Data Migration from SuperMUC to SuperMUC-NG

This document provides a step-by-step guide on how to migrate data from SuperMUC to SuperMUC-NG using Globus. Although the system also allows transferring files via scp or rsync, Globus should be the preferred solution for migrating large volumes of data, while the aforementioned two other options should be only used for transferring a few small files.

Transfer via Globus Online

The provided solution is based on Globus Online, which is accessible online via app.globus.org. Notice that migrating files using other Globus tools as the globus-url-copy provided by the Globus Toolkit is not available at the moment.

Therefore, the first step is to open your favourite internet browser and navigate to app.globus.org. If your internet browser is old, it may not be supported. In this case, a message indicating this issue will be showed to you. At the time of writing, we have not experienced problems with Google Chrome, Safari or Firefox. We have experienced some troubles with Microsoft Internet Explorer, Firefox should work. We have not tested other Internet browsers.

The login interface of the Globus Online looks like the following picture.

Choose “Leibniz-Rechenzentrum der Bayerischen Akademie der Wissenschaften” as organisation from the list and click on “Continue.”

The previous step should redirect you to the login system of LRZ based on Shibboleth. Without going into details, this system should authorise you using your LRZ username and password. Therefore, insert your LRZ username (the account you use for login into the SuperMUC) and password and click on “Anmelden.” The example depicts the login for the user d657sal.
If the login credentials are correct, the previous step redirects you to the file manager. By default, it looks like the following picture.

As you are going use the system to copy files between two locations, choose the view with two panels (maybe that view is the default for you). Changing from one to two panels can be done with the "Panels" button.
The two panels interface looks somewhat like this:

For each of the panels, you need to choose a collection using the "Collection" field of the interface (see picture below). Each collection represents a storage system from/to where you want to transfer files.

As you want to copy files from SuperMUC to SuperMUC-NG, choose for the left panel "LRZ SuperMUC Data Migration (RESTRICTED)" and for the right panel "LRZ SuperMUC-NG Data Migration (RESTRICTED)". When you start typing in any of the collection fields, their system would bring you to the interface for choosing collections (see the picture below). Typing LRZ would probably suffice for the system for offering you the aforementioned two collections as the system use auto completion.
Note: It may be that when choosing "LRZ SuperMUC-NG Data Migration (RESTRICTED)" you get notified your user is not authorised for that collection. This might be due to the fact that your SuperMUC-NG account differs from the SuperMUC one. If that is the case, just enter that information in the corresponding fields when asked again.

Once the collections are chosen you should see something like the following picture.

Some key elements in the previous interface are the "Path" fields, the "Start" buttons for triggering the transfers, and the "Transfer & Sync Options" button for accessing a more advanced options menu.
The system is pretty straightforward. On the left panel set the path from where you copy files (this path must exist in **SuperMUC** and your user must have access rights). Do the same on the right panel (i.e., choose the path to where you want to copy). Choose the files on the left side and click on "Start". Once clicked, the transfer will start asynchronously. You will be provided a link to check the status of the transfer. Once finished, you will receive a mail indicating its completion.

Although the previous step should suffice, we recommend several options accessible via the "Transfer & Sync Options button”. In particular, the system offers the following ones.

We recommend at least to tick on “verify integrity after transfer”. We do not see any need in choosing the encryption option as the data would not leave the LRZ network at any point.

**Recommendation**: transfers of a lot of small files will be slow. For that use case, we recommend creating a **tarball** with all these files and transfer the **tarball** instead.

**Recommendation 2**: It may be that during the data transfer the Unix mod bites would be affected. If you want to avoid this, create a **tarball** including the file and transfer the **tarball** instead. Files within the **tarball** should not be affected.