

BESTMAN-GATEWAY EXPERIENCES AT OU

HORST SEVERINI

OSG SITE ADMINISTRATORS WORKSHOP

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Outline:

- Overview
- Requirements, Preparation
- Installation, Configuration
- Usage, Experiences
- Summary and Outlook

Overview

- We currently have 2 BeStMan installations at OU
- ITB 1.1.0 – 2.2.1.2.i6 – on osgitb2.nhn.ou.edu
(uses OUHEP_ITB gridftp server on osgitb1)
- OSG 1.0.0 – 2.2.1.2.i4 – on tier2-05.ochep.ou.edu
(uses OU_OCHEP_SWT2 gridftp server on tier2-02)
- No extensive transfer experience yet, mostly testing

Requirements, Preparation

- BeStMan host doesn't need a lot of power
- ITB: 1.4 GHz P4, 512 MB, 20 GB, 100 Mbps

Using NFS-mounted ext3 file system as storage location

- OSG: 3.2 GHz Xeon, 2 GB, 73 GB, 10 Gbps – + 12 TB Ibrx

Using Ibrx file system as storage location

- **Preparations:**
 - Pacman installation
 - http service cert installed in /etc/grid_security/http/
(may need to be copy of host cert for WLCG utils)

Installation

```
mkdir -p /opt/bestman-1.1.0
ln -s bestman-1.1.0 /opt/bestman
cd /opt/bestman-1.1.0
. /opt/pacman/latest/setup.sh

time pacman -trust-all-caches -get ITB:Bestman
. setup.sh

vdt-ca-manage setupca --location local --url osg
```

Configuration

```
$VDT_LOCATION/vdt/setup/configure_bestman --server y --user daemon  
--cert /etc/grid-security/http/httpcert.pem  
--key /etc/grid-security/http/httpkey.pem  
--http-port 8080 --https-port 8443  
--globus-tcp-port-range 63001,65000  
--enable-gateway --with-tokens-list  
"ATLASDATADISK[desc:ATLASDATADISK][40000][owner:atlas]  
[retention:CUSTODIAL][latency:ONLINE]  
[usedBytesCommand:/bin/echo $[(`/bin/df /home/osg_data/bestman-storage |  
tail -1 | awk '{print $3}'`)*1024]];ATLASMCDISK ..."  
--with-transfer-servers gsiftp://osgitb1.nhn.ou.edu  
--with-allowed-paths="/home/osg_data/bestman-storage;  
/misc/home/osg_data/bestman-storage"
```

Configuration (cont.)

```
export EDITOR=emacs
visudo          # add:
----
#Defaults requiretty # that line must be commented out if it exists

Cmnd_Alias SRM_CMD = /bin/rm, /bin/mkdir, /bin/rmdir, \
                    /bin/mv, /bin/cp, /bin/ls
Runas_Alias SRM_USR = ALL, !root
daemon      ALL=(SRM_USR) NOPASSWD: SRM_CMD
----

# so we always have an updated grid-mapfile:
ln -s /opt/osg/globus/grid-security/grid-mapfile /etc/grid-security/

vdt-control --list
vdt-control --on
```

Usage

```
# as user:
```

```
srm-copy file://///home/hs/tmp/test1 srm://osgitb2.nhn.ou.edu:8443/srm/v2/server\?SFN=/home/osg_data/bestman-storage/test1 -spac token ATLASDATADISK
```

```
srm-copy srm://osgitb2.nhn.ou.edu:8443/srm/v2/server\?SFN=/home/osg_data/bestman-storage/test1 file://///home/hs/tmp/test2
```

```
srm-ping srm://osgitb2.nhn.ou.edu:8443/srm/v2/server
```

```
srm-sp-tokens srm://osgitb2.nhn.ou.edu:8443/srm/v2/server
```

```
srm-get-space-tokens srm://osgitb2.nhn.ou.edu:8443/srm/v2/server?SFN=/
```

```
srm-get-space-tokens -space_desc=ATLASPRODDISK srm://osgitb2.nhn.ou.edu:8443/srm/v2/server?SFN=/
```

```
srm-get-space-metadata -space_tokens=ATLASPRODDISK,ATLASUSERDISK
```

```
srm://osgitb2.nhn.ou.edu:8443/srm/v2/server?SFN=/
```

Experiences

- Mount point important: physical path vs. automount path

/home/ mounted as /misc/home/ from NFS server

Soution: add both /home/... and /misc/home/... as allowed-paths

- http cert vs. copy of host cert

lcg-cp requires copy of host cert as srm service cert to work

Bug fix on the way into VDT/Globus – not resolved yet

Summary and Outlook

- BeStMan-Gateway is very easy to install and configure
- Works perfectly as SRM on any posix compliant file system
- Haven't done any performance measurements, but probably mostly dependent on gridftp server and network
- Should handle multiple gridftp servers transparently
- Much easier to install and support than dCache :-)
- Plan: put OSG-1.0.1 (or 1.2.0) version of BeStMan-Gateway in production on OU Tier2 Cluster as soon as new 100 TB file system installed and configured