



European Commission



Information Society
Technologies



BE13 – Textile grid portal - Portals

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Agenda

- **Comments on adopted technology**
- **A preview of Textile Grid Portal**
- **Final considerations**

Adopted technology: client side

- **Gridsphere 3.0.8 as portlet container**
 - It gives some basic user profiling
 - It allows to save user's and portal's data to any database (hibernate integration)
 - It supports portlet technology, so that the application can be modular
- **Unfortunately it is not painless**
 - It is mostly an empty box
 - The grid portlets are built only for Globus, they are not available yet for 3.x and they are too generic for a very specific application as Textile grid portal.
 - Too little documentation
 - The debug can be hard (though you can use the source code)
 - We experienced several blank screen and null pointer exceptions (the mailing list reports similar issues).

Adopted technology: client side

- **Google web toolkit**
 - It allows to create 3-tier web 2.0 applications in Java (for the client side it compiles java into javascript).
 - It is possible to produce portlets with google web toolkit (thanks to the “Diligent” project)
 - The client side gives a great user experience, good performance and support of multiple browsers.
 - The application can be deployed in different contexts than portlet containers
- **We strongly believe GWT is a good choice, but:**
 - You need software developers, not system administrators
 - It has nothing to see with the grid, so you need to code much.
 - It can be difficult for java beginners. Though it is well documented and there are plenty of active forums and blogs.

Adopted technology: server side

- **OGSA-DAI 2.2**
 - Quite good documentation and useful examples.
 - Good performance for our purposes.
- **We are satisfied of OGSA-DAI, however:**
 - It needed some library development for our purposes.
 - It probably can be replaced by more simple or light weight products
 - In some conditions we got some “out of memory” problems (though we found workarounds thanks to DM cluster)
 - We will not be able to adopt OGSA-DAI 3.0, because it will require too much of development for us.

Adopted technology: server side

- **Unicore 6**
 - It allow our portal to submit jobs to Enea
 - It uses more standard technology compared to Unicore 5
- **Is Unicore a good choice for the SME?**
 - Not much of documentation and examples
 - It works fine when you download and use the server bundle, but it is not easy to customize.
 - No very active forums exist and very little of information found through Google.
 - It is slow for transferring even a few small files (it seems the handshake for every file is very long)
 - The GPE client is rich but, again, little documentation and not very clear examples.

Adopted technology: summary

- **This experience made us understand how heavy it is for a SME to adopt grid technology and plug it into a portal**
 - We think Gridsphere needs to be better documented
 - Unicore 6 needs documentation, performance and a wider community
 - OGSA-DAI worked fine to us, though it may have alternatives.
- **The general impression of the tested grid tools is that they are still too “difficult” for both software developers and customers in the SME.**

Preview: home area screenshot

Home | Production planner | Jobs | Administration

Textile grid portal map



Biella

Alessandria

Frascati

Hostname: beingrid-be13.frascati.enea.it
Description: Web server tecnico di progetto

Hostname: lin4p.frascati.enea.it
Description: Server Unicore Enea

Preview: home area

- **The maps shows where the servers are located and what they do**
- **It will contain more additional information (status, availability of resources, ...)**

Preview: user area screenshot

Production planner

Tables Help

1 - Weaving ▾

Machine families management << < > >>

Code	Description	Speed	Blades	Comb height	Selvedge	Average Work	Group
D	Telai Dormier	200	28	210	☐	260	01
L	Telai Leonardo	350	20	220	☐	36	01
V	Telai Vamatex	250	24	220	☐	36	01

Insert Modify Delete

Machines management

Code	Description	Speed	Blades	Comb h	Selvedge	Average Work	Group
01	Vamatex 9001	250	24	220	☐	36	01
02	Vamatex 9001	400	24	220	☐	36	01
03	Vamatex 9001	400	24	220	☐	36	01
04	Vamatex 9001	400	24	220	☐	36	01
05	Vamatex 1001	300	20	220	☐	36	01
06	Vamatex 1001	300	20	220	☐	36	01
07	Vamatex 1001	300	20	220	☐	36	01
08	Vamatex 1001	300	20	220	☐	36	01
09	Vamatex 1001	300	20	220	☐	36	01
10	Vamatex 1001	300	20	220	☐	36	01

Insert Modify Delete

Modify family

Code: M

Description: Telai Vamatex

Average Work: 36

Speed: 250

Blades: 24

Comb height: 220

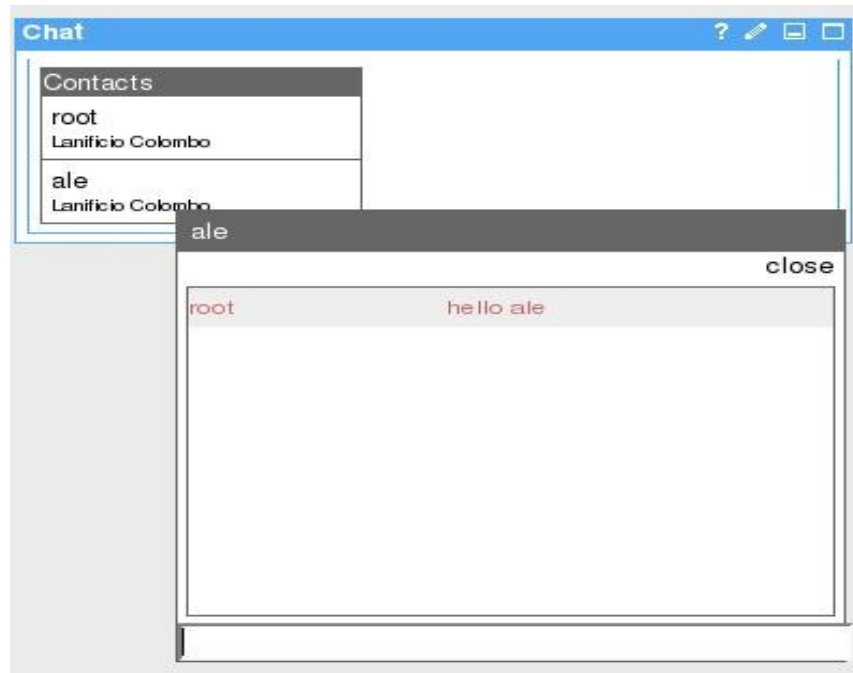
Selvedge: ☐

Group: 01 - Gruppo 1 ▾

Ok Cancel

Preview: user area

- Every user will see the tables where to insert its own data, exposed through OGSA-DAI
- Every user will be supported by Domina's expert through an instant messaging window:



Preview: jobs screenshot

Textile grid portal job management

Jobs management

<u>Id</u>	<u>Description</u>	<u>Type</u>	<u>Submission date</u>	<u>Execution date</u>
93	Test da portale	null	13/10/2007	
92	Test	null	08/10/2007	
91	Test	null	05/10/2007	
90	Test	null	05/10/2007	
89		null	04/10/2007	
88	Test	null	04/10/2007	
87	Test	null	04/10/2007	
86	Test	null	03/10/2007	
85	Test	null	03/10/2007	
84	Test	null	03/10/2007	

New plan View output

Insert

Department: 1 - Weaving

Description:

Job type: Production Planning From Files

From date: / /

PE_TELAI.TXT Browse...

PE_FAMIG.TXT Browse...

PE_CATEN.TXT Browse...

PE_CALTE.TXT Browse...

PE_CALSQ.TXT Browse...

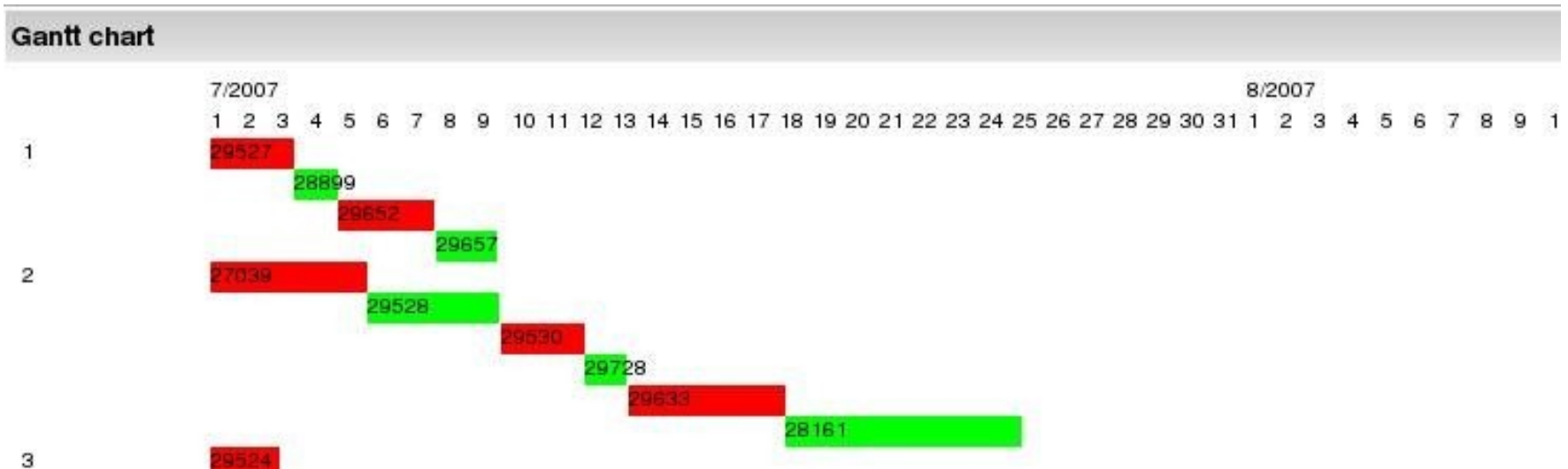
PE_ALLCA.TXT Browse...

Ok Cancel

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Preview: jobs

- Users may submit jobs through a simple interface
- After choosing the submission type, users may decide to use data inserted from the user's area or to submit their files (obtained from their database system).
- A clickable Gantt chart will be the output of “production planning” submission.



Preview: administration screenshot

Home Production planner Jobs **Administration**

Textile grid portal administration

Tables Help

Enterprises management
Users management
Services management

<< < > >>

<u>User ID</u>	<u>Enterprise</u>
root	COLO Lanificio Colombo
ale	COLO Lanificio Colombo
ale2	MARC Filatura Marchi

Modify Delete

Preview: administration

- **The system administrator will define the enterprises that connects to the system**
- **The portal users will be enriched with additional information from this application**
- **This application also define the servers connected to the grid and which servers are available to any customers.**
- **Data of this applications are saved into the portal Mysql server, accessed through Hibernate.**

Final considerations

- **Some of the adopted grid tools need more documentation and improvements for adoption in SME.**
- **As a consequence, we think we can sell this kind of service only through a portal, so that Domina will be charged to manage all the complexity.**
- **Many thanks to who decided to release GWT as open source**



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THANK YOU