

Table of Contents

Notes about Installation and Configuration of a top-bdii - EMI-2 - SL6 x86_64.....	1
References.....	1
Recommendations.....	1
Service Installation.....	1
O.S. and Repos.....	1
Update host and perform the installation of package(s).....	2
Service configuration.....	2
site-info.def.....	2
yaim check.....	3
yaim config.....	3
Service checks.....	4
Revision.....	4

Notes about Installation and Configuration of a top-bdii - EMI-2 - SL6 x86_64

- These notes are provided by site admins on a best effort base as a contribution to the IGI communities and **MUST** not be considered as a substitute of the Official IGI documentation .
- This document is addressed to site administrators responsible for middleware installation and configuration.
- The goal of this page is to provide some hints and examples on how to install and configure an IGI Top BDII based on EMI/UMD middleware.

NB: The TOP-BDII service is a **CORE** service, it should not be installed at Resource Center level. The official endpoint provided by IGI is `egee-bdii.cnaf.infn.it` and **MUST** be used by all Resource Centers and Services part of the IGI infrastructure. If you want to provide an official instances which will be added to the IGI endpoint, please contact `igi-noc@lists.italiangrid.it`

References

1. About IGI - Italian Grid infrastructure
2. About IGI Release
3. EMI 2 Matterhorn Products - BDII top v. 1.0.2
4. EMI-2 Release
5. Yaim Guide
6. site-info.def yaim variables

Recommendations

- The service needs at least two cores, 4 GB RAM, 10 GB disk space. A full virtualized machine based on KVM has been used in the following notes.

Service Installation

O.S. and Repos

- Starts from a fresh installation of Scientific Linux 6.x (x86_64).

```
# cat /etc/redhat-release
Scientific Linux release 6.3 (Carbon)
```

- Install the additional repositories: EPEL, Certification Authority, EMI

```
# cd /etc/yum.repos.d/
# rpm -ivh http://mirror.switch.ch/ftp/mirror/epel/6/x86_64/epel-release-6-5.noarch.rpm
# wget http://repo-pd.italiangrid.it/mrepo/repos/egi-trustanchors.repo
# rpm -ivh http://emisoft.web.cern.ch/emisoft/dist/EMI/2/sl6/x86_64/base/emi-release-2.0.0-1.sl6.
# yum install yum-priorities yum-protectbase
```

- Be sure that SELINUX is disabled (or permissive). Details on how to disable SELINUX are here :

```
# getenforce
Disabled
```

Update host and perform the installation of package(s)

```
# yum clean all
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages, protectbase, security,
Cleaning up Everything

# yum install ca-policy-egi-core emi-bdii-top
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages, protectbase, security,
[...]
Complete!
```

Service configuration

site-info.def

The configuration file for this service is really basic:

```
# cat /root/igi-siteinfo/site-info.def
#####
# Site configuration variables #
#####
SITE_NAME=IGI-BOLOGNA
SITE_EMAIL="grid-operations@lists.cnaf.infn.it"
SITE_LAT=44.4948
SITE_LONG=11.3417

#####
# BDII configuration variables #
#####

# Hostname of the top level BDII
BDII_HOST=top-bdii01.cnaf.infn.it

#####
# DEFAULT VALUE #
#####
#Time in seconds between updates of the bdii.
BDII_BREATHE_TIME=120

#Amount of time in seconds to wait until an information is assumed
BDII_READ_TIMEOUT=300

#Number of dumps of the database to keep for debugging purposes.
BDII_ARCHIVE_SIZE=0

# Variable that enables IPv6 support. If set to "yes" it works with both IPv4 and IPv6.
BDII_IPV6_SUPPORT=no

#It defines whether a RAM disk is used to improve performance
BDII_RAM_DISK=yes

#Stand-alone LDAP daemon location.
SLAPD=/usr/sbin/slapd

#Configuration file location for slapd.
SLAPD_CONF=/etc/bdii/bdii-top-slapd.conf

#Time to wait in seconds before deleting removed entries. Default is 12 hours. This variable acti
BDII_DELETE_DELAY=43200
```

yaim check

```
# chmod -R 600 /root/igi-siteinfo

# /opt/glite/yaim/bin/yaim -v -s /root/igi-siteinfo/site-info.def -n BDII_top
INFO: Configuring HOST: top-bdii01.cnaf.infn.it
INFO: Using site configuration file: /root/igi-siteinfo/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,-.,/         o8o  o8o   o88o  o8o  o8o   o8o
.   I_))_) I_))_)

current working directory: /root
site-info.def date: Aug 9 14:31 /root/igi-siteinfo/site-info.def
yaim command: -v -s /root/igi-siteinfo/site-info.def -n BDII_top
log file: /opt/glite/yaim/bin/./log/yaimlog
Thu Aug 9 14:33:23 CEST 2012 : /opt/glite/yaim/bin/yaim

Installed YAIM versions:
glite-yaim-bdii 4.3.11-1
glite-yaim-core 5.1.0-1
[...]
```

INFO: YAIM terminated succesfully.

yaim config

Please use the debug flag ("-d 6") to configure the services in order to have detailed information. For your convenience yo can save all the configuration information in a log file you can look at any time, separated from the yaimlog defulat one.

```
# /opt/glite/yaim/bin/yaim -c -d 6 -s /root/igi-siteinfo/site-info.def -n BDII_top
DEBUG: Checking siteinfo dir is not world readable
DEBUG: Checking site-info.def is syntactically correct
INFO: Configuring HOST: top-bdii01.cnaf.infn.it
DEBUG: Sourcing /opt/glite/yaim/bin/./defaults/site-info.pre
DEBUG: Sourcing /opt/glite/yaim/bin/./defaults/emi-bdii_top.pre
INFO: Using site configuration file: /root/igi-siteinfo/site-info.def
DEBUG: Sourcing site-info.def file: /root/igi-siteinfo/site-info.def
DEBUG: Sourcing /opt/glite/yaim/bin/./defaults/site-info.post
DEBUG: Sourcing /opt/glite/yaim/bin/./defaults/mapping
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,-.,/         o8o  o8o   o88o  o8o  o8o   o8o
.   I_))_) I_))_)

current working directory: /root
site-info.def date: Aug 9 14:31 /root/igi-siteinfo/site-info.def
yaim command: -c -d 6 -s /root/igi-siteinfo/site-info.def -n BDII_top
log file: /opt/glite/yaim/bin/./log/yaimlog
Thu Aug 9 14:36:44 CEST 2012 : /opt/glite/yaim/bin/yaim
```

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```
Installed YAIM versions:
glite-yaim-bdii 4.3.11-1
glite-yaim-core 5.1.0-1

#####
INFO: The default location of the grid-env.(c)sh files will be: /usr/libexec
INFO: Sourcing the utilities in /opt/glite/yaim/functions/utils
INFO: Detecting environment
DEBUG: Detect platform: OS flavour detected is: "Scientific Linux release 6.3 (Carbon)"
DEBUG: Detected architecture is 64BIT
DEBUG: Detect platform: OS type detected: sl6
DEBUG: Resulted NODE_TYPE_LIST is : BDII_top
DEBUG: Setting environment variable GRID_ENV_LOCATION, to value "/usr/libexec".
DEBUG: Unset environment variable GRID_ENV_LOCATION.
DEBUG: Setting environment variable LCG_LOCATION, to value "/usr".
DEBUG: Unset environment variable LCG_LOCATION.
DEBUG: Setting environment variable GLITE_LOCATION, to value "/usr".
DEBUG: Unset environment variable GLITE_LOCATION.
DEBUG: Setting environment variable GLITE_LOCATION_VAR, to value "/var".
DEBUG: Unset environment variable GLITE_LOCATION_VAR.
DEBUG: Appending value "/bin" to environment variable PATH.
DEBUG: Deleting value "/bin" from environment variable PATH.
DEBUG: Appending value "/opt/glite/share/man" to environment variable MANPATH.
DEBUG: Deleting value "/opt/glite/share/man" from environment variable MANPATH.
DEBUG: Sourcing node definition file: /opt/glite/yaim/bin/./node-info.d/emi-bdii_top
INFO: Executing function: config_info_service_bdii_top_check
INFO: Executing function: config_bdii_5.2_check
INFO: Executing function: config_info_service_bdii_top_setenv
DEBUG: This function currently doesn't set any environment variables.
INFO: Executing function: config_info_service_bdii_top
DEBUG: Skipping function: config_bdii_5.2_setenv because it is not defined
INFO: Executing function: config_bdii_5.2
Stopping BDII: BDII already stopped
Starting BDII slapd: [ OK ]
Starting BDII update process: [ OK ]
INFO: Configuration Complete. [ OK ]
INFO: YAIM terminated succesfully.
```

Service checks

The service could takes ~10 minutes to publish all the informations. From a User Interfaces, try the following commands (replace top-bdii01.cnaf.infn.it with your top-bdii hostname):

- telnet top-bdii01.cnaf.infn.it 2170. The port 2170 must be opened.
- lcg-infosites --is top-bdii01.cnaf.infn.it --vo ops ce| wc -l should return a number at least grater than 500
- check freshness: the information published must be updated. Downolad check_bdii_entries and execute it like in the example:

```
./check_bdii_entries -H top-bdii01.cnaf.infn.it -t 60 -b Mds-Vo-Name=local,O=Grid -p 2170
OK: freshness=276s, entries=1 |freshness=276s;entries=1
```

Revision

Date	Comment
2012-08-09	top-bdii fresh installation - EMI 2 Matterhorn Products - BDII top v. 1.0.2

-- PaoloVeronesi - 2012-08-09

This topic: SiteAdminCorner > NotesAboutTop-bdii-EMI-2-SL6

Topic revision: r1 - 2012-08-09 - PaoloVeronesi



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