

Introduction

This document is addressed to site administrators responsible for middleware installation and configuration. Goal of this wiki page is to provide some hints and examples about how to install and configure a IG Top BDII based on gLite middleware.

Repository settings for x86_64

```
$ cd /etc/yum/repos.d/

$ wget http://repo-pd.italiangrid.it/mrepo/repos/glite/sl5/x86_64/dag.repo
$ wget http://repo-pd.italiangrid.it/mrepo/repos/glite/sl5/x86_64/ig.repo
$ wget http://repository.egi.eu/sw/production/cas/1/current/repo-files/egi-trustanchors.repo
$ wget http://repo-pd.italiangrid.it/mrepo/repos/glite/sl5/x86_64/glite-bdii_top.repo
```

Update host and perform the installation of package(s)

```
$ yum clean all

$ yum install ig_BDII_top
Loaded plugins: kernel-module
CAs
CAs/primary
CAs
dag
dag/primary
dag
glite-BDII_top_sl5_x86_64_externals
glite-BDII_top_sl5_x86_64_externals/primary
glite-BDII_top_sl5_x86_64_release
glite-BDII_top_sl5_x86_64_release/primary
glite-BDII_top_sl5_x86_64_release
glite-BDII_top_sl5_x86_64_updates
glite-BDII_top_sl5_x86_64_updates/primary
glite-BDII_top_sl5_x86_64_updates
ig_sl5_x86_64
ig_sl5_x86_64/primary
ig_sl5_x86_64
ig_sl5_x86_64_externals
ig_sl5_x86_64_externals/primary
ig_sl5_x86_64_externals
sl-base
sl-base/primary_db
sl-security
sl-security/primary_db
Setting up Install Process
Resolving Dependencies
There are unfinished transactions remaining. You might consider running yum-complete-transaction
The program yum-complete-transaction is found in the yum-utils package.
--> Running transaction check
---> Package ig_BDII_top.x86_64 0:3.2.9-1_ig20_sl5 set to be updated
--> Processing Dependency: glite-BDII_top >= 3.2.9-1.sl5 for package: ig_BDII_top
--> Processing Dependency: bdii-config-top >= 0.0.7-1 for package: ig_BDII_top
--> Processing Dependency: glite-info-plugin-fcr >= 2.0.0-2 for package: ig_BDII_top
--> Processing Dependency: bdii >= 5.1.9-1 for package: ig_BDII_top
--> Processing Dependency: glite-info-provider-ldap >= 1.3.1-1 for package: ig_BDII_top
--> Processing Dependency: glite-yaim-bdii >= 4.1.10-1 for package: ig_BDII_top
--> Processing Dependency: glite-info-update-endpoints >= 2.0.4-1 for package: ig_BDII_top
--> Processing Dependency: glue-schema >= 2.0.3-1 for package: ig_BDII_top
--> Processing Dependency: glite-info-provider-service >= 1.4.3-0 for package: ig_BDII_top
--> Processing Dependency: glite-version >= 3.2.3-1 for package: ig_BDII_top
--> Processing Dependency: glite-yaim-core >= 4.0.13-2 for package: ig_BDII_top
--> Processing Dependency: ig-yaim >= 4.0.13-2 for package: ig_BDII_top
```

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```
--> Processing Dependency: glite-info-provider-release >= 1.0.1-1 for package: ig_BDII_top
--> Running transaction check
---> Package bdii.noarch 0:5.1.9-1 set to be updated
--> Processing Dependency: expect for package: bdii
--> Processing Dependency: openldap-servers for package: bdii
--> Processing Dependency: openldap-clients for package: bdii
---> Package bdii-config-top.noarch 0:0.0.7-1 set to be updated
---> Package glite-BDII_top.x86_64 0:3.2.9-1.sl5 set to be updated
---> Package glite-info-plugin-fcr.noarch 0:2.0.0-2 set to be updated
---> Package glite-info-provider-ldap.noarch 0:1.3.1-1 set to be updated
--> Processing Dependency: perl(LWP::Simple) for package: glite-info-provider-ldap
---> Package glite-info-provider-release.noarch 0:1.0.1-1 set to be updated
--> Processing Dependency: perl(Net::LDAP) for package: glite-info-provider-release
---> Package glite-info-provider-service.noarch 0:1.4.3-0 set to be updated
---> Package glite-info-update-endpoints.noarch 0:2.0.4-1 set to be updated
---> Package glite-version.noarch 0:3.2.3-1 set to be updated
---> Package glite-yaim-bdii.noarch 0:4.1.10-1 set to be updated
---> Package glite-yaim-core.noarch 0:4.0.13-2 set to be updated
---> Package glue-schema.noarch 0:2.0.3-1 set to be updated
---> Package ig-yaim.noarch 0:4.0.13-2_7 set to be updated
--> Running transaction check
---> Package expect.x86_64 0:5.43.0-5.1 set to be updated
---> Package openldap-clients.x86_64 0:2.3.43-12.el5_5.1 set to be updated
---> Package openldap-servers.x86_64 0:2.3.43-12.el5_5.1 set to be updated
CAs/filelists
dag/filelists
glite-BDII_top_sl5_x86_64 externals/filelists
glite-BDII_top_sl5_x86_64_release/filelists
glite-BDII_top_sl5_x86_64_updates/filelists
ig_sl5_x86_64/filelists
ig_sl5_x86_64_externals/filelists
sl-base/filelists_db
sl-security/filelists_db
--> Processing Dependency: libltdl.so.3()(64bit) for package: openldap-servers
---> Package perl-LDAP.noarch 1:0.33-3.fc6 set to be updated
--> Processing Dependency: perl(Convert::ASN1) for package: perl-LDAP
--> Processing Dependency: perl(XML::SAX::Base) for package: perl-LDAP
--> Processing Dependency: perl(IO::Socket::SSL) for package: perl-LDAP
---> Package perl-libwww-perl.noarch 0:5.805-1.1.1 set to be updated
--> Processing Dependency: perl-HTML-Parser >= 3.33 for package: perl-libwww-perl
--> Processing Dependency: perl(URI::URL) for package: perl-libwww-perl
--> Processing Dependency: perl(URI) for package: perl-libwww-perl
--> Processing Dependency: perl(HTML::Entities) for package: perl-libwww-perl
--> Processing Dependency: perl(Compress::Zlib) for package: perl-libwww-perl
--> Processing Dependency: perl(URI::Heuristic) for package: perl-libwww-perl
--> Processing Dependency: perl(URI::Escape) for package: perl-libwww-perl
--> Running transaction check
---> Package libtool-ltdl.x86_64 0:1.5.22-7.el5_4 set to be updated
---> Package perl-Compress-Zlib.x86_64 0:1.42-1.fc6 set to be updated
---> Package perl-Convert-ASN1.noarch 0:0.20-1.1 set to be updated
---> Package perl-HTML-Parser.x86_64 0:3.55-1.fc6 set to be updated
--> Processing Dependency: perl-HTML-Tagset >= 3.03 for package: perl-HTML-Parser
--> Processing Dependency: perl(HTML::Tagset) for package: perl-HTML-Parser
---> Package perl-IO-Socket-SSL.noarch 0:1.01-1.fc6 set to be updated
--> Processing Dependency: perl(Net::SSLeay) >= 1.21 for package: perl-IO-Socket-SSL
---> Package perl-URI.noarch 0:1.35-3 set to be updated
---> Package perl-XML-SAX.noarch 0:0.14-8 set to be updated
--> Processing Dependency: perl(XML::NamespaceSupport) for package: perl-XML-SAX
--> Running transaction check
---> Package perl-HTML-Tagset.noarch 0:3.10-2.1.1 set to be updated
---> Package perl-Net-SSLeay.x86_64 0:1.30-4.fc6 set to be updated
---> Package perl-XML-NamespaceSupport.noarch 0:1.09-1.2.1 set to be updated
--> Finished Dependency Resolution
Beginning Kernel Module Plugin
Finished Kernel Module Plugin
```

Dependencies Resolved

Update host and perform the installation of package(s)

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```

=====
Package                               Arch                               Version
=====
Installing:
ig_BDII_top                            x86_64                            3.2.9-1_ig20_sl5
Installing for dependencies:
bdii                                    noarch                             5.1.9-1
bdii-config-top                         noarch                             0.0.7-1
expect                                  x86_64                             5.43.0-5.1
glite-BDII_top                          x86_64                             3.2.9-1_sl5
glite-info-plugin-fcr                   noarch                             2.0.0-2
glite-info-provider-ldap                noarch                             1.3.1-1
glite-info-provider-release              noarch                             1.0.1-1
glite-info-provider-service              noarch                             1.4.3-0
glite-info-update-endpoints              noarch                             2.0.4-1
glite-version                           noarch                             3.2.3-1
glite-yaim-bdii                         noarch                             4.1.10-1
glite-yaim-core                          noarch                             4.0.13-2
glue-schema                             noarch                             2.0.3-1
ig-yaim                                  noarch                             4.0.13-2_7
libtool-ltdl                            x86_64                             1.5.22-7.el5_4
openldap-clients                        x86_64                             2.3.43-12.el5_5.1
openldap-servers                        x86_64                             2.3.43-12.el5_5.1
perl-Compress-Zlib                       x86_64                             1.42-1.fc6
perl-Convert-ASN1                        noarch                             0.20-1.1
perl-HTML-Parser                         x86_64                             3.55-1.fc6
perl-HTML-Tagset                         noarch                             3.10-2.1.1
perl-IO-Socket-SSL                       noarch                             1.01-1.fc6
perl-LDAP                                noarch                             1:0.33-3.fc6
perl-Net-SSLeay                          x86_64                             1.30-4.fc6
perl-URI                                  noarch                             1.35-3
perl-XML-NamespaceSupport                noarch                             1.09-1.2.1
perl-XML-SAX                             noarch                             0.14-8
perl-libwww-perl                         noarch                             5.805-1.1.1
=====

```

Transaction Summary

```

=====
Install      29 Package(s)
Upgrade      0 Package(s)
=====

```

Total download size: 4.3 M

Is this ok [y/N]: y

Downloading Packages:

```

(1/29): glite-BDII_top-3.2.9-1_sl5.x86_64.rpm
(2/29): ig_BDII_top-3.2.9-1_ig20_sl5.x86_64.rpm
(3/29): glite-info-plugin-fcr-2.0.0-2.noarch.rpm
(4/29): glite-info-provider-release-1.0.1-1.noarch.rpm
(5/29): bdii-config-top-0.0.7-1.noarch.rpm
(6/29): glite-version-3.2.3-1.noarch.rpm
(7/29): glite-info-update-endpoints-2.0.4-1.noarch.rpm
(8/29): glite-info-provider-ldap-1.3.1-1.noarch.rpm
(9/29): glite-yaim-bdii-4.1.10-1.noarch.rpm
(10/29): perl-HTML-Tagset-3.10-2.1.1.noarch.rpm
(11/29): perl-XML-NamespaceSupport-1.09-1.2.1.noarch.rpm
(12/29): bdii-5.1.9-1.noarch.rpm
(13/29): glue-schema-2.0.3-1.noarch.rpm
(14/29): libtool-ltdl-1.5.22-7.el5_4.x86_64.rpm
(15/29): perl-Convert-ASN1-0.20-1.1.noarch.rpm
(16/29): glite-info-provider-service-1.4.3-0.noarch.rpm
(17/29): perl-IO-Socket-SSL-1.01-1.fc6.noarch.rpm
(18/29): perl-Compress-Zlib-1.42-1.fc6.x86_64.rpm
(19/29): perl-XML-SAX-0.14-8.noarch.rpm
(20/29): perl-HTML-Parser-3.55-1.fc6.x86_64.rpm
(21/29): perl-URI-1.35-3.noarch.rpm
(22/29): glite-yaim-core-4.0.13-2.noarch.rpm
(23/29): expect-5.43.0-5.1.x86_64.rpm

```

Update host and perform the installation of package(s)

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```
(24/29): ig-yaim-4.0.13-2_7.noarch.rpm
(25/29): perl-Net-SSLeay-1.30-4.fc6.x86_64.rpm
(26/29): openldap-clients-2.3.43-12.el5_5.1.x86_64.rpm
(27/29): perl-LDAP-0.33-3.fc6.noarch.rpm
(28/29): perl-libwww-perl-5.805-1.1.1.noarch.rpm
(29/29): openldap-servers-2.3.43-12.el5_5.1.x86_64.rpm
```

Total

Running rpm_check_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```
Installing      : glue-schema
Installing      : glite-info-provider-service
Installing      : glite-info-update-endpoints
Installing      : glite-version
Installing      : glite-yaim-core
Installing      : expect
Installing      : libtool-ltdl
Installing      : openldap-servers
Installing      : perl-Net-SSLeay
Installing      : openldap-clients
Installing      : perl-Compress-Zlib
Installing      : bdi
Installing      : glite-yaim-bdi
Installing      : glite-info-plugin-fcr
Installing      : perl-IO-Socket-SSL
Installing      : perl-URI
Installing      : perl-HTML-Tagset
Installing      : perl-HTML-Parser
Installing      : perl-libwww-perl
Installing      : glite-info-provider-ldap
Installing      : bdi-config-top
Installing      : ig-yaim
Installing      : perl-Convert-ASN1
Installing      : perl-XML-NamespaceSupport
Installing      : perl-XML-SAX
Installing      : perl-LDAP
Installing      : glite-info-provider-release
Installing      : glite-BDII_top
Installing      : ig_BDII_top
```

Installed:

```
ig_BDII_top.x86_64 0:3.2.9-1_ig20_sl5
```

Dependency Installed:

```
bdi.noarch 0:5.1.9-1
glite-BDII_top.x86_64 0:3.2.9-1_sl5
glite-info-provider-release.noarch 0:1.0.1-1
glite-version.noarch 0:3.2.3-1
glue-schema.noarch 0:2.0.3-1
openldap-clients.x86_64 0:2.3.43-12.el5_5.1
perl-Convert-ASN1.noarch 0:0.20-1.1
perl-IO-Socket-SSL.noarch 0:1.01-1.fc6
perl-URI.noarch 0:1.35-3
perl-libwww-perl.noarch 0:5.805-1.1.1
bdi-config-top.noarch 0:0.0.7-1
glite-info-plugin-fcr.noarch 0:2.0.0-2
glite-info-provider-service.noarch 0:1.4.3-0
glite-yaim-bdi.noarch 0:4.1.10-1
ig-yaim.noarch 0:4.0.13-2_7
openldap-servers.x86_64 0:2.3.43-12.el5_5.1
perl-HTML-Parser.x86_64 0:3.55-1.fc6
perl-LDAP.noarch 1:0.33-3.fc6
perl-XML-NamespaceSupport.noarch 0:1.09-1.2.
```

Complete!

Install CAs

```
$ yum install -y lcg-CA
```

CONFIGURING

```
$ vi /opt/glite/yaim/examples/siteinfo/ig-site-info.def

# Hostname of the top level BDII
# INFN-GRID: Default BDII Top for Italy (if you do not have your own)
BDII_HOST=vm01.ct.infn.it

# Human-readable name of your site
SITE_NAME=GRID-TEST-VM01

# vi /opt/glite/yaim/defaults/glite-bdii_top.pre

# Check the validity of this URL in the documentation
BDII_HTTP_URL="http://lcg-bdii-conf.cern.ch/bdii-conf/bdii.conf"

# The Freedom of Choice of Resources service allows a top-level BDII
# to be instructed to remove VO-specific access control lines for
# resources that do not meet the VO requirements
BDII_FCR=http://lcg-fcr.cern.ch:8083/fcr-data/exclude.ldif

# The timeout value to be used with dynamic plug-ins.
GIP_TIMEOUT=300
```

Start the configuration with ig_yaim

```
# /opt/glite/yaim/bin/ig_yaim -c \
    -s /opt/glite/yaim/examples/siteinfo/ig-site-info.def \
    -n ig_BDII_top

WARNING:
WARNING: *****
WARNING: Your siteinfo directory is world readable. This is generally a bad idea
WARNING: as configuration files may contain passwords and other sensitive information.
WARNING: *****
WARNING:
INFO: Using site configuration file: /opt/glite/yaim/examples/siteinfo/ig-site-info.def
INFO:
#####

.          /'.-. ' )
.   yA,-"-,( ,m, :/ ) .oo.   oo   o   ooo o.   .oo
.   /          .-Y a  a Y-.   8. .8'   8'8.   8   8b  d'8
.   /          ~ ~ /         8'   .8oo88.   8   8  8'  8
.   (/_         '===='       8   .8'   8.   8   8  Y  8
.   Y,-''-,Yy,-.,/         oo0  oo0   oo80  oo0  oo0   oo0
.   I_))_) I_))_)

current working directory: /root
site-info.def date: Dec 27 12:41 /opt/glite/yaim/examples/siteinfo/ig-site-info.def
yaim command: -c -s /opt/glite/yaim/examples/siteinfo/ig-site-info.def -n ig_BDII_top
log file: /opt/glite/yaim/bin/./log/yaimlog
Mon Dec 27 12:48:05 CET 2010 : /opt/glite/yaim/bin/ig_yaim

Installed YAIM versions:
glite-yaim-bdii 4.1.10-1
glite-yaim-core 4.0.13-2
ig-yaim 4.0.13-2_7

#####
INFO: The default location of the grid-env.(c)sh files will be: /opt/glite/etc/profile.d
INFO: Sourcing the utilities in /opt/glite/yaim/functions/utils
INFO: Detecting environment
INFO: Executing function: config_ntp_check
INFO: Using locally defined function /opt/glite/yaim/functions/local/config_ntp
```

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```
INFO: Executing function: config_info_service_bdii_top_check
INFO: Executing function: config_bdii_5.1_check
INFO: Executing function: config_ntp_setenv
INFO: Using locally defined function /opt/glite/yaim/functions/local/config_ntp
INFO: Executing function: config_ntp
INFO: Using locally defined function /opt/glite/yaim/functions/local/config_ntp
INFO: Storing old ntp settings in /etc/ntp.conf.yaimold.20101227_124806
INFO: Executing function: config_nfs_sw_dir_server
INFO: Using locally defined function /opt/glite/yaim/functions/local/config_nfs_sw_dir_server
INFO: $HOST_SW_DIR is not this host. Skip!
INFO: Executing function: config_info_service_bdii_top_setenv
INFO: Executing function: config_info_service_bdii_top
INFO: Executing function: config_gip_service_release
INFO: Executing function: config_bdii_5.1
Stopping BDII: BDII already stopped
Starting BDII slapd: [ OK ]
Starting BDII update process: [ OK ]
INFO: Configuration Complete. [ OK ]
INFO: YAIM terminated succesfully.
```

Disable YUM update

```
$ /etc/init.d/yum stop
Disabling nightly yum update: [ OK ]
```

Daemons

```
$ ps auxwww | grep -i ldap
ldap      5393  3.0 69.8 1217924 549232 ?        Ssl  12:48   1:17 /usr/sbin/slapd -f /etc/bdii/bdi
ldap      5402  3.3  7.2 253688 56924 ?        S    12:48   1:26 /usr/bin/python /usr/sbin/bdii-u
```

Log files

```
/var/log/bdii/bdii-update.log
/var/run/bdii/old.ldif
```

Firewall

The following ports have to be opened:

- Local Site-BDII: port 2170/tcp
- ntpd: port 123/udp

TESTING

From an User Interface try the following command line tools

```
$ export LCG_GFAL_INFOSYS=vm01.ct.infn.it:2170
```

```
$ lcg-infosites --vo euasia ce
```

#CPU	Free	Total	Jobs	Running	Waiting	ComputingElement
2	2	0	0	0	0	ce.haii.or.th:2119/jobmanager-lcgpbs-euasia
32	16	0	0	0	0	ce.utmgrid.utm.my:2119/jobmanager-lcgpbs-euasia
288	265	23	23	0	0	as-ce01.euasiagrid.org:8443/cream-pbs-euasia
0	0	0	0	0	0	grid012.ct.infn.it:2119/jobmanager-lcglsf-euasia
0	0	51	51	0	0	razi.biruni.upm.my:2119/jobmanager-pbs-euasia
18	11	0	0	0	0	infn-ce-01.ct.pi2s2.it:8443/cream-lsf-short
72	8	0	0	0	0	cel.egee.cesnet.cz:2119/jobmanager-pbs-euasia
72	8	0	0	0	0	ce2.egee.cesnet.cz:2119/jobmanager-pbs-euasia
1048	688	351	128	223		quanta.grid.sinica.edu.tw:2119/jobmanager-pbs-eua

Start the configuration with ig_yaim

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48	47	0	0	0	khaldun.biruni.upm.my:2119/jobmanager-pbs-euasia
18	11	0	0	0	infn-ce-01.ct.pi2s2.it:8443/cream-lsf-euasia
16	16	16	0	16	lion.lsr.nectec.or.th:2119/jobmanager-lcgpbs-euasia
24	23	0	0	0	ce01.knowledgegrid.net.my:2119/jobmanager-pbs-euasia
24	23	0	0	0	cladonia.geranium.um.edu.my:2119/jobmanager-pbs-euasia
92	87	0	0	0	infnlns-ce-01.ct.pi2s2.it:8443/cream-lsf-short
30	0	5	0	5	infnlns-ce-01.ct.pi2s2.it:8443/cream-lsf-euasia
48	46	0	0	0	liknayan.pscigrid.gov.ph:2119/jobmanager-lcgpbs-euasia

\$ lcg-infosites --vo euasia se

Avail	Space(Kb)	Used	Space(Kb)	Type	SEs
49652129		22598291		n.a	se.haii.or.th
49652129		22598291		n.a	se.haii.or.th
8150000		50910000		n.a	dpm01.grid.sinica.edu.tw
299317338		94521495		n.a	aliserv6.ct.infn.it
8150000		50910000		n.a	dpm01.grid.sinica.edu.tw
1027167563		55086444		n.a	se02.knowledgegrid.net.my
129911279		34504552		n.a	se01.knowledgegrid.net.my
120595234		11283820		n.a	se.utmgrid.utm.my
2502092539		449848711		n.a	dpm.biruni.upm.my
218488930		2465865629		n.a	gridsrm.ts.infn.it
14652280930		n.a		n.a	prod-se-02.ct.infn.it
2044974051		119541772		n.a	se.pscigrid.gov.ph
1394652142		80517694		n.a	rhino.lsr.nectec.or.th
545126194		29706880		n.a	solorina.geranium.um.edu.my
n.a		998091480		n.a	dpml.egee.cesnet.cz
129911279		34504552		n.a	se01.knowledgegrid.net.my
1027167563		55086444		n.a	se02.knowledgegrid.net.my
299317338		94521495		n.a	aliserv6.ct.infn.it

External links

https://twiki.cern.ch/twiki/bin/view/LCG/Site-info_configuration_variables#top_BDII

<https://twiki.cern.ch/twiki/bin/view/LCG/LCGPortTable>

-- GiuseppeLaRocca - 2011-01-17

This topic: SiteAdminCorner > InstallationAndConfigurationOfATopBDII

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