

## Enabling Grids for E-sciencE

# Towards an Information System Product Team

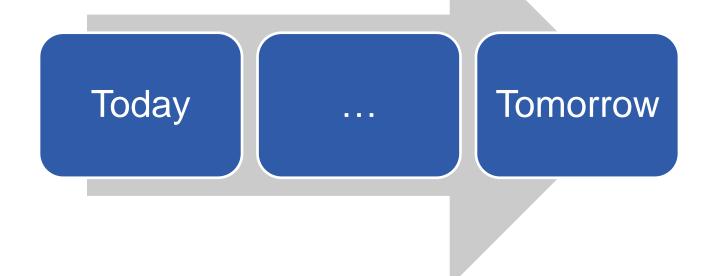
David Horat
EGEE'09, Barcelona, Spain
24th September, 2009

www.eu-egee.org





- 1. Where we are today
- 2. Where we might be tomorrow
- 3. Managing the transition
- 4. Software planning











JRA1



SA3

**Middleware Engineering** 

**Integration Testing** 



**Enabling Grids for E-sciencE** 

# gLite CVS

[jralmw]			Repository: jr	a1mw 🔽	Go
Index of /				ViewV	C
Files shown: 10 Sticky Tag: Set					
File 🔺	Rev.	Age	Author	Last log entry	
Auth/					
DPM-DICOM/					
DPM-DSI/					
DPM-FTP/					
Trong FCR/					
GmsSameConsumer/					
LCG-DM/					
SRM-DICOM/					
afs ui scripts/					
🕽 bdii/					
bdiiconf-gen/					
🕽 build-validation/					

👊 d-cache-lcg/



**Enabling Grids for E-sciencE** 

## Savannah

#### LCG Savannah

#### Logged in as horat

My Incoming Items

My Items

My Groups
My Account Conf

Logout

#### This Page

Clean Reload

Printer Version

#### Search

in Projects Search

**Hosted Projects** 

Register New Project

Full List

Contributors Wanted

Statistics

#### Site Help

User Docs: Cookbook User Docs: In Depth Guide

Guide

Get Support



## My Incoming Items

My Incoming Items | Items | Group Membership | Account Configuration

Here's a list of recent items (< 16 days) we think you should have a look at. These are items recently posted on trackers you manage that are still unassigned or assigned to you and news posted on a project you are member of.

## New And Unassigned Items

- gLite Middleware (9 items)
- R3.2/SL5/X86\_64; DPM/LFC V1.7.3 (patch #3241, With Provider)
- 🔯 Data Export #392 (bugs) (task #11220, None)
- 않 Data Export #391 (patch) (task #11193, None)
- 🔯 Data Export #390 (patch) (task #11165, None)
- a1\_grid\_env 3.0.1.1 SL4 SL5/x86\_64 (patch #3231, Ready for Integration)
- a1\_grid\_env 3.0.1.1 SL4 SL4/x86\_64 (patch #3230, Ready for Integration)
- VOMS 1.9 -- Client and APIs no longer need globus x86 64 (patch #3229, Ready for Integration)
- ✓ VOMS 1.9 -- Client and APIs no longer need globus (patch #3228, Ready for Integration)
- SL5/x86\_64: glite-MPI\_utilS (patch #3225, Ready for Integration)

(-) EGEE-SA1 Tools (1 item)

News

None found



**Enabling Grids for E-sciencE** 

## **Twiki**



EGEE

#### **EGEE Web**

EGEE Web Home

gLite

SA3

JRA1

**EMT** 

SA1

SA2

NA2 NA4

EGEE-UIG

List of registered projects

List of EGEE-RP

interactions

Changes

Index

Search

Main.WebList

Welcome Guest

Login or Register

TWiki > EGEE Web > InformationSystem (2009-07-24, DavidHorat)

Edit Attach PDF

Jump Search

## Information System

#### Documentation

- i. Information System Overview
- ii. Berkely Database Information Index (BDII)
  - a. Resource BDII
  - b. BDII Tests
- iii. Glue Use within EGEE
- iv. Information System Troubleshooting Guide
- v. LDAP bench

#### Obsolete

- i. Berkely Database Information Index (BDII) v4
- ii. Information System Troubleshooting Guide v4
- iii. Generic Information Provider (GIP)

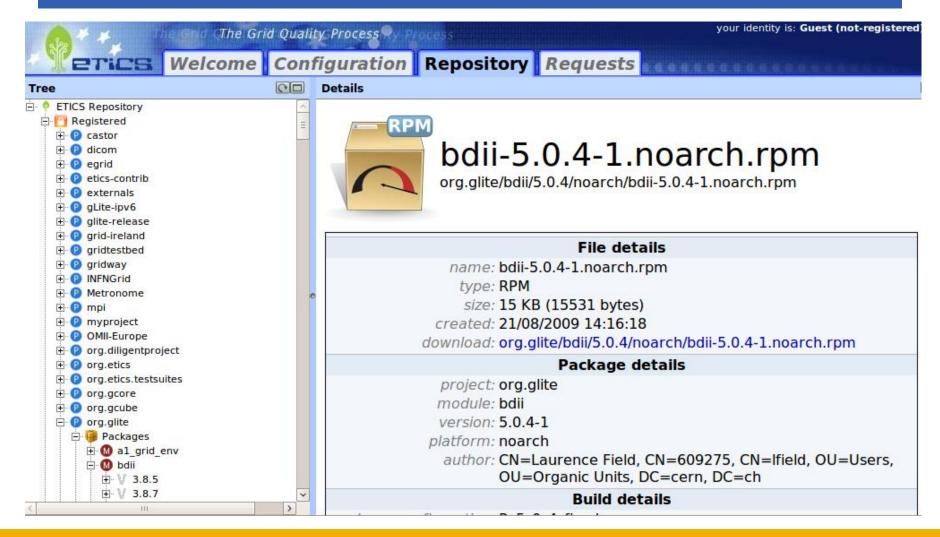
## Work Plan

1. Efficient Transport



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## **ETICS**

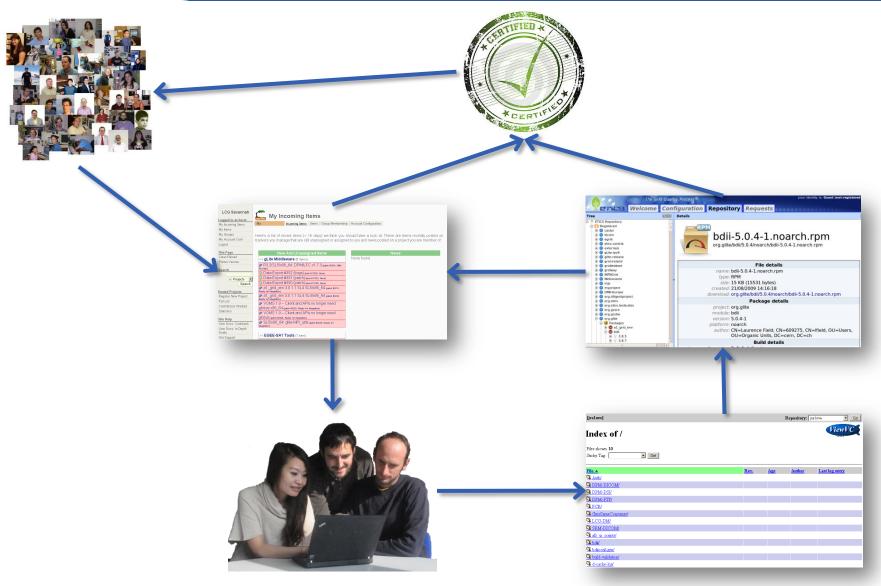




## SA3









# Where we might be tomorrow





## Where we might be tomorrow

**Enabling Grids for E-sciencE** 

## 1. Self Contained Software Unit

- Self sufficient
- Interface (What we deliver and how?)

## 2. Same as now with minor changes

- Plus certification
- Interface (What we deliver and how?)



# Managing the transition

# Information System Product Team

## Areas to consider

- Hosting options
- Building system
- Certification
- Release management

## Current products

- BDII
- GLUE 2.0
- GIP
- Etc.





# **Hosting options**

	Organization	Revision Control	Bug Tracking	Web Hosting	Wiki	Mailing List	Forum	Access Mechanisms	Code Review	Paid Support
assembla	Assembla LLC	SVN	Yes	No	Yes	Messages <sup>1</sup>	No	Account	No	Yes
CERN SVN	CERN	SVN	Yes	Yes	Yes	Yes	No	Account, Certificate	No	Unknown
GNU Savannah	GNU	CVS, SVN	Yes	No	No	Yes	Yes	Account	No	No
Google Code	Google	SVN	Yes	Outside <sup>2</sup>	Yes	Outside <sup>3</sup>	Outside <sup>4</sup>	Account	Yes	No
Launchpad	Ubuntu	CVS, SVN <sup>5</sup>	Yes	No	No	Yes	No	Account	Yes	No
SourceForge	SourceForge	CVS, SVN	Yes	Yes	Yes	Yes	Yes	Account, OpenID	No	No
Tigris	CollabNet	CVS, SVN	Yes	Yes	Yes	Yes	Yes	Account	No	No
Unfuddle	Subventurate LLC	SVN	Yes	No	Yes	Blog <sup>6</sup>	No	Account	No	Yes

- [1] It is really an internal messaging system rather than a standard mailing list
- [2] You can use Google Sites.
- [3] You can use Google Groups.
- [4] You can use Google Groups.
- [5] CVS and SVN are imported into Bazaar format. No native support.
- [6] It is really an internal blog rather than a standard mailing list



# Hosting options: CERN SVN

**Enabling Grids for E-sciencE** 



CERN Home IT Home Phonebook Need Help?

IT Home > Technical Computing > CERN Central SVN Service



Find

All CERN

C IT Department

#### IT Services

Access to Facilities **Desktops and Portables** Administrative Computing Physics Computing **Technical Computing** Telecom Index of Services Other Services

#### Department Information

What We Do Department Structure Administration Minutes & Reports

## CERN Central SVN Service

#### http://svn.web.cern.ch/svn/index.php

This is the web page of the CERN Central SVN Service - a SVN service provided, maintained and supported by IT Division. You will find more specific information on the following pages:

- HOW TO request a project, administrate it, access SVN servers etc.
- Further Reading about SVN; different clients and presentations.
- Add a feature request if there is anything in the Central SVN Service that you are missing.
- Service Level Agreement, you may also have a look at the Mandate

Projects hosted: 234

Subscribe to VC-Announcements (Version Control Systems related announcements), or have a look in our archive, where you will find a Summary of the SVN Forums and major announcements.

Are you also using CVS?? Then you might want to have a look at our CVS to SVN (Subversion) migration campaign:

- CVS → SVN
- Savannah + Twiki → Trac



# **Building system**

The Grid Quality Process

Tree

Configuration
Repository Requests

Details

platform: noarch

author: CN=Laurence Field, CN=609275, CN=lfield, OU=Users, OU=Organic Units, DC=cern, DC=ch

Build details

- Best practices in Free Software?
- Get closer to the OS?
- Include components in OS distributions?

## A possibility ...



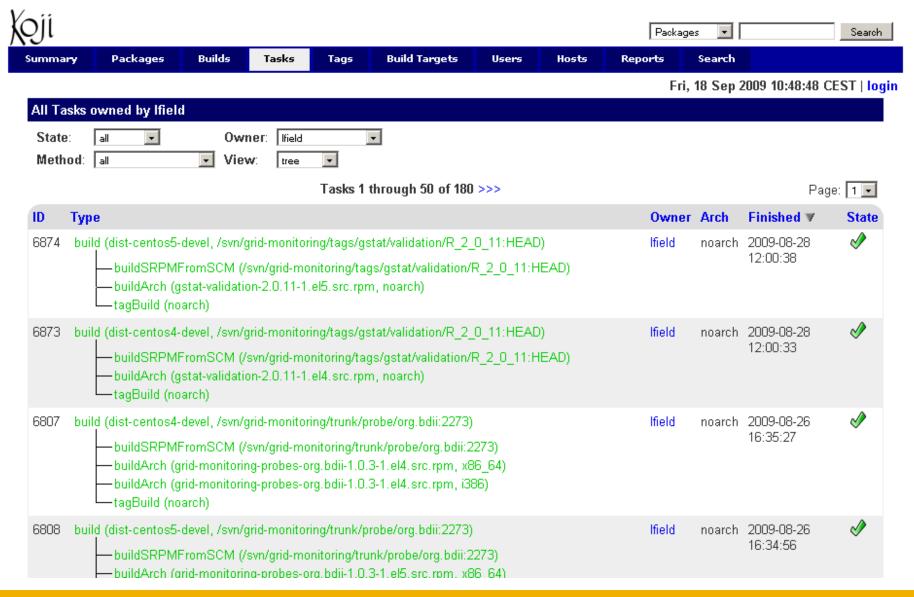
## The Fedora Build System

```
koji build <repo_tag> <source>
  <repo_tag>: The repository to use for dependencies
  <source>: CVS URL, SVN URL, source RPM, etc.
```

Dependencies resolved using the spec file



# **Building system**



# **Building system**

**Enabling Grids for E-sciencE** 

## Pros

- Community supported
- Best practices implementation
- Multiple source types
- One command
- Process driven from the spec file
- Tag based approach

## Cons

- RPM based
- Difficulty to build debs
  - Already being discussed in the community
- Other possibilities?
  - The Debian Build System

- Improve automatic tests
- Virtual machine images
- Automatic setup
- The testbed





# Certification: Automatic tests

**Enabling Grids for E-sciencE** 



## **Grid Information System**

Login | Preferences | Help/Guide | About Trac

| Wiki | Timeline | Roadmap | Browse Source | View Tickets | Search | Blog

Last Change | Revision Log

## root / tests / trunk

Name A	Size	Rev	Age	Last Change
<b>L</b> /				
i test-bdii-chain.sh	3.2 KB	50	6 weeks	horat:
🛅 test-bdii-resource.sh	437 bytes	50	6 weeks	horat:
i test-bdii-site.sh	3.0 KB	50	6 weeks	horat:
📓 test-bdii-top.sh	2.0 KB	50	6 weeks	horat:

Note: See TracBrowser for help on using the browser.

View changes...



Powered by **Trac 0.11.5**By Edgewall Software.

Visit the Trac open source project at http://trac.edgewall.org/

View revision:

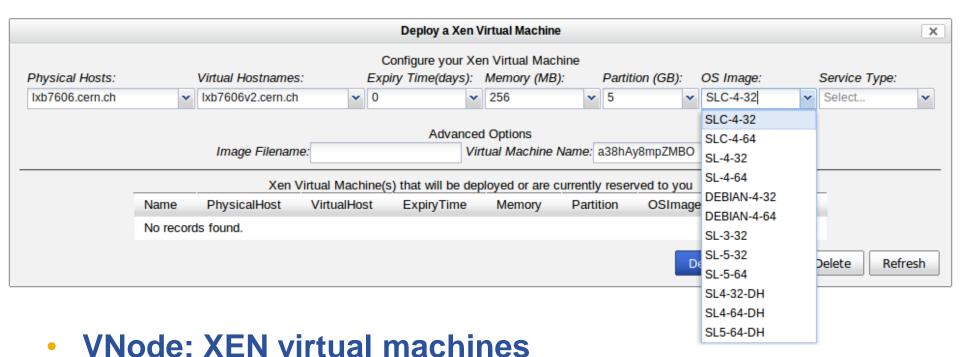
## Bash scripts

- Exit value 0: OK
- Exit value != 0: ERROR

Search



# **Certification: VM images**



- SL4-32-DH
- SL4-64-DH
- SL5-64-DH



# **Certification: Automatic setup**

**Enabling Grids for E-sciencE** 

./yaimgen.sh <input file> <log file>

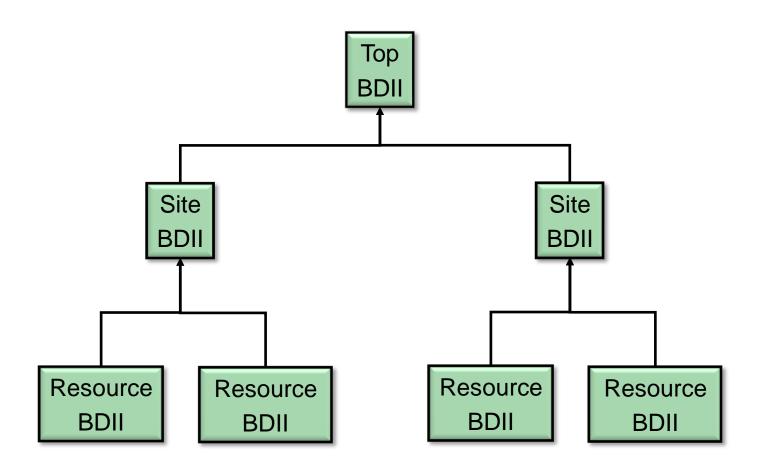


- 1. Update the system
- 2. Select repository
- 3. Install nodes
- 4. Install patches
- 5. Configure the system
- Configure the node using YAIM
- 7. Run basic tests

And now we can start certifying ...



## **Certification: The testbed**





## **Certification: The testbed**

Welcome, David Jesus Horat Flotats

# **BDII Web Config**

Files Commands

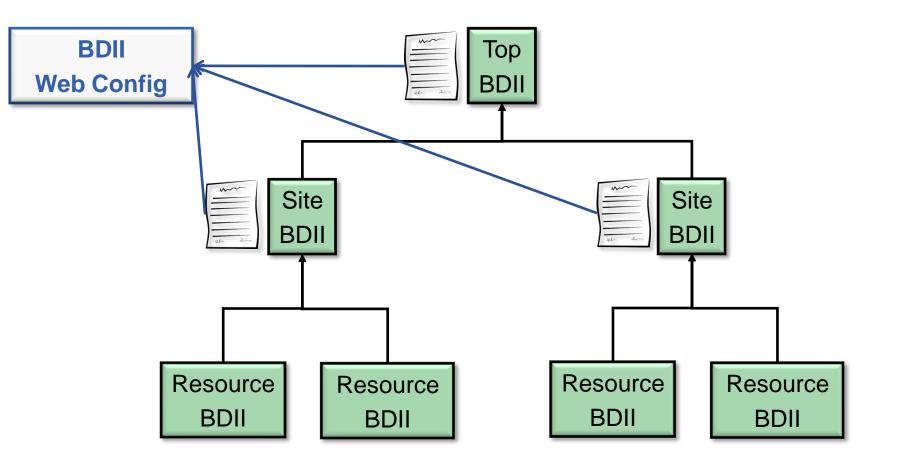
cert-tb-cern Show Link Edit Delete
Testbed-Top Show Link Edit Delete

Create a new file

David Horat Help - CERN Copyright ©



# **Certification: The testbed**





# Release management

- Announcements
- Bug tracking
- Project portal
- Code browser
- XML-RPC API



## Release man.: Announcements

**Enabling Grids for E-sciencE** 



## **Grid Information System**

			Log	in Preferences	Help/Guide	About Trac
Wiki	Timeline	Roadmap	Browse Source	View Tickets	Search	Blog

Recent posts

#### GStat 2.0 Beta Release

The beta release of GStat is now available. Installation and configuration instructions can be found in the Installation Guide. For any questions or comments, please email the Image GStat support list.

GStat 2.0 is a major revision of the original version of GStat and aims to improve usability while reducing the maintenance overhead. In addition, the modular designed enables various components to be re-used in other applications. Further details on the design goals and architecture can be found in the GStat Overview page and the GCHEP 2009 paper.

The aim of the GStat 2.0 beta release is to give potential users a chance to provide feedback before the a official release. The aim of the official release will be to provide a replacement for the original version of GStat. However, due to time constraints, some functionality is not available in this beta release.

Here is an instance of GStat 2.0 Beta for evaluation: ➡http://gstat-dev.cern.ch/gstat. Feedback on improvements and desired functionality is welcome and can be given by emailing the ☒ GStat support list.

Posted: 2009-08-27 13:39 (Updated: 2009-09-01 14:03) Author: <mark>Ifield</mark> Categories: **Releases Comments** (0) This blog does not yet have an 'About' post.

Archive: All posts (1) rss

Browse by time:
August 2009 (1)

Browse by author:
Ifield (1) rss

Browse by category:
Releases (1) rss

Download in other formats:

RSS Feed

Search



# Release man.: Bug tracking

**Enabling Grids for E-sciencE** 



## **Grid Information System**

logged in as horat | Logout | Preferences | Help/Guide | About Trac

Wiki Timeline Roadmap Browse Source View Tickets New Ticket Search Admin Blog

Available Reports | Custom Query

Search

## {7} My Tickets (7 matches)

This report demonstrates the use of the automatically set USER dynamic variable, replaced with the username of the logged in user when executed.

Edit report | Copy report | Delete report

## Accepted (2 matches)

Ticket	Summary	Component	Version	Milestone	Туре	Priority	Created
#19	Prepare a BDII test plan	bdii			task	major	23/07/09
#38	Deployment Stats	gstat-web	2.0	GStat beta2	enhancement	minor	28/08/09

#### Owned (5 matches)

Ticket	Summary	Component	Version	Milestone	Туре	Priority	Created
#20	Glue 2.0 Tests	gstat-validation	2.0		enhancement	major	23/07/09
#18	Glue 2.0 Examples for multi-core/VM use cases.	glue-schema	2.0		task	major	23/07/09
#12	GLUE 2.0 Django models and import script	gstat-web	2.0		enhancement	minor	13/07/09
#28	GLUE 2.0 AdminDomain Information provider.	bdii			enhancement	minor	03/08/09
#17	Optimize application images	astat-web	2.0	GStat beta2	enhancement	minor	16/07/09



# Release man.: Bug tracking

**Enabling Grids for E-sciencE** 



## Grid Information System

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Wiki | Timeline | Roadmap | Browse Source | View Tickets | New Ticket | Search | Admin | Blog

## Roadmap



First beta release of GStat

## Milestone: GStat beta2

Due in 3 days (20/09/09)

18%

Closed tickets: 3 Active tickets: 14 / Total tickets: 17

This release should duplicate the functionality of GStat version 1, so that the service can be decommissioned.

#### Milestone: Gstat release

Due in 6 weeks (01/11/09)

Search



## Release man.: Project portal

**Enabling Grids for E-sciencE** 

Roadmap

Timeline



## **Grid Information System**

Wiki

| logged in as horat | Logout | Preferences | Help/Guide | About Trac | Browse Source | View Tickets | New Ticket | Search | Admin | Blog

Start Page | Index | History | Last Change

## Welcome to the Grid Information System

#### Starting Points

- Documentation -- Documentation.
- Test Plan -- The Testing Strategy.
- Automatic Tests matrix -- Making basic testing become easy.
- Download -- Download the software.
- Support -- Support and Troubleshooting.
- Suggestions -- Suggestions for the different components.
- RoadMap -- Software road map.
- Developers -- Information for developers.
- FAQ -- Frequently Asked Questions.
- Links -- Interesting link compilation.

For anything else please contact is-grid-support.

Edit this page | Attach file | Delete this version | Delete page

Download in other formats:

Plain Text



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Visit the Trac open source project at http://trac.edgewall.org/

Search



## Release man.: Code browser

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Roadmap

Timeline



## **Grid Information System**

Wiki

logged in as horat | Logout | Preferences | Help/Guide | About Trac

View Tickets | New Ticket | Search | Admin | Blog

Last Change | Revision Log

Mich regisions

Search

#### root

				view revision:
Name A	Size	Rev	Age	Last Change
▶ 🛄 bdii		64	4 weeks	lfield: New Release
▶ ☐ certification		59	6 weeks	horat: Added configuration for WN and SE_dpm_mysql
Diagram deploystats		68	9 days	horat: Example form with javascript validation for usability
▶ 🛅 example		17	3 months	lfield: A few more build changels
D 🛅 glue-schema		67	9 days	lfield: Updated specfile
▶ ☐ Idapbench		48	6 weeks	lfield: Added Idapbench
▶ 🛅 poorman		58	6 weeks	horat: Extracted auxiliary functions to the file lib.php
▶ 🛅 release-scripts		20	3 months	lfield: Added release scripts
▶ 🛅 tests		50	6 weeks	horat:
copy-build-scripts.sh	282 bytes	20	3 months	lfield: Added release scripts

**Browse Source** 

Note: See TracBrowser for help on using the browser.

View changes...



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Visit the Trac open source project at http://trac.edgewall.org/



## Release man.: XML-RPC API

- Web Service
  - XML-RPC
  - Doc: <a href="http://trac-hacks.org/wiki/XmlRpcPlugin">http://trac-hacks.org/wiki/XmlRpcPlugin</a>
- Manage
  - Tickets
  - Wiki
  - Search



## Release man.: XML-RPC API

**Enabling Grids for E-sciencE** 

# Retrieving my tickets in Python

```
import xmlrpclib
iirl =
  "https://user:password@svnweb.cern.ch/no sso/trac/gr
  idinfo/login/xmlrpc"
server = xmlrpclib.ServerProxy(url)
multicall = xmlrpclib.MultiCall(server)
for ticket in server.ticket.query("owner=horat"):
    multicall.ticket.get(ticket)
print map(str, multicall())
```



# Software planning

- Software released
  - BDII
  - BDII File Editor
  - GStat
  - Deployment statistics
- Software in which we collaborate
  - GLUE Schema
  - Yaimgen



# Software planning

- To come ...
  - GLUE 2.0 roll out
  - BDII maintenance
    - Performance and scalability improvement
    - Investigate a more decentralized model
  - GStat 2.0 release
    - Validation probes
    - Web application
  - Yaimgen
    - More and more automation





## Enabling Grids for E-sciencE

# Thank you!

David Horat

david.horat@cern.ch

http://cern.ch/horat

www.eu-egee.org



