

GLOBAL INSTALLATION PROCEDURE

M. H. Eres, G. E. Pound, and S. J. Cox
{eres, gep, sjc}@soton.ac.uk
Southampton Regional e-Science Centre
School of Engineering Sciences
University of Southampton
Highfield, Southampton SO17 1BJ
United Kingdom

1. Obtain host and LDAP certificates from the UK e-Science Certification Authority (<http://ca.grid-support.ac.uk/>) and convert it to Globus compatible PEM format files: `hostcert.pem` and `hostkey.pem`. For more information on the subject download the user documentation from <http://www.grid-support.ac.uk/ca/documentation.htm>. Related documentation is under 'New Certificate Documentation'.
 - a. Certificate application process overview
 - b. Uncertified certificate application process with Netscape 4.7x, 4.8x
 - c. Uncertified certificate application process with Internet Explorer
2. Create an account called 'globus'
3. Download latest Grid Packaging Toolkit (gpt 3.1b2) from <ftp://ftp.ncsa.uiuc.edu/aces/gpt/releases/gpt-3.1b2>
The file is: `gpt-3.1b2-src.tar.gz`
4. Download binary installation bundles from <http://www.globus.org/gt2.4/download.html> The files are:
 - a. All + Client + Linux 2.x - i686 - gcc:
`globus-all-client-2.4.3-i686-pc-linux-gnu-bin.tar.gz`
 - b. All + Server + Linux 2.x - i686 - gcc:
`globus-all-server-2.4.3-i686-pc-linux-gnu-bin.tar.gz`
 - c. All + SDK + Linux 2.x - i686 - gcc:
`globus-all-sdk-2.4.3-i686-pc-linux-gnu-bin.tar.gz`
5. Login as 'root' and create two directories for GPT and Globus

```
# mkdir /usr/local/gpt-3.1b2 /usr/local/globus-2.4.3
```
6. As 'root' change the ownerships of GPT and Globus directories

```
# chown globus.Globus /usr/local/gpt-3.1b2 /usr/local/globus-2.4.3
```

7. As 'root' move all tar.gz files to the home directory of 'globus' and change the ownerships of those files

```
# mv *.tar.gz ~globus
# cd ~globus
# chown globus.Globus *.tar.gz
```

8. Login as 'globus'

9. Setup some environment variables:

- a. For /bin/bash

```
# export GPT_LOCATION=/usr/local/gpt-3.1b2
# export GLOBUS_LOCATION=/usr/local/globus-2.4.3
```

- b. For /bin/csh and /bin/tcsh

```
% setenv GPT_LOCATION /usr/local/gpt-3.1b2
% setenv GLOBUS_LOCATION /usr/local/globus-2.4.3
```

10. Install GPT

```
% gzip -dc gpt-3.1b2-src.tar.gz | tar xf -
% cd gpt-3.1b2
% ./build_gpt
```

11. Install all of the Globus bundles

```
% $GPT_LOCATION/sbin/gpt-install \
globus-all-client-2.4.3-i686-pc-linux-gnu-bin.tar.gz
% $GPT_LOCATION/sbin/gpt-install \
globus-all-server-2.4.3-i686-pc-linux-gnu-bin.tar.gz
% $GPT_LOCATION/sbin/gpt-install \
globus-all-sdk-2.4.3-i686-pc-linux-gnu-bin.tar.gz
```

12. Setup some more environment variables

- a. For /bin/bash

```
# . $GLOBUS_LOCATION/etc/globus-user-env.sh
```

- b. For /bin/csh and /bin/tcsh

```
% source $GLOBUS_LOCATION/etc/globus-user-env.csh
```

13. Complete your Globus installation

```
% $GPT_LOCATION/sbin/gpt-postinstall
```

14. Generate header files

```
% $GPT_LOCATION/sbin/gpt-build gcc32dbg -nosrc
```

15. If you are upgrading from a previous version of Globus, you must move `/etc/grid-security` directory as it contains many important files. As 'root' type:

```
# mv /etc/grid-security /etc/grid-security.backup
```

16. As 'root' change your environment

- a. For `/bin/bash`

```
# export GLOBUS_LOCATION=/usr/local/globus-2.4.3  
# . $GLOBUS_LOCATION/etc/globus-user-env.sh
```

- b. For `/bin/csh` and `/bin/tcsh`

```
% setenv GLOBUS_LOCATION /usr/local/globus-2.4.3  
% source $GLOBUS_LOCATION/etc/globus-user-env.csh
```

17. As 'root' run (utp-10 only. Do not run this on other utp computers!)

```
# $GLOBUS_LOCATION/setup/globus/setup-gsi=
```

Press 'y' and 'Enter', then press 'q' and 'Enter'. This script generates a new `/etc/grid-security` and configures GSI.

18. As 'root' copy `hostcert.pem` and `hostkey.pem` files to `/etc/grid-security`

19. As 'root' download the files `01621954.0` and `01621954.signing_policy` and put them in `/etc/grid-security/certificates`

```
http://www.grid-support.ac.uk/ca/user-documentation/01621954.0  
http://www.grid-support.ac.uk/ca/user-documentation/01621954.signing\_policy
```

20. As 'root' edit `/etc/services` and add the following two services:

```
gsigatekeeper    2119/tcp        # Globus Gatekeeper  
gsiftp           2811/tcp        # Grid FTP
```

21. Assuming you have `xinetd`, as 'root' create two files in `/etc/xinetd.d`, called `globus-gatekeeper` and `grid-ftp`, and write the following in those files:

- a. In `globus-gatekeeper`:

```

service gsgatekeeper
{
    socket_type = stream
    protocol   = tcp
    wait       = no
    user       = root
    env        = LD_LIBRARY_PATH=/usr/local/globus-2.4.3/lib
    server     = /usr/local/globus-2.4.3/sbin/globus-gatekeeper
    server_args = -conf /usr/local/globus-2.4.3/etc/globus-gatekeeper.conf
    disable    = no
    env        = GLOBUS_TCP_PORT_RANGE=40000,50000
}

```

b. In grid-ftp:

```

service gsiftp
{
    instances      = 1000
    socket_type    = stream
    wait           = no
    user           = root
    env            = LD_LIBRARY_PATH=/usr/local/globus-2.4.3/lib
    server         = /usr/local/globus-2.4.3/sbin/in.ftpd
    server_args    = -l -a -G /usr/local/globus-2.4.3
    log_on_success += DURATION USERID
    log_on_failure += USERID
    nice           = 10
    disable        = no
    env            = GLOBUS_TCP_PORT_RANGE=40000,50000
}

```

22. As 'root' start xinetd

```
# /etc/init.d/xinetd restart
```

23. As 'root' start MDS

```
# $GLOBUS_LOCATION/sbin/globus-mds start
```

24. (Optional) As 'root' create two files, called `local.csh` and `local.sh`, in `/etc/profile.d`, and write the following in those files:

a. In `local.csh`:

```

setenv GLOBUS_LOCATION /usr/local/globus-2.4.3
if ( -f $GLOBUS_LOCATION/etc/globus-user-env.csh ) then
    source $GLOBUS_LOCATION/etc/globus-user-env.csh
endif

```

b. In `local.sh`:

```
export GLOBUS_LOCATION=/usr/local/globus-2.4.3
if test -f $GLOBUS_LOCATION/etc/globus-user-env.sh ; then
    . $GLOBUS_LOCATION/etc/globus-user-env.sh
fi
```

25. (Optional) As 'root' edit the `/etc/rc.d/rc.local` file and write the following at the very end of the file:

```
if test -f /usr/local/globus-2.4.3/sbin/globus-mds ; then
    /usr/local/globus-2.4.3/sbin/globus-mds start
fi
```