Grid Computing

Globus

Globus is a royalty-free, open source toolkit for building grid applications. It provides also command-line tools for example to login to a system, transfer files and submit jobs. As the Globus Toolkit is officially no longer maintained, the Grid Community Forum (GridCF) is a global community that provides support for core grid software. The Globus Community Toolkit (GCT) is derived from the Globus Toolkit, but is not the Globus Toolkit. The GridCF is not a part of the Globus Alliance (original maintainer of Globus.) The Grid services offered by LRZ are based on GCT. More specifically, LRZ offers two services based on GCT: GSISSH server to get an interactive shell in skx.supermuc.lrz.de and GridFTP for high speed data transfers.

GSISSH

LRZ offers a grid gateway to SuperMUC-NG via the server gridmuc-ng.srv.lrz.de that allows accessing SuperMUC-NG via GSISSH from any IP (i.e., no registration of the source address required)

Usage:

```bash
$ gsissh -p 2222 gridmuc-ng.srv.lrz.de
```

Requirements:

- You should have gsish (included in GCT) installed in your machine (check on https://gridcf.org/)
- You should have your DN registered at LRZ (check on https://www.lrz.de/services/compute/grid_en/certificate_en/person-certificate_en/register_cert_en/)
- You should generate a proxy of your certificate encrypted using a key of 2048 bit. You can obtain this in one of the following two ways
  - In your machine where you have the GCT installed:
    ```bash
    $ grid-proxy-init -bits 2048
    ```
  - If you have a MyProxy client in the machine with your grid certificate, then use the MyProxy server at LRZ to administrate your proxy certificate. By default this will use that encryption length:
    ```bash
    $ myproxy-init -s myproxy.lrz.de
    $ myproxy-logon -s myproxy.lrz.de
    ```

GridFTP

LRZ offers two servers for data transfers in and out SuperMUC-NG using GridFTP. Further description can be found at https://doku.lrz.de/display/PUBLIC/Data+Transfer+Options+on+SuperMUC-NG