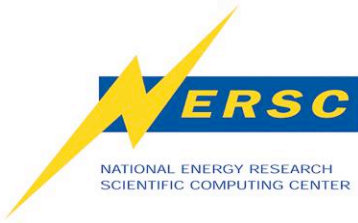# Installation Tips/Help for BeStMan Full Mode and Bestman on a CE

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Site Administrator's Workshop

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# Bestman Full Mode

- **What you need to install a Storage Element based on Bestman Full Mode**
  - Server
  - Storage
  - Access to GSIFtp severs (auxiliary)

- **Why full mode**
  - Opportunistic storage for Vo's with no storage space at CE
  - Automatic cleanup
  - Possibility of reservation
  - Ease of installation

```
DefaultVolatileFileLifeTimeInSeconds=1800
PublicTokenMaxFileLifetimeInSeconds=1800
InactiveTxfTimeOutInSeconds=300
PublicSpaceProportion=80
DefaultMBPerToken=1000
```
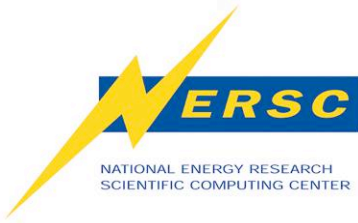
- **Just do it - it's easy**

  export OLD_VDT_LOCATION = /path-to-old-vdt/

  # will set up your CA certificates same way as in earlier install - for fresh installs you need to install CA certs like for SE

  cd <VDT_LOCATION>

  export VDT_GUMS_HOST=<GUMS hostname>

  # if you want to use GUMS for GridFtp and Gratia GridFTP probe authorization - still needs to be done (unlike for CE)

  pacman -get http://software.grid.iu.edu/osg-1.2:Bestman

  source setup.sh

  vdt-post-install

  #vdt-post-install is not doing much for Bestman yet

Full Bestman -Installed Packages

```
$ vdt-version

You have installed a subset of VDT version 2.0.0p2:

Software                                              Status
--------                                              ------
Berkeley Storage Manager (BeStMan) 2.2.1.2.i5         UPDATE AVAILABLE [2.2.1.2.i7.p3]
vdt-ca-manage 1.0                                     OK
vdt-update-certs 2.4                                  OK
CA Certificates 1.9 (includes IGTF 1.31 CAs)          -
EDG Make Gridmap 3.0.0                                OK
Fetch CRL 2.6.6                                       OK
GPT 3.2-4.0.8p1                                       OK
Gratia GridFTP Probe 1.02.1-5                         UPDATE AVAILABLE [1.04.3c-1]
Grid User Management System (GUMS) Client 1.3.14      UPDATE AVAILABLE [1.3.16]
Java 5 SDK 1.5.0_18                                   OK
Java 6 SDK 1.6.0_13                                   OK
Logrotate 3.7                                         OK
PRIMA Authorization Module 0.8.4                      OK
VOMS Client 1.8.8-2p1                                 OK
Wget 1.11.4                                           OK
Status legend:
OK: Software is up to date with the latest release in VDT version 2.0.0
- : Not enough information to determine if updates are available.
See man page for more information.
```

Default Re-Configuration

```
# grep /bestman vdt-install.log | grep configure
### 2009-02-18 15:27:48 (failsafe_system) cd /opt/osg/itb-
   0.9.2/bestman/setup;
./configure     --with-java-home=/opt/osg/itb-0.9.2/jdk1.6    \
--with-srm-home=/opt/osg/itb-0.9.2/bestman     \
--with-srm-owner=daemon    \
--with-cacert-path=/opt/osg/itb-0.9.2/globus/TRUSTED_CA    \
--with-certfile-path=/etc/grid-security/http/httpcert.pem   \
--with-keyfile-path=/etc/grid-security/http/httpkey.pem    \
--with-eventlog-path=/opt/osg/itb-0.9.2/vdt-app-data/bestman/logs    \
--with-cachelog-path=/opt/osg/itb-0.9.2/vdt-app-data/bestman/logs   \
--with-http-port=10080     \
--with-https-port=10443    \
--with-globus-tcp-port-range=62000,65000  \
--with-replica-storage-path=/opt/osg/itb-0.9.2/vdt-app-data/bestman/cache
   \
 --with-replica-storage-size=11368
```
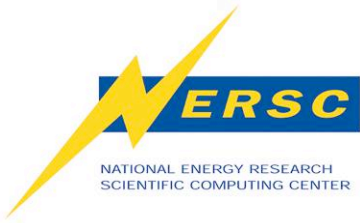
Modifying Configuration

This configuration is done by a script $OSG_LOCATION/vdt/setup/configure_bestman. This script sets/changes the following Bestman parameters:

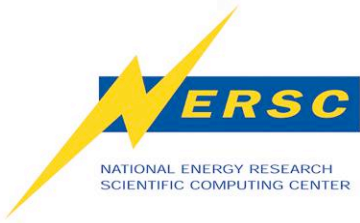#./configure_bestman --help

Usage: ./configure_bestman --vdt-install <vdt install root>

    --server <y,n>

    --user <bestman user>

    --cert <bestman service cert>

    --key <bestman service key>

    --http-port <public port number>

    --https-port <secure port number>

    --globus-tcp-port-range <low_port,high_port>

    --volatile-file-lifetime <lifetime in seconds>

    --cache-size <Cache size in MB>

    --gums-host <GUMS hostname>

    --gums-port <GUMS port number>

    --gums-url <GUMS URL>

    --gums-dn <Client DN for GUMS interface>

    --enable-gateway

    --use-xrootd

    --with-tokens-list <token-list>

    --with-transfer-servers <GridFTP server list>

    --with-allowed-paths <List of accessible paths>

    --with-blocked-paths <List of non-accessible paths>

Firewall Issues

If you have firewall, the gridftp port range should be properly set. In order to do so, you need to modify $VDT_LOCATION/vdt/etc/vdt-local-setup.sh (csh)

GLOBUS_TCP_SOURCE_RANGE= low_port,high_port

GLOBUS_TCP_PORT_RANGE= low_port,high_port

export GLOBUS_TCP_SOURCE_RANGE

export GLOBUS_TCP_PORT_RANGE

Configuration Issues

- **Setting $OLD_VDT_LOCATION does not preserve the configuration**

- **No script to extract the old configuration**

- **Updates erase changes (the default configure_bestman script is being executed).**

- **vdt-control on/off earases changes made to /etc/init.d/bestman**

Bestman on a Compute Element

Configuration Decisions

How heavily is your CE used? -

Install BeStMan on a busy CE node is not a good idea.

What are possible conflicts?

- You should keep in mind that you will need to use non-standard ports for BeStMan to avoid conflict with apache/tomcat servers as well as use GridFTP server and authorization infrastructure that are already installed on CE node.

- SE and CE can use same CA certificates and crls.

What authorization mechanism do you prefer?

- You have to decide if you want to use grid-map-file or GUMS server for users' authentication and authorization.

- Best to select the same approach that is already being used on CE.

Do you need to support space tokens for BeStMan-gatewy?

Check the gateway configuration.

Do you want to enable Gratia gridftp-transfer probes?

If you want to report all the transfers in and out of your storage you would need to install or enable Gratia gridftp-transfer probes.

Bestman