



Enabling Grids for E-scienceE

# BDII installation & configuration

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*Clermont-Ferrand, 07-13.10.2006*

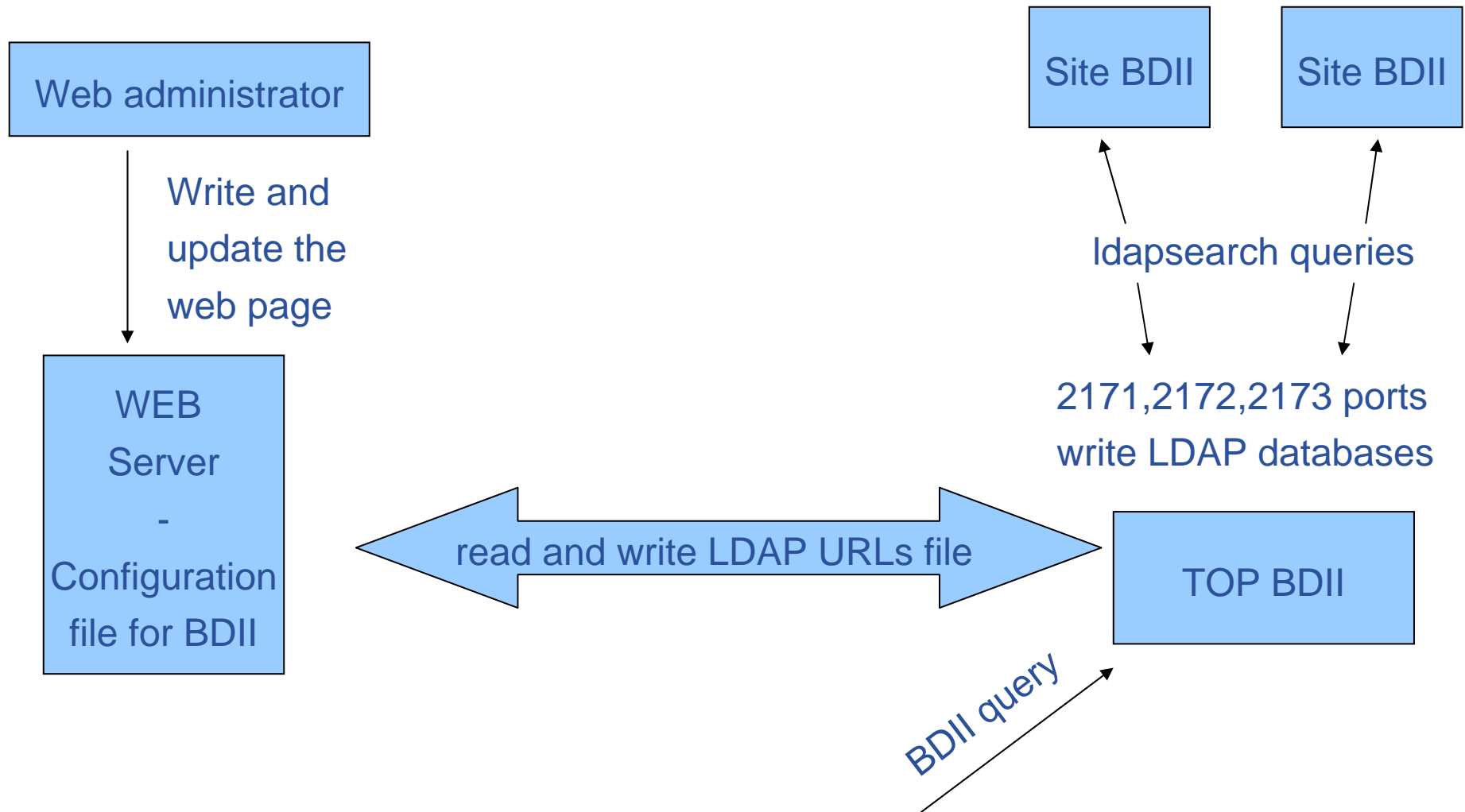
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Information Society



- The **BDII** (Berkeley Database Information Index) is a grid node that collects all site informations and interactives with the **RB** in order to provide it the informations required by a submitted jdl.
- It consists of two or more standard **LDAP** databases that are populated by an update process (2171,2172,2173 ports)
- Port forwarding is used to enable one database to serve data while the other is refreshing.
- Options exist to update the list of LDAP URLs from a web page and to use an **LDIF** file from a web page



`ldapsearch -x -h <top_bdii_hostname> -p 2170 -b mds-vo-name=local,o=grid`

## Web page:

<Site name> [ldap://<site\\_bdii\\_hostname>:2170/mds-vo-name=<site name>,o=grid](ldap://<site_bdii_hostname>:2170/mds-vo-name=<site name>,o=grid)

## Example:

<http://grid018.ct.infn.it/fileadmin/bdii/glite-bdii-update.conf>

INFN-CATANIA <ldap://grid010.ct.infn.it:2170/mds-vo-name=infn-catania,o=grid>

INFN-CNAF <ldap://grid011f.cnaf.infn.it:2170/mds-vo-name=infn-cnaf,o=grid>

.....

.....

These are the parameters of **bdii.conf**:

- **BDIIPORTREAD=2170**

The port which is used for incoming queries.

- **BDIIPORTSWRITE="2171 2172 2173"**

The database ports. Each port specified will create a database.

- **BDII\_USER=bdiiuser**

The user that runs the slapds.

- **BDII\_BIND=mds-vo-name=local,o=grid**

The top level dn for the database.

- **BDII\_PASSWD=secret**

The password for the slapds.

- **BDIISEARCHFILTER='\*'**

A search filter for use with the ldapsearches.

- **BDIISEARCHTIMEOUT=30**

Time to wait for LDAP urls to respond.

- **BDIIBREATHETIME=60**

Time to wait before updating the next database.

- **BDIIAUTOUPDATE=yes**

Whether or not to update the file containing the LDAP URLs.

- **BDIIAUTOMODIFY=no**

Whether or not to modify the data using an LDIF modify file.

- **BDII\_DIR=/opt/lcg/bdii/**

The location and working directory of the bdii.

- **BDIIUPDATEURL=http://**

The URL to use to update the LDAP URLs file.

- **BDIIUPDATELDIF=http://**

The URL to use to update the LDIF modify file.

- **SLAPD=/opt/openldap/libexec/slapd**

The location of the slapd command.

- **SLAPADD=/opt/openldap/sbin/slapadd**

The location of the slapadd command.



**BDII\_PORT\_READ=2170**

**BDII\_PORTS\_WRITE="2171 2172 2173"**

**BDII\_USER=edguser**

**BDII\_BIND=mds-vo-name=local,o=grid**

**BDII\_PASSWD=ru3hg5y**

**BDII\_SEARCH\_FILTER='(!(objectClass=GlueSchemaVersion)(objectClass=GlueTop))'**

**BDII\_SEARCH\_TIMEOUT=30**

**BDII\_BREATHE\_TIME=60**

**BDII\_AUTO\_UPDATE=yes**

**BDII\_AUTO\_MODIFY=no**

**BDII\_DIR=/opt/bdii/**

**BDII\_UPDATE\_URL=http://grid018.ct.infn.it/fileadmin/bdii/glite-bdii-update.conf**

**BDII\_UPDATE\_LDIF=http://goc.grid-support.ac.uk/gridsite/bdii/BDII/www/bdii-update.ldif**

**SLAPD=/usr/sbin/slapd**

**SLAPADD=/usr/sbin/slapadd**



# BDII installation & configuration using YAIM

- **Because of SUN licence used for Java SDK, it is not possible to redistribute it with the middleware.**
- **You have to download Java SDK 1.4.2 from Sun web site: <http://java.sun.com/j2se/1.4.2/download.html>**
- **Select "Download J2SE SDK", and download the "RPM in self-extracting file". Follow the instruction on the pages to extract the rpm.**

- **Download and install latest version of glite-yaim-3.0.0 -\* on all your grid nodes:**

<http://glitesoft.cern.ch/EGEE/gLite/APT/R3.0/rhel30/RPMS.Release3.0/>

- **Download and install the latest version of gilda\_ig-yaim-3.0.0 -\* on all your grid nodes:**

[http://grid018.ct.infn.it/apt/gilda\\_app-i386/utis](http://grid018.ct.infn.it/apt/gilda_app-i386/utis)

- Copy **site-info.def** template file provided by gilda\_ig\_yaim in to the root dir and customize it

```
cp /opt/glite/yaim/examples/gilda_ig-site-info.def \
/root/my-site-info.def
```

- Open `/root/my-site-info.def` file using a text editor and set the following values according to your grid environment:

`MY_DOMAIN=<your DOMAIN>` 

`BDII_HOST=<write the BDII hostname you are installing>` 

`NTP_HOSTS="193.206.144.10"`

`BDII_HTTP_URL="http://grid018.ct.infn.it/fileadmin/bdii/glite-bdii-update.conf"` 

- **Set the repositories:**

- **INSTALL\_SERVER\_HOST**=embrace-akserver.\$MY\_DOMAIN
- **OS\_REPOSITORY**="rpm http://\$INSTALL\_SERVER\_HOST rep/sl3-i386 os updates extras localrpms"
- **LCG\_REPOSITORY**="rpm http://\$INSTALL\_SERVER\_HOST rep/glite\_sl3-i386 3\_0\_0 3\_0\_0 externals 3\_0\_0 updates"
- **IG\_REPOSITORY**="rpm http://\$INSTALL\_SERVER\_HOST rep/ig\_sl3-i386 3\_0\_0 utils"
- **GILDA\_REPOSITORY**="rpm http://grid018.ct.infn.it/rep gilda\_app-i386 app 3\_0\_0"
- **CA\_REPOSITORY**="rpm http://grid018.ct.infn.it/rep glite\_sl3-i386 security"

- **This command will download and install all the needed packages:**

```
/opt/glite/bin/gilda_ig_install_node  
/root/my-site-info.def GILDA_ig_BDII
```

- **Now we can configure the node:**

```
/opt/glite/bin/gilda_ig_configure_node  
/root/my-site-info.def GILDA_ig_BDII
```

**Updating DB on port 2173**

**Updated configuration.**

**Waiting 30 s for query results.**

**Time for searches: 30 s**

**Time to update DB: 2 s**

**Grabbing port 2170 for 2173**

**Sat Sep 23 04:09:09 CEST 2006**

**Sleeping for 60**





# BDII testing

You can ask the BDII in order to see if its database is running:

```
ldapsearch -x -h <bdi hostname> -p 2170 \  
-b mds-vo-name=local,o=grid
```

## From your account in the UI:

- **Set the BDII environment:**

```
[plt@glite-tutor:~]$ LCG_GFAL_INFOSYS=<bdi hostname>:2170
```

```
[plt@glite-tutor:~]$ lcg-infosites -h
```

```
[plt@glite-tutor:~]$ lcg-info -h
```

**they will show the help with all the possible queries to obtain the sites' informations**

```
[plt@glite-tutor:~]$ lcg-infosites --vo gilda se
```

Avail Space(Kb)	Used Space(Kb)	Type	SEs
50410000	2730000	n.a	trigrid-ce01.unime.it
767750000	41110000	n.a	gildase01.roma3.infn.it
55020000	2980000	n.a	iceage-se-01.ct.infn.it
68320000	4970000	n.a	gildase.oact.inaf.it
51890000	3920000	n.a	grid038.ct.infn.it
2840000000	1010000000	n.a	aliserv6.ct.infn.it
51890000	3920000	n.a	grid038.ct.infn.it
27916128	3243652	n.a	testbed005.cnaf.infn.it
63810000	10260000	n.a	egee016.cnaf.infn.it
162432584	19700984	n.a	trigriden01.unime.it
898705012	13702404	n.a	grid005.iucc.ac.il
129430000	9310000	n.a	grid-se.bio.dist.unige.it
64390000	8350000	n.a	gilda02.lcca.usp.br

```

[plt@glite-tutor:~]$ lcg-info --vo gilda --list-ce
- CE: gilda03.lcca.usp.br:2119/jobmanager-lcgpbs-infinite
- CE: gilda03.lcca.usp.br:2119/jobmanager-lcgpbs-long
- CE: gilda03.lcca.usp.br:2119/jobmanager-lcgpbs-short
- CE: gildace.oact.inaf.it:2119/jobmanager-lcgpbs-infinite
- CE: gildace.oact.inaf.it:2119/jobmanager-lcgpbs-long
- CE: gildace.oact.inaf.it:2119/jobmanager-lcgpbs-short
- CE: gildace01.roma3.infn.it:2119/jobmanager-lcgpbs-infinite
- CE: gildace01.roma3.infn.it:2119/jobmanager-lcgpbs-long
- CE: gildace01.roma3.infn.it:2119/jobmanager-lcgpbs-short
- CE: grid-ce.bio.dist.unige.it:2119/jobmanager-lcgpbs-infinite
- CE: grid-ce.bio.dist.unige.it:2119/jobmanager-lcgpbs-long
- CE: grid-ce.bio.dist.unige.it:2119/jobmanager-lcgpbs-short
- CE: grid004.iucc.ac.il:2119/jobmanager-lcgpbs-infinite
- CE: grid004.iucc.ac.il:2119/jobmanager-lcgpbs-long
- CE: grid004.iucc.ac.il:2119/jobmanager-lcgpbs-short
- CE: grid010.ct.infn.it:2119/jobmanager-lcgpbs-infinite
- CE: grid010.ct.infn.it:2119/jobmanager-lcgpbs-long
- CE: grid010.ct.infn.it:2119/jobmanager-lcgpbs-short

```



# Troubleshooting

- **If a query to the BDII doesn't show the information about a site, you have to look at the bdii log file and check if there are some error.**
- **For example:**

```
GILDA-ROMA3: ldap_bind: Can't contact LDAP server
```

**In this case you have to contact the site administrators of that site and ask them to check if your site BDII is up and running on their CE**