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# Tutorial StoRM

## Pre-requisite checks

- Verify the ntpd service

```
]# service ntpd status
ntpd (pid 1713) is running...
]# chkconfig --list | grep ntpd
ntpd          0:off  1:off  2:on   3:on   4:on   5:on   6:off
```

- Verify the hostname output (Fully Qualified Domain Name (FQAN))

```
]# hostname -f
tutor-storm.cnaf.infn.it
]# cat /etc/hosts
# Do not remove the following line, or various programs
# that require network functionality will fail.
127.0.0.1          localhost.localdomain localhost
::1               localhost6.localdomain6 localhost6
131.154.100.145   tutor-storm.cnaf.infn.it tutor-storm
```

- ◆ In the case the `hosts` file does not contain the last line, please modify the file and restart network service (**Foundamental check for having a gridftp service running properly**)

- Verify host file certificates on the StoRM node

```
]# ll /etc/grid-security/
total 60
drwxr-xr-x 2 root root 49152 Sep 25 13:07 certificates
-rw-r--r-- 1 root root  1452 Oct  2 17:42 hostcert.pem
-r----- 1 root root   891 Oct  2 17:42 hostkey.pem
```

- ◆ `hostcert.pem` must have permission `0644`. If no, please change it

```
]# chmod 0644 hostcert.pem
```

- ◆ `hostkey.pem` must have permission `0400`. If no, please change it

```
]# chmod 0400 hostkey.pem
```

- Verify `acl` support. StoRM uses the ACLs on files and directory to implement the security model by using the native access to the file system.

- ◆ Verify `acl` CLIs

```
]# rpm -qa | grep acl
]# yum install acl
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages,
               : protectbase, security, verify, versionlock
521 packages excluded due to repository priority protections
0 packages excluded due to repository protections
Reading version lock configuration
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package acl.x86_64 0:2.2.39-8.el5 set to be updated
--> Finished Dependency Resolution
Beginning Kernel Module Plugin
```

Finished Kernel Module Plugin

Dependencies Resolved

```
=====
Package           Arch             Version          Repository       Size
=====
Installing:
acl                x86_64          2.2.39-8.el5    sl5x             69 k
=====
```

Transaction Summary

```
=====
Install           1 Package(s)
Upgrade           0 Package(s)
=====
```

Total download size: 69 k

Is this ok [y/N]: y

Downloading Packages:

```
acl-2.2.39-8.el5.x86_64.rpm | 69 kB 00:00
```

Running rpm\_check\_debug

Running Transaction Test

Finished Transaction Test

Transaction Test Succeeded

Running Transaction

```
Installing      : acl
```

1/1

Installed:

```
acl.x86_64 0:2.2.39-8.el5
```

Complete!

◆ Verify extended ACL support by using the root user

```
]# echo test > testfile
]# setfacl -m u:root:rw testfile
]# getfacl testfile
# file: testfile
# owner: root
# group: root
user::rw-
user:root:rw
group::r--
mask::rw-
other::r--
]# rm -rf testfile
```

- Verify attr support. StoRM uses the extended attributes on files to store some metadata related to the file (e.g., checksum)

◆ Verify attr CLIs

```
]# rpm -qa | grep attr
]# yum install attr
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages,
               : protectbase, security, verify, versionlock
521 packages excluded due to repository priority protections
0 packages excluded due to repository protections
Reading version lock configuration
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package attr.x86_64 0:2.4.32-1.1 set to be updated
--> Finished Dependency Resolution
Beginning Kernel Module Plugin
Finished Kernel Module Plugin
```

Dependencies Resolved

```

=====
Package           Arch           Version           Repository           Size
=====
Installing:
attr              x86_64         2.4.32-1.1       s15x                 52 k

Transaction Summary
=====
Install           1 Package(s)
Upgrade          0 Package(s)

Total download size: 52 k
Is this ok [y/N]: y
Downloading Packages:
attr-2.4.32-1.1.x86_64.rpm | 52 kB      00:00
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : attr                                     1/1

Installed:
attr.x86_64 0:2.4.32-1.1

Complete!

```

◆ Verify extended attribute support by using

```

]# touch testfile
]# setfattr -n user.test -v test testfile
]# getfattr -d testfile
# file: testfile
user.test="test"
]# rm testfile

```

• Satisfy common repository settings

```

]# rpm -qa | grep epel
epel-release-5-4

```

• Satisfy EMI repository settings

```

]# mkdir localrpm
]# cd localrpm
]# wget http://emisoft.web.cern.ch/emisoft/dist/EMI/2/s15/x86_64/base/emi-release-2.0.0-1.
--2012-10-02 18:46:32-- http://emisoft.web.cern.ch/emisoft/dist/EMI/2/s15/x86_64/base/emi
Resolving emisoft.web.cern.ch... 137.138.139.27
Connecting to emisoft.web.cern.ch|137.138.139.27|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 5189 (5.1K) [application/x-rpm]
Saving to: `emi-release-2.0.0-1.s15.noarch.rpm'

100%[=====>] 5,189      --.-K/s   in 0s

2012-10-02 18:46:32 (353 MB/s) - `emi-release-2.0.0-1.s15.noarch.rpm' saved [5189/5189]
]# yum localinstall --nogpgcheck emi-release-2.0.0-1.s15.noarch.rpm
Loaded plugins: downloadonly, kernel-module, priorities, protect-packages,
               : protectbase, security, verify, versionlock
Setting up Local Package Process
Examining emi-release-2.0.0-1.s15.noarch.rpm: emi-release-2.0.0-1.s15.noarch
Marking emi-release-2.0.0-1.s15.noarch.rpm to be installed

```

```
521 packages excluded due to repository priority protections
0 packages excluded due to repository protections
Reading version lock configuration
Resolving Dependencies
--> Running transaction check
---> Package emi-release.noarch 0:2.0.0-1.s15 set to be updated
--> Finished Dependency Resolution
Beginning Kernel Module Plugin
Finished Kernel Module Plugin
```

Dependencies Resolved

```
=====
Package      Arch      Version      Repository      Size
=====
Installing:
emi-release  noarch    2.0.0-1.s15  /emi-release-2.0.0-1.s15.noarch  2.7 k
```

Transaction Summary

```
=====
Install      1 Package(s)
Upgrade      0 Package(s)
```

```
Total size: 2.7 k
Is this ok [y/N]: y
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing      : emi-release                                1/1
```

```
Installed:
emi-release.noarch 0:2.0.0-1.s15
```

Complete!

- Satisfy EGI repository settings

```
]# ls /etc/yum.repos.d/egi-trustanchors.repo
```

- Verify the ca-policy-egi-core package

```
]# rpm -qa | grep ca-policy-egi-core
ca-policy-egi-core-1.50-1
```

## Install the StoRM services in a standalone deployment

- Clean yum cache

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

- Install the main StoRM node metapackages:

```
]# yum install emi-storm-backend-mp emi-storm-frontend-mp emi-storm-globus-gridftp-mp emi-
```

```
...
EMI-2-base/gpgkey
Importing GPG key 0xDF9E12EF "Doina Cristina Aiftimiei (EMI Release Manager) <aiftim@pd.in
Is this ok [y/N]: y
...
```

- Install the StoRM pre-assembled configuration package

```
]# yum install storm-pre-assembled-configuration
...
]# rpm -ql storm-pre-assembled-configuration
/etc/storm
/etc/storm/siteinfo
/etc/storm/siteinfo/storm-groups.conf
/etc/storm/siteinfo/storm-users.conf
/etc/storm/siteinfo/storm-wn-list.conf
/etc/storm/siteinfo/storm.def
/etc/storm/siteinfo/storm.def.template
/etc/storm/siteinfo/vo.d
/etc/storm/siteinfo/vo.d/dteam
/etc/storm/siteinfo/vo.d/infngrid
/etc/storm/siteinfo/vo.d/ops
/etc/storm/siteinfo/vo.d/testers.eu-emi.eu
/usr/sbin/EMI_1_repos_install
/usr/share/doc/storm-pre-assembled-configuration-1.0.0
/usr/share/doc/storm-pre-assembled-configuration-1.0.0/AUTHORS
/usr/share/doc/storm-pre-assembled-configuration-1.0.0/CREDITS
/usr/share/doc/storm-pre-assembled-configuration-1.0.0/ChangeLog
/usr/share/doc/storm-pre-assembled-configuration-1.0.0/LICENSE
/usr/share/doc/storm-pre-assembled-configuration-1.0.0/README
```

## Pre-configure checks

- Configure the `igi.italiangrid.it` and `infngrid` VOs
  - ◆ Create `vo.d/igi.italiangrid.it` file inside the configuration `/etc/storm/siteinfo/` directory

```
]# vi /etc/storm/siteinfo/vo.d/igi.italiangrid.it
SW_DIR=/cvmfs/igi.italiangrid.it
DEFAULT_SE=$SE_HOST
STORAGE_DIR=$CLASSIC_STORAGE_DIR/igi
VOMS_SERVERS="'vomss://vomsmnia.cnaf.infn.it:8443/voms/igi.italiangrid.it?/igi.italiangrid.it' 'vomss://voms.cnaf.infn.it:8443/voms/igi.italiangrid.it?/igi.italiangrid.it'"
VOMSES="'igi.italiangrid.it vomsmnia.cnaf.infn.it 15003 /C=IT/O=INFN/OU=Host/L=CNAF/CN=voms.cnaf.infn.it'"
VOMS_CA_DN="'/C=IT/O=INFN/CN=INFN CA'"
```

- ◆ Create `vo.d/infngrid` file inside the configuration `/etc/storm/siteinfo/` directory

```
]# vi /etc/storm/siteinfo/vo.d/infngrid
SW_DIR=$VO_SW_DIR/infgrid
DEFAULT_SE=$SE_HOST
STORAGE_DIR=$CLASSIC_STORAGE_DIR/infgrid
VOMS_SERVERS="'vomss://voms.cnaf.infn.it:8443/voms/infgrid?/infgrid' 'vomss://voms.cnaf.infn.it:8443/voms/infgrid?/infgrid'"
VOMSES="'infgrid voms.cnaf.infn.it 15000 /C=IT/O=INFN/OU=Host/L=CNAF/CN=voms.cnaf.infn.it'"
VOMS_CA_DN="'/C=IT/O=INFN/CN=INFN CA' '/C=IT/O=INFN/CN=INFN CA'"
```

- ◆ Modify the `storm-users.conf` file adding `igi.italiangrid.it` users

```
]# vi /etc/storm/siteinfo/storm-users.conf
...
3601:igi001:7400:igi:igi.italiangrid.it::
```

```

3602:igi002:7400:igi:igi.italiangrid.it::
3603:igi003:7400:igi:igi.italiangrid.it::
3604:igi004:7400:igi:igi.italiangrid.it::
3605:igi005:7400:igi:igi.italiangrid.it::
3606:igi006:7400:igi:igi.italiangrid.it::
3607:igi007:7400:igi:igi.italiangrid.it::
3608:igi008:7400:igi:igi.italiangrid.it::
3609:igi009:7400:igi:igi.italiangrid.it::
3610:igi010:7400:igi:igi.italiangrid.it::
3611:igi011:7400:igi:igi.italiangrid.it::
3612:igi012:7400:igi:igi.italiangrid.it::
3613:igi013:7400:igi:igi.italiangrid.it::
3614:igi014:7400:igi:igi.italiangrid.it::
3615:igi015:7400:igi:igi.italiangrid.it::
3616:igi016:7400:igi:igi.italiangrid.it::
3617:igi017:7400:igi:igi.italiangrid.it::
3618:igi018:7400:igi:igi.italiangrid.it::
3619:igi019:7400:igi:igi.italiangrid.it::
3620:igi020:7400:igi:igi.italiangrid.it::
3621:igi021:7400:igi:igi.italiangrid.it::
3622:igi022:7400:igi:igi.italiangrid.it::
3623:igi023:7400:igi:igi.italiangrid.it::
3624:igi024:7400:igi:igi.italiangrid.it::
3625:igi025:7400:igi:igi.italiangrid.it::
10161:sgmigi001:7450,7400:sgmigi,igi:igi.italiangrid.it:sgm:
10162:sgmigi002:7450,7400:sgmigi,igi:igi.italiangrid.it:sgm:
10163:sgmigi003:7450,7400:sgmigi,igi:igi.italiangrid.it:sgm:
10164:sgmigi004:7450,7400:sgmigi,igi:igi.italiangrid.it:sgm:
10165:sgmigi005:7450,7400:sgmigi,igi:igi.italiangrid.it:sgm:
7106:sgminfngrid001:2504,2405:sgminfngrid,infngrid:infngrid:sgm:
7206:sgminfngrid002:2504,2405:sgminfngrid,infngrid:infngrid:sgm:
7306:sgminfngrid003:2504,2405:sgminfngrid,infngrid:infngrid:sgm:
7401:pilinfngrid001:2604,2405:pilinfngrid,infngrid:infngrid:pilot:
7402:pilinfngrid002:2604,2405:pilinfngrid,infngrid:infngrid:pilot:
7403:pilinfngrid003:2604,2405:pilinfngrid,infngrid:infngrid:pilot:
2451:infngrid001:2405:infngrid:infngrid::
2452:infngrid002:2405:infngrid:infngrid::
2453:infngrid003:2405:infngrid:infngrid::
2454:infngrid004:2405:infngrid:infngrid::
2455:infngrid005:2405:infngrid:infngrid::
2456:infngrid006:2405:infngrid:infngrid::
2457:infngrid007:2405:infngrid:infngrid::
2458:infngrid008:2405:infngrid:infngrid::
2459:infngrid009:2405:infngrid:infngrid::
2460:infngrid010:2405:infngrid:infngrid::
2461:infngrid011:2405:infngrid:infngrid::
2462:infngrid012:2405:infngrid:infngrid::
2463:infngrid013:2405:infngrid:infngrid::
2464:infngrid014:2405:infngrid:infngrid::
2465:infngrid015:2405:infngrid:infngrid::
2466:infngrid016:2405:infngrid:infngrid::
2467:infngrid017:2405:infngrid:infngrid::
2468:infngrid018:2405:infngrid:infngrid::
2469:infngrid019:2405:infngrid:infngrid::
2470:infngrid020:2405:infngrid:infngrid::

```

◆ **Modify the storm-groups.conf file adding igi.italiangrid.it details**

```

]# vi /etc/storm/siteinfo/storm-groups.conf
...
"/igi.italiangrid.it/ROLE=SoftwareManager"::sgm:
"/igi.italiangrid.it":::
"/igi.italiangrid.it/*":::
"/infngrid/ROLE=SoftwareManager"::sgm:
"/infngrid/ROLE=pilot"::pilot:
"/infngrid":::

```

- ◆ Modify the storm.def file adding the igi.italiangrid.it VO

```
]# vi /etc/storm/siteinfo/storm.def
...
VOS="igi.italiangrid.it infngrid dteam"
```

- Configure the mysqld service

- ◆ Modify the my.cnf file

```
]# cat /etc/my.cnf
[mysqld]
datadir=/var/lib/mysql
socket=/var/lib/mysql/mysql.sock
user=mysql
# Default to using old password format for compatibility with mysql 3.x
# clients (those using the mysqlclient10 compatibility package).
old_passwords=1

# Disabling symbolic-links is recommended to prevent assorted security risks;
# to do so, uncomment this line:
# symbolic-links=0

[mysqld_safe]
log-error=/var/log/mysqld.log
pid-file=/var/run/mysqld/mysqld.pid
```

- ◆ Add to the mysqld section the following options

```
max_connections=2000
wait_timeout=86400
innodb_buffer_pool_size=256M
```

- Modify the storm.def file

- ◆ Modify top BDII hostname

```
BDII_HOST=gridit-bdii-01.cnaf.infn.it
```

- ◆ Modify MY\_DOMAIN

```
MY_DOMAIN="cnaf.infn.it"
```

## Configure the StoRM services

- Check DB information

```
MYSQL_PASSWORD="storm"
STORM_DB_PWD="bluemoon"
STORM_DB_USER="storm"
```

- Modify information useful for the Backend and Gridhttps services

- ◆ Change STORM BACKEND HOST value

```
STORM_BACKEND_HOST=tutor02-storm.cnaf.infn.it
```

- Modify information useful for the Backend and Frontend services

```
STORM_DB_HOST=${STORM_BACKEND_HOST}
```



```
STORM_USER="storm"
```

- Check Frontend information

```
STORM_FE_BE_XMLRPC_HOST=$STORM_BACKEND_HOST
```

- Check BDII information

```
STORM_INFO_OVERWRITE=true
SITE_NAME="storm-1.10-all-in-one"
STORM_BDII_OVERWRITE="true"
STORM_ENDPOINT_QUALITY_LEVEL=2
STORM_ENDPOINT_SERVING_STATE=4
SE_TYPE="disk"
SE_LIST=$STORM_FRONTEND_PUBLIC_HOST
```

- Check Backend Information

- ◆ Set Frontend service host list

```
STORM_FRONTEND_HOST_LIST=$STORM_BACKEND_HOST
STORM_FRONTEND_PUBLIC_HOST=$STORM_BACKEND_HOST
```

- \* Set Gridftp service host list

```
STORM_GRIDFTP_POOL_LIST=${STORM_BACKEND_HOST}
```

- \* Set Gridhttps service host list

```
STORM_GRIDHTTPS_PLUGIN_CLASSNAME=it.grid.storm.https.GhttpsHTTPSPluginInterface
STORM_GRIDHTTPS_SERVER_PORT=8088
STORM_GRIDHTTPS_ENABLED=true
STORM_INFO_HTTP_SUPPORT=true
STORM_INFO_HTTPS_SUPPORT=true
STORM_GRIDHTTPS_SERVER_USER_UID=91
STORM_GRIDHTTPS_SERVER_GROUP_UID=91
```

- ◆ Set default directory for Storage Area

```
STORM_DEFAULT_ROOT="/storage"
```

- \* Specify the list of the supported Storage Areas (Please remember that the values of the Storage Areas can be different to the VO name)

```
STORM_STORAGEAREA_LIST="$VOS"
```

- \* Set for each Storage Area at least the total size expressed in GB (Must be an integer value)

```
STORM_DTEAM_ONLINE_SIZE=4
STORM_TESTERSEUEMIEU_ONLINE_SIZE=4
STORM_IGIITALIANGRIDIT_ONLINE_SIZE=4
```

- Disable Checksum service

```
STORM_CKSUM_SUPPORT=false
```

- Set Gridhttps service

```
STORM_GRIDHTTPS_SERVER_PORT=8088
```

- Set Gridftp service to support

```
GRIDFTP_WITH_DSI="yes"
GRIDFTP_CONNECTIONS_MAX="2000"
```

- Run yaim

```
/opt/glite/yaim/bin/yaim -c -d 6 -s /etc/storm/siteinfo/storm.def -n se_storm_backend -n s
```

## Verify the StoRM deployment

- Check the StoRM services

```
]# service storm-backend-server status
storm-backend-server (pid 27449) is RUNNING           [ OK ]
]# service storm-frontend-server status
storm-frontend-server (pid 13321) is running...
]# service storm-globus-gridftp status
globus-gridftp-server (pid 13432) is running...
]# service tomcat5 status
/etc/init.d/tomcat5 is already running (29536)
```

- Check the StoRM log files

```
]# tail -f /var/log/storm/storm-backend.log
]# tail -f /var/log/storm/storm-frontend-server.log
]# tail -f /var/log/storm/storm-globus-gridftp.log
]# tail -f /var/log/storm/storm-gridftp-session.log
```

- BDII by using for example an LDAP browser or ldapsearch

- Transfer the /home/TIER1/ronchieri/tests/testfile-1.txt local file in the remote machine by using globus-url-copy

```
]# globus-url-copy -dbg file:///home/TIER1/ronchieri/tests/testfile-1.txt gsiftp://tutor0
debug: starting to put gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt
debug: connecting to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt:
220 tutor02-storm.cnaf.infn.it GridFTP Server 6.14 (gcc64, 1342551528-83) [Globus Toolkit

debug: authenticating with gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt:
230 User dteam027 logged in.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt:
SITE HELP

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda_10.txt:
214-The following commands are recognized:
      ALLO  APPE  REST  CWD  CDUP  DCAU  EPSV  FEAT
      ERET  MDTM  STAT  ESTO  HELP  LIST  MODE  NLST
      MLSC  MLSD  PASV  RNFR  MLSR  MLST  NOOP  OPTS
      STOR  PASS  PBSZ  PORT  PROT  SITE  EPRT  RETR
      SPOR  MFMT  SCKS  TREV  PWD  QUIT  SBUF  SIZE
      SPAS  STRU  SYST  RNTO  TYPE  USER  LANG  MKD
      RMD   DELE  CKSM  DCSC
```

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214 End

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
FEAT

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
211-Extensions supported

DCSC P,D

MFMT

AUTHZ\_ASSERT

MLSR

MLSC

UTF8

LANG EN

DCAU

PARALLEL

SIZE

MLST Type\*;Size\*;Modify\*;Perm\*;Charset;UNIX.mode\*;UNIX.owner\*;UNIX.uid\*;UNIX.group\*;UNIX.

ERET

ESTO

SPAS

SPOR

REST STREAM

MDTM

PASV AllowDelayed;

211 End.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
SITE CLIENTINFO scheme=gsiftp;appname="globus-url-copy";appver="8.2 (gcc64, 1323102900-1)

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

250 OK.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
TYPE I

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

200 Type set to I.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
PBSZ 1048576

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

200 PBSZ=1048576

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
PASV

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

227 Entering Passive Mode (131,154,100,164,95,63)

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
ALLO 22

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

200 ALLO command successful.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:  
STOR /tmp/test-joda\_10.txt

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

150 Beginning transfer.

debug: writing buffer 0x2ab08ff66010, length 22, offset=0, eof=true

debug: data callback, no error, buffer 0x2ab08ff66010, length 22, offset=0, eof=true

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811/tmp/test-joda\_10.txt:

226 Transfer Complete.

debug: operation complete

- Verify the StoRM status by using ping

```

]# clientSRM ping -e httpg://tutor02-storm.cnaf.infn.it:8444/
=====
Sending Ping request to: httpg://tutor02-storm.cnaf.infn.it:8444/
Before execute:
execute Request with:Ping
started calling ns1__srmPing:
finished calling ns1__srmPing:
Afer execute:
Request Status Code 0
Poll Flag 0
=====
Request status:
  statusCode="SRM_SUCCESS"(0)
  explanation="SRM server successfully contacted"
=====
SRM Response:
  versionInfo="v2.2"
  otherInfo (size=3)
    [0] key="backend_type"
    [0] value="StoRM"
    [1] key="backend_version"
    [1] value="<FE:1.8.0-10><BE:1.10.0-1>"
    [2] key="backend_os_distribution"
    [2] value="Scientific Linux release 5.8 (Boron)"
=====

```

- Transfer the /home/TIER1/ronchieri/pippo local file in the remote machine by using lcg-cp

```

]# lcg-cp -b --verbose -D srmv2 file:///home/TIER1/ronchieri/pippo srm://tutor02-storm.cnaf.infn.it:8444/
Using grid catalog type: UNKNOWN
Using grid catalog : prod-lfc-shared-central.cern.ch
VO name: dteam
Checksum type: None
Destination SE type: SRMv2
Destination SRM Request Token: 39e9fb0b-64b2-4a81-a072-484d53af6597
Source URL: file:/home/TIER1/ronchieri/pippo
File size: 13616
Source URL for copy: file:/home/TIER1/ronchieri/pippo
Destination URL: gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test_joda_10.txt
# streams: 1
          0 bytes          0.00 KB/sec avg          0.00 KB/sec inst
Transfer took 1010 ms

```

- Transfer the /home/TIER1/ronchieri/tests/testfile-1.txt local file in the remote machine by using clientSRM

```

]# clientSRM ptp -e httpg://tutor02-storm.cnaf.infn.it:8444/ -s srm://tutor02-storm.cnaf.infn.it:8444/
=====
Sending PtP request to: httpg://tutor02-storm.cnaf.infn.it:8444/
Before execute:
Afer execute:
Request Status Code 17
Poll Flag 1
=====
Polling request status:
Current status: SRM_REQUEST_QUEUED (Ctrl+c to stop polling).
=====
Request status:
  statusCode="SRM_SUCCESS"(0)
  explanation="All chunks successfully handled!"
=====

```

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SRM Response:

```
requestToken="66c2babf-6f67-41ec-b965-787bbe84777f"
arrayOfFileStatuses (size=1)
  [0] SURL="srm://tutor02-storm.cnaf.infn.it:8444/srm/managerv2?SFN=/dteam/test-joda-1
  [0] status: statusCode="SRM_SPACE_AVAILABLE" (24)
      explanation="srmPrepareToPut successfully handled!"
  [0] TURL="gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt"
=====
]# globus-url-copy -dbg file:///home/TIER1/ronchieri/tests/testfile-1.txt gsiftp://tutor02
debug: starting to put gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-1
debug: connecting to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
220 tutor02-storm.cnaf.infn.it GridFTP Server 6.14 (gcc64, 1342551528-83) [Globus Toolkit
debug: authenticating with gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-jod
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
230 User dteam027 logged in.
debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-jod
SITE HELP
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
214-The following commands are recognized:
      ALLO  APPE  REST  CWD   CDUP  DCAU  EPSV  FEAT
      ERET  MDTM  STAT  ESTO  HELP  LIST  MODE  NLST
      MLSC  MLSD  PASV  RNFR  MLSR  MLST  NOOP  OPTS
      STOR  PASS  PBSZ  PORT  PROT  SITE  EPRT  RETR
      SPOR  MFMT  SCKS  TREV  PWD  QUIT  SBUF  SIZE
      SPAS  STRU  SYST  RNTO  TYPE  USER  LANG  MKD
      RMD   DELE  CKSM  DCSC
214 End
debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-jod
FEAT
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
211-Extensions supported
DCSC P,D
MFMT
AUTHZ_ASSERT
MLSR
MLSC
UTF8
LANG EN
DCAU
PARALLEL
SIZE
MLST Type*;Size*;Modify*;Perm*;Charset;UNIX.mode*;UNIX.owner*;UNIX.uid*;UNIX.group*;UNIX.
ERET
ESTO
SPAS
SPOR
REST STREAM
MDTM
PASV AllowDelayed;
211 End.
debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-jod
SITE CLIENTINFO scheme=gsiftp;appname="globus-url-copy";appver="8.2 (gcc64, 1323102900-1)
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
250 OK.
debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-jod
TYPE I
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.
200 Type set to I.
```

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```
debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
PBSZ 1048576

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
200 PBSZ=1048576

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
PASV

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
227 Entering Passive Mode (131,154,100,164,95,63)

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
ALLO 22

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
200 ALLO command successful.

debug: sending command to gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
STOR //storage/dteam/test-joda-11.txt

debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
150 Beginning transfer.

debug: writing buffer 0x2ad48bc19010, length 22, offset=0, eof=true
debug: data callback, no error, buffer 0x2ad48bc19010, length 22, offset=0, eof=true
debug: response from gsiftp://tutor02-storm.cnaf.infn.it:2811//storage/dteam/test-joda-11.txt
226 Transfer Complete.

debug: operation complete
]# clientSRM pd -e httpg://tutor02-storm.cnaf.infn.it:8444/ -s srm://tutor02-storm.cnaf.infn.it:8444/
=====
Sending PutDone request to: httpg://tutor02-storm.cnaf.infn.it:8444/
Before execute:
Afer execute:
Request Status Code 0
Poll Flag 0
=====
Request status:
  statusCode="SRM_SUCCESS"(0)
  explanation="All file requests are successfully completed"
=====
SRM Response:
  arrayOfFileStatuses (size=1)
    [0] SURL="srm://tutor02-storm.cnaf.infn.it:8444/srm/managerv2?SFN=/dteam/test-joda-11.txt"
    [0] status: statusCode="SRM_SUCCESS"(0)
        explanation=""
=====
```

## References

1. System Guide,  
[http://storm.forge.cnaf.infn.it/\\_media/documentation/storm-1.10.0-sysadminguide.pdf?id=documentation%3Ahome&category=storm](http://storm.forge.cnaf.infn.it/_media/documentation/storm-1.10.0-sysadminguide.pdf?id=documentation%3Ahome&category=storm)
2. Functionalities,  
[http://storm.forge.cnaf.infn.it/\\_media/documentation/storm\\_guide\\_v0.5.pdf?id=documentation%3Ahome&category=storm](http://storm.forge.cnaf.infn.it/_media/documentation/storm_guide_v0.5.pdf?id=documentation%3Ahome&category=storm)

-- Main.Elisabetta Ronchieri - 2012-10-2

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This topic: SiteAdminCorner > TutorialStoRM

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