that the application has a JDL file**
- 3. to support this, an application should correspond to the gridcom application format**
- 4. however, this does not confine an application because of the mechanism is very flexible**
- 5. It's even possible to control application by a mobile phone using a WAP browser**

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 - Fortran applications:
 - LAIK.f
 - PRISUO.f
 - ROFORMAT.f
- guntis@gridcom [Text Annotation SIG]
 - textannot application
- julius@gridcom
 - mds application

[Home](#)

[Applications](#)

[Works](#)



Welcome to gridcom!

You are now seeing two tabs except the Home: [Applications](#) and [Works](#). An application in this context is a specially written gridcom application. A work is a specific gridcom term meaning a launched application instance. The difference between it and a job is that one work can launch as many jobs as it is needed and even resubmit aborted ones. User may easily work with a single work. Thus, work is something bigger than job what is indicated by the lengths of the words.

To start with, try launching a [helloworld](#) application. You may do it right now, without installing anything like Java:

1. Open the [Applications](#) tab
2. Click the [helloworld](#) application
3. Enter any work name. It may contain spaces and international characters if you want.
4. Leave arguments field blank (for 5 jobs) or enter your number. Do not enter more than 1000!
5. Click the launch button
6. The tab for you work will be opened
7. Press Refresh (F5) to see what is happening
8. You can now do all you want, you can even close the browser, turn off your computer and forget about it. You will always find your work in the [Works](#) tab later from every computer or a mobile device.
9. Try other advanced features as the report of the work or even the advanced report (link is available from a report page) with CEs statistics. You can even force resubmitting of any job manually if the job is executing for too long.



[log.txt output](#)

Submitting atomas.itpa.lt-1

```

+ read line
+ exit 0
Jobs:
atomas.itpa.lt-1
ce01.grid.etf.rtu.lv-1
ce.bg.ktu.lt-1
ce.egee.man.poznan.pl-1
fwe01.ifj.edu.pl-1
grid2.mif.vu.lt-1
grid5.mif.vu.lt-1
grid6.mif.vu.lt-1
grid.eu.lt-1
grid.vtu.lt-1
kriit.eenet.ee-1
pupa.elen.ktu.lt-1
vdupdc.vda.lt-1
zeus02.cyf-kr.edu.pl-1
.....
Launching ./__maintain
Maintain, Sun May 6 00:08:55 EEST 2007
    
```

Relaunch maintain

Delete

[log.txt output](#)

Getting status of pupa.elen.ktu.lt-1



```

[00:09:49] pupa.elen.ktu.lt-1: Submitted
[00:09:54] vdupdc.vdu.lt-1: Submitted
[00:09:59] zeus02.cyf-kr.edu.pl-1: Submitted
[00:10:04] atomas.itpa.lt-1: Scheduled
[00:10:05] ce01.grid.etf.rtu.lv-1: Running
[00:10:06] ce.bg.ktu.lt-1: Scheduled
[00:10:06] ce.egge.man.poznan.pl-1: Waiting
[00:10:07] fwe01.ifj.edu.pl-1: Waiting
[00:10:08] grid2.mif.wu.lt-1: Scheduled
[00:10:09] grid5.mif.wu.lt-1: Ready
[00:10:09] grid6.mif.wu.lt-1: Scheduled
[00:10:10] grid.su.lt-1: Scheduled
[00:10:11] grid.vtu.lt-1: Scheduled
[00:10:11] kriit.eonet.ee-1: Waiting
[00:10:12] pupa.elen.ktu.lt-1: Ready
[00:10:13] vdupdc.vdu.lt-1: Ready
[00:10:14] zeus02.cyf-kr.edu.pl-1: Ready
[00:10:27] pupa.elen.ktu.lt-1: Scheduled
[00:10:28] vdupdc.vdu.lt-1: Scheduled
[00:10:28] zeus02.cyf-kr.edu.pl-1: Scheduled
    
```

Relaunch maintain

Delete



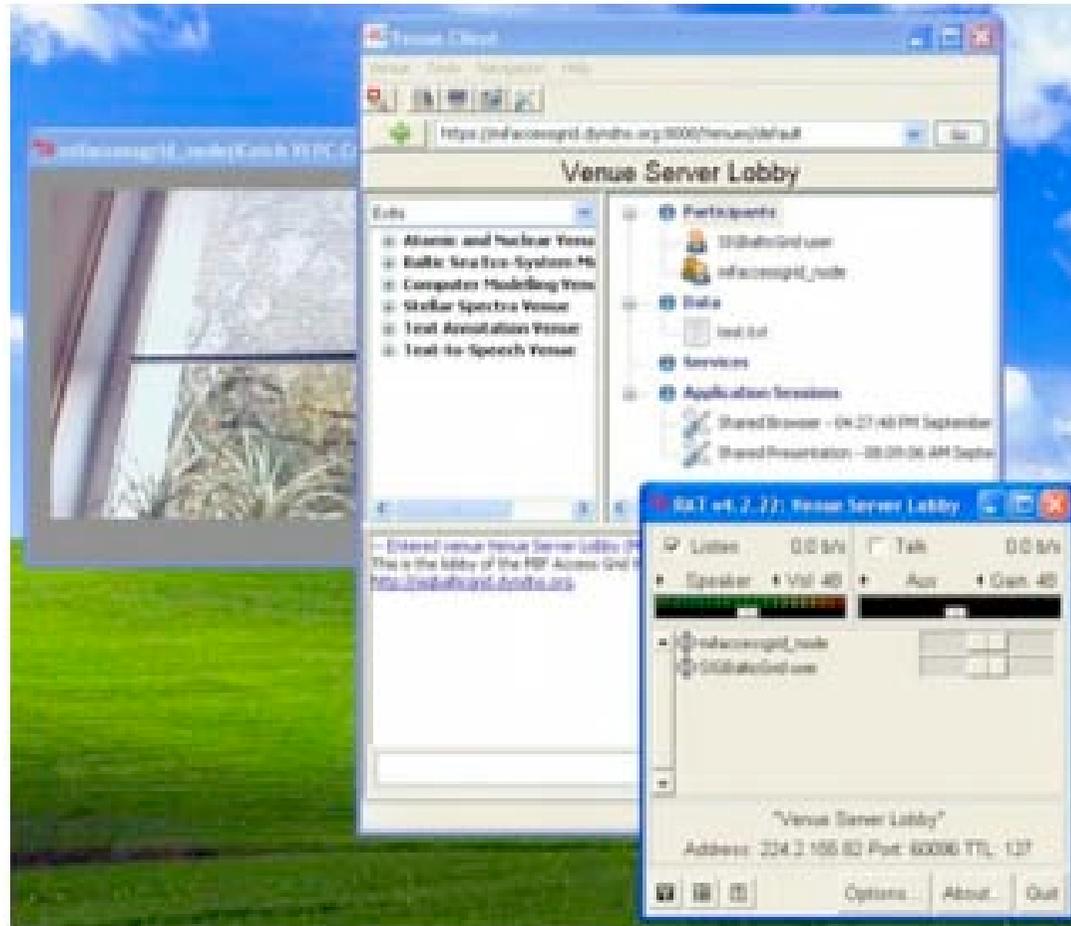
[Home](#) [Applications](#) Works

ANCSIG_LAIK_test01	DONE
ANCSIG_PRISUO_test01	DONE
ANCSIG_ROFORMAT_test1	DONE
TASIG_textannot_test01	DONE
TASIG_textannot_test02	DONE
durationModelling_test01	DONE
durationsModelling.zip_test07	DONE
helloworld_test02	DONE
helloworld_test04	DONE
mids_test01	DONE
test-mpi	Getting status of grid6.mif.vu.lt-1

Version: 0.91, Copyright© 2006, 2007 Vilnius University

MIF Access Grid ScreenShot

MIF Access Grid ScreenShot



Data repository in SIG



- to add data via **Plone** you must:
- open <http://sig.balticgrid.org> site in your browser
- be a registered user (registration via http browser) and log on to the system via http browser
- in **Resources** select repository for your **Special Interest Area** and add any type of data by clicking **Add Item** button
- some data (i.e. text or sound) is automatically recognized by the system and can be viewed directly by browser

Data repository in SIG



- to add data via Access Grid you must:
- download and install *Access Grid Toolkit* (current version is 3.0.2)
- have your BalticGrid certificate installed
- use your *Venue Client* application to connect to <https://mif.sig.balticgrid.org:8000/venues/default>
- to add data simply click *Add Data* button in your Venue Client application

- **SIG as a portal:**

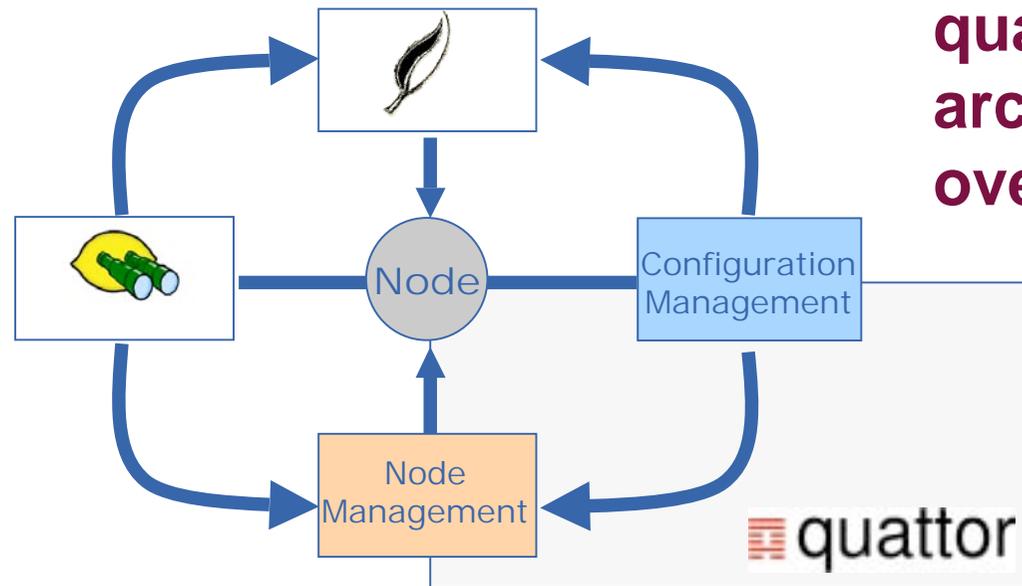
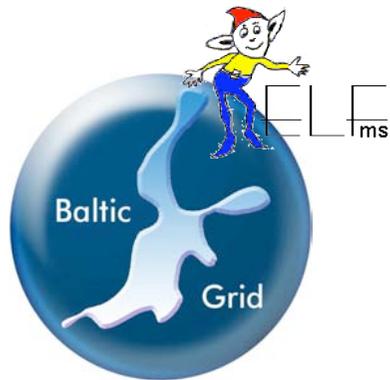


- **certificates management**
- **security**
- **video/audio conferencing**



Automatic configuration and installation of clusters and software - based on **Quattor** (<http://quattor.org>)

- Quattor is a configuration tool for networked computers, as it does similar projects cfengine, isconf
- it was born from another project LCFG (LCG configurator)
- started to use Quattor on 12/2006 as configuration tool for a new cluster
- it was difficult to choose between plain Quattor and QWG (Quattor working group) templates



quattor architecture - overview

- **Configuration Management**
 - Configuration Database
 - Configuration access and caching
 - Graphical and Command Line Interfaces
- **Node and Cluster Management**
 - Automated node installation
 - Node Configuration Management
 - Software distribution and management

Slide of Germán Cancio
and Piotr Poznański

Quattor



- QWG templates aimed to implement gLite middleware configuration tasks already
- we choose plain Quattor templates with SCDB (subversion based CDB) as backend
- because of QWG was too complicated to implement in short time
- it was too complicated to make changes in them
- our templates are partially namespaced
- with the arrival of Quattor 1.3 release the templates will be rearranged to fully namespaced templates

Quattor

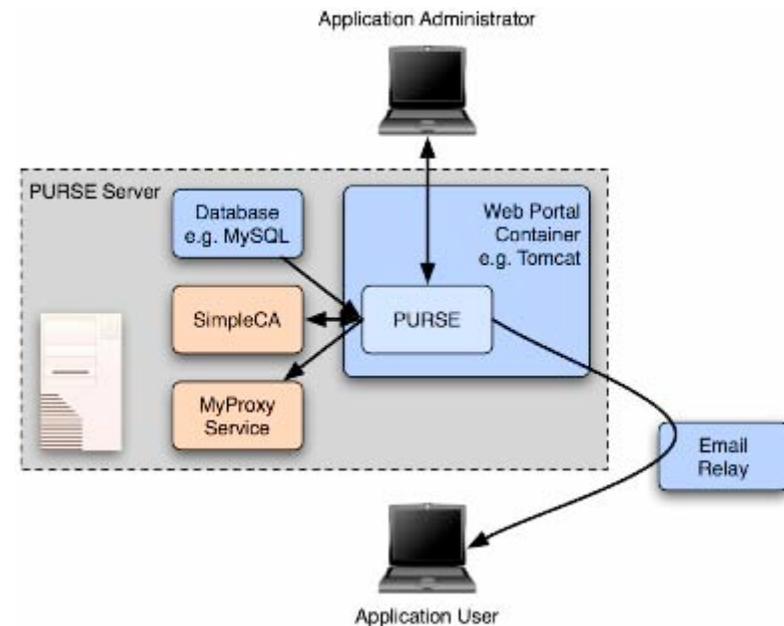
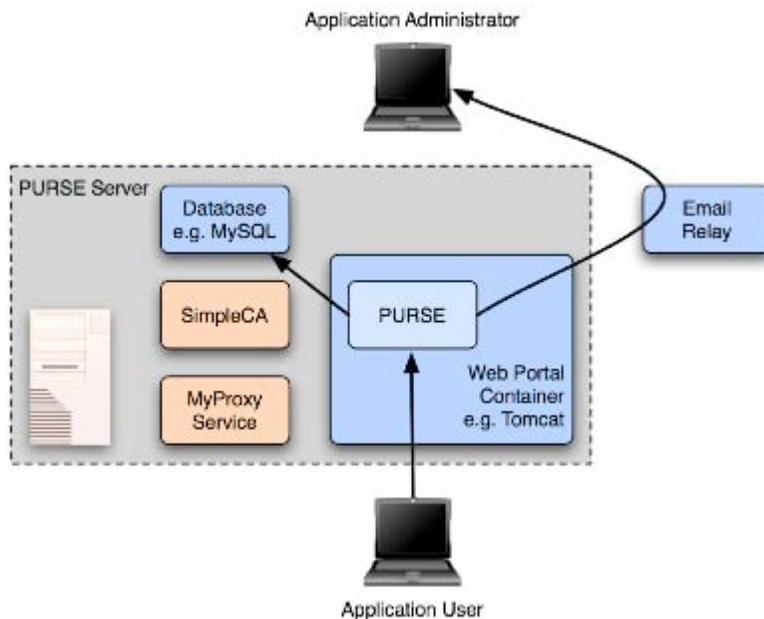


- with the help of Quattor we are managing:
 - WN (working nodes)
 - service nodes as CE (lcg)
 - mysql based DPM SE
 - WMS (glite workload managing)
 - SAM server
 - client installations on SL3 and SL4 (i386 and x86_64)

Certificates' and user registration management



- Web portal-based user registration service - PURSE (www.grids-center.org/solutions/purse)





- thank you for your attention
- questions, comments, please
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