

GILDA experiences in porting generic applications

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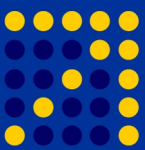
INFN Catania

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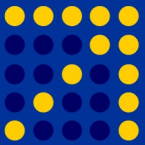


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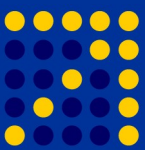




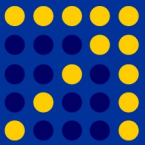
- Overview
- Three different steps
- Applications integrated on GILDA
- Use Cases
 - CODESA-3D
 - GATE
 - PatSearch



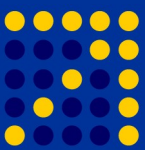
First Step



- How the application is installed ?
 - RPM
 - tar-ball ?
 - We have gathered a well-experience to package the application through a spec file
- How the application has to run?
 - batch mode, interactive, etc
 - Requirements
- What input are requested?
- What output is produced?

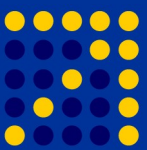


Second Step

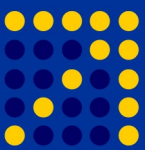


- With all the information collected during the first phase the *ClassAD* and the *bash* script, used to submit the job to the grid, will be created.

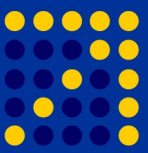
```
[  
Executable = "/bin/sh";  
Arguments = "start_ball.sh";  
  
StdOutput = "ball.out";  
StdError = "ball.err";  
  
InputSandbox = {"start_ball.sh", "ball.pov", "ball.ini"};  
OutputSandbox = {"ball.out", "ball.err", "final_ball.gif"};  
]
```



Third Step

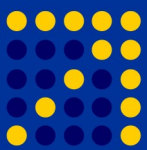


- Integration on *GENIUS* web portal of the needed services to manage the application.
- XML files
 - **/opt/genius/enginframe/plugins/genius/WEBAPP**
 - A folder of each VO supported by GENIUS
- Action procedures (shell scripts, etc.)
 - **/opt/genius/enginframe/plugins/genius/bin/vo**

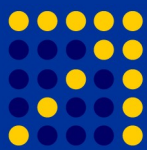


List of the applications integrated

- MAGIC
- EGEODE
- CODESA-3D
- hadronTherapy
- GEMS
- GATE
- GA4ts
- PATSEARCH
- gMOD
- Scilab
- ...



- **CODESA-3D** (*COupled variable Density and SATuration 3-Dimensional* model) is a model based on detailed mathematical representations of physical, chemical, and biological processes that governs water flow.
 - This model is used in order to evaluate the seawater intrusion in coastal aquifers.
- For further information about CODESA-3D contact: *Giuditta Lecca (CRS4)* giuditta@crs4.it



```
#####
# BEGIN CODESA-3D Multi Run #
#####

#Define the group table for the Codesa3d Multi run.
codesa3d_multi_job_group_table=${GENIUS_USER_WORKDIR}/.multi_job_group_table_${EF_USER}_${CURRENT_R
B)_codesa3d
JOBID_PATH=${GENIUS_USER_WORKDIR}/.multi_job_group_table_${EF_USER}_${CURRENT_R
B)_codesa3d

gilda_codesa3d_list
{
    echo "<ef:s
    #Build a li
    echo "<ef:o
    cat $(GILDA
}"
    echo "</ef:
    #echo "<ef:
codesa3d-Production<
    echo "<ef:o
ef:option>"

    echo "<ef:o
    echo "<ef:o
    #echo "<ef:
    echo "</ef:

    #echo "<ef:

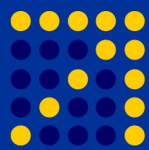
<ef:name>CODESA-3D Inputs Setting</ef:name>
    <ef:action id="submit" label="">
        $EF_ROOT/plugins/infngrid/bin/gilda/codesa3d/codesa3dgrid.sh gilda-codesa3d-list-submit-multi
    <ef:result type="text/xml"/>
    </ef:action>
</ef:service>

<ef:service id="gilda-codesa3d-list-submit-multi" authority="globus">
    <ef:info>Please, configure the inputs setting to start the production.<br/><br/>
    <b>Note: </b>(*) You have to insert an unique production name.<br/><br/>
    </ef:info>

    <ef:option id="codesa3d_description_file" label="Choose a job to submit" type="list"/>
    <ef:option id="Codesa3d_Production_Name" label="Production Name" type="text" extra=" (*)"></ef:option>
    <ef:option id="Data_Set" label="Data Set" type="list"/>
    <ef:option id="zeta_axis" label="Zeta axis value" type="text" extra=" for the root's graphics.">0.1</ef:option>
    <ef:option id="Number_Cycles" label="Number of Runs" type="list"/>

    <ef:action id="submit" label="Create the data-set and start the Production">
        $EF_ROOT/plugins/infngrid/bin/gilda/codesa3d/codesa3dgrid.sh gilda-codesa3d-list-submit-next-multi
    <ef:result type="text/xml"/>
    </ef:action>
</ef:service>

<ef:service id="gilda-codesa3d-queue-multi" authority="globus">
<ef:name>CODESA-3D Inspect Status</ef:name>
    <ef:action id="submit" label="Codesa3d Queue">
        $EF_ROOT/plugins/infngrid/bin/gilda/codesa3d/codesa3dgrid.sh gilda-codesa3d-multi-job-queue
    <ef:result type="text/xml"/>
    </ef:action>
</ef:service>
```



Welcome to the GENIUS Grid Portal - Mozilla Firefox

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Getting Started Latest Headlines GILDA EUCHINA

INFN egee Enabling Grids for E-science

Grid Enabled web Environment genius

Production Name : test2006
Number of Events : 3
Last Submission Time : Wed Jun 21 15:10:47 2006

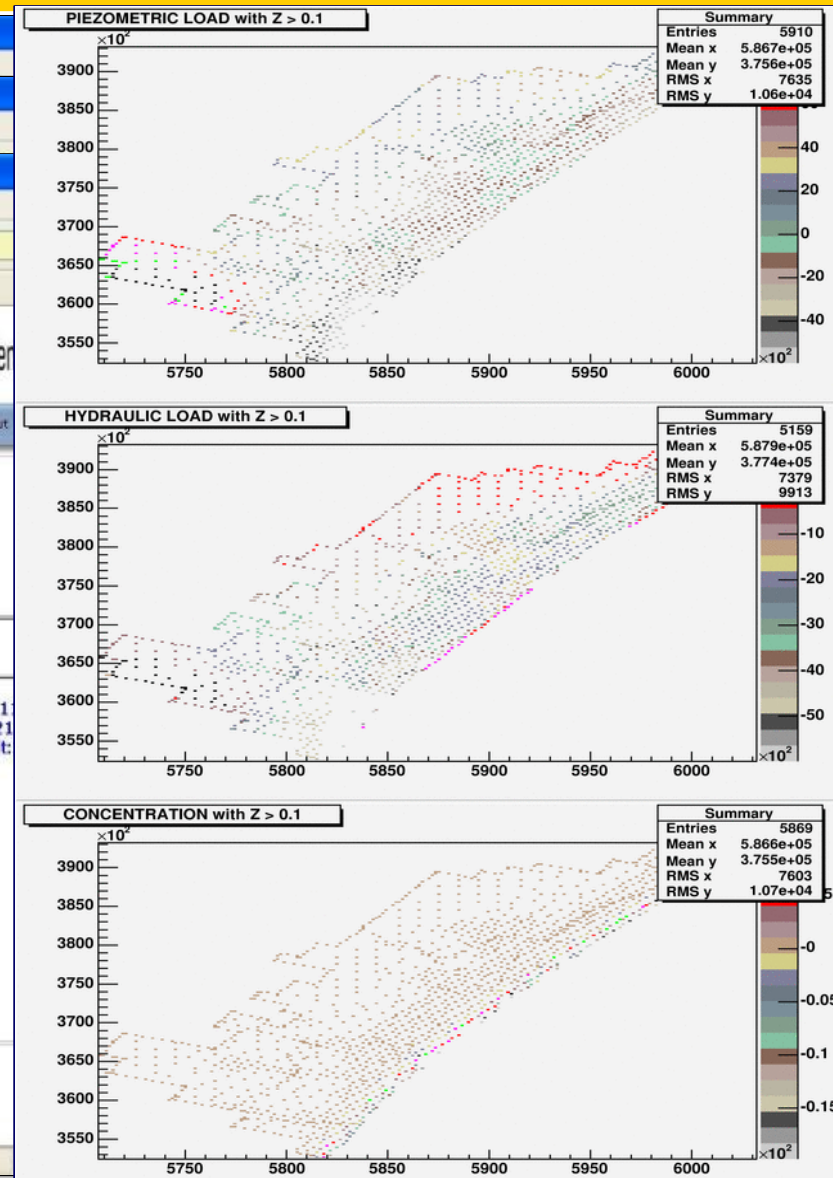
Production Status: **Started**

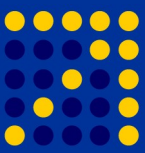
1) <https://glite-rb.ct.infn.it:9000/P4fE9f6bHoXqFyG3CFLcsg> ==> grid010.ct.infn.it:21
2) <https://glite-rb.ct.infn.it:9000/i1chJFeXMA7-uXGMb9OKLg> ==> grid010.ct.infn.it:21
3) https://glite-rb.ct.infn.it:9000/wsYOlwLZMqi_BpGdUmThw ==> grid010.ct.infn.it:

Ready Jobs = 0
Scheduled Jobs = 3
Done Jobs = 0
Aborted Jobs = 0
RUNNING Jobs = 0
PENDING Jobs = 3

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Waiting for glite-tutor.ct.infn.it...






- GATE is a C++ platform based on the Monte Carlo Geant4 software that has been designed to model nuclear medicine applications.
 - A **Monte Carlo simulation is a particular simulation that** generates values for uncertain variables over and over to simulate a model.
- In order to treat patients with the best accuracy, Monte Carlo simulations are the best tools to model and planify the tumor treatment.
 - By using the grid it's possible to reduce the computing time of the Monte Carlo simulations.
 - The simulations are parallelized on the Grid by splitting the number of events necessary to run Monte Carlo simulations.

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INFN
Istituto Nazionale
di Fisica Nucleare







Enabling Grids for
E-science in Europe

Grid Enabled web eNvironment for site Independent User job Submission

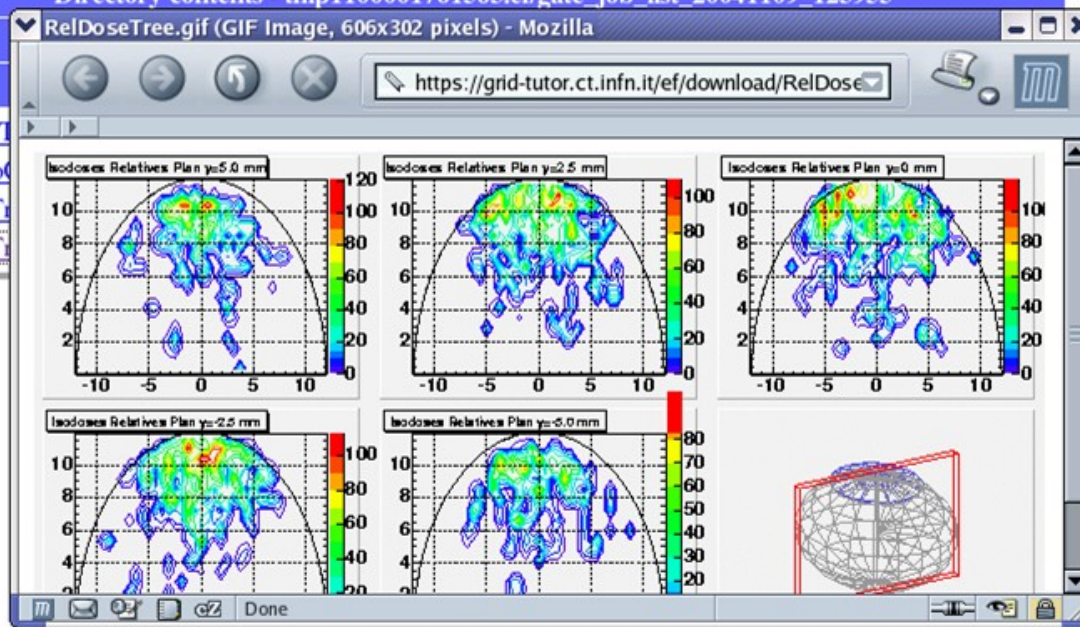
RB: gilda	VO: gilda	RLS: GILDA	Your Data	Logout
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Destroy</div> <div>Directory contents - tmp1100001761583.cf/gate_job_list_20041109_123955</div> </div>				

[ResultTO](#)

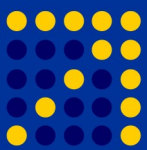
[giorgio lo](#)

[RelDoseT](#)

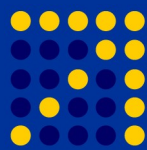
[RelDoseT](#)



powered by
[EnginFrame 3.2](#)
compliant with
[LCG-2](#)
[GRID.IT](#)



- PatSearch is a flexible and fast pattern matcher able to search specific combinations of oligonucleotide and secondary structure elements.
- It is able to find, in a given sequence(s), kinds of loop structures that characterize tRNAs, rRNAs (hairpin loop, stem loop with bulges or internal loops) and/or any kind of pattern in DNA and protein sequences.
 - By using the grid it's possible to reduce the computing time of the simulations.
 - The simulations are parallelized on the Grid by splitting the number of events necessary to run simulations.



BioinfoGRID

Welcome to the GENIUS Grid Portal - Mozilla Firefox

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Getting Started Latest Headlines GILDA EUCHINA

INFN egee Enabling Grids for E-sciencE Grid Enabled web environment for

Resource Broker: gilda Virtual Organization

PATSEARCH Services

- Config Inputs Setting
- Inspect Status
- Clean PATSEARCH Queue
- PATSEARCH Data Spooler
- Back home

Production Name : A
Number of Events :
Last Submission Time : 17:13:30 CEST 2006

1) <https://glite-rb.ct.infn.it:9000/>

Ready Jobs = 0
Scheduled Jobs = 0
Done Jobs = 0
Aborted Jobs = 0
RUNNING Jobs = 1
PENDING Jobs = 1

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Nuovo Documento di testo - Blocco note

File Modifica Formato Visualizza ?

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PatSearch

=====

COMMAND :

p1=rrrcwggyyy[3,0,0] 0...13 p2=rrrcwggyyy[3,0,0] 0...13

p3=rrrcwggyyy[3,0,0]

p1/p2/p3: (p4=rrrcwggyyyrrrcwggyyy[3,0,0])

p1/p2/p3: (p5=nnncnngnnnnnnncnngnnn)

=====

XM_526565	:	[201,246]	:	gagcaattcc	cgattggtagaa	gaacttgctg	taac	acacacgtac
XM_526565	:	[253,292]	:	gaccccgccc	caa	cgactagccc	ctctct	gtgcaacccc
XM_526565	:	[266,312]	:	cgactagccc	ctctct	gtgcaacccc	gagagttagg	ggatcatgcag
XM_526565	:	[1764,1805]	:	ggggatctgc	tgtgat	gggcaaattc	cattca	aggctttact
XM_526565	:	[1805,1764]	:	agtaaagcct	tgaatg	gaattgccc	atcaca	gcagatcccc
XM_526565	:	[312,266]	:	ctgcatgacc	ccaaactctc	ggggttgac	agaggag	gggctagtcg
XM_526565	:	[292,253]	:	ggggttgac	agaggag	gggctagtcg	ttg	gggcggggtc
XM_526565	:	[246,201]	:	gtacgtgtgt	gtta	cagcaagttc	ttctaccaatcg	ggaattgctc
XM_526567	:	[208,238]	:	aaaagaattt	c	atactggcct	caactagcct	
XM_526567	:	[209,238]	:	aaagaatttc	atactggcct	caactagcct		
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XM_526567	:	[219,253]	:	atactggcct	caactagcct	tgggt	gagcttacaa	
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XM_526567	:	[238,209]	:	aggctagttg	aggccagtat	gaaattcctt		
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XM_526570	:	[1005,969]	:	aaacattgct	gaaaag	ggaggagtct	g	aggcatactt
XM_526573	:	[690,742]	:	aaagatatcc	aggtcacttg	gggctagttg	ttattgtgttggt	gtccttgatt
XM_526573	:	[733,772]	:	gtccttgatt	tt	gaacaagcac	agcttgaa	agaattgctg
XM_526573	:	[822,857]	:	aggaataatt	aattct	atactagctc	agtcagttac	
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