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Adding DATA Resources into the Grid

Andrew Grimshaw

XSEDE

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Ways to Add Data into the Grid

- Create files and directories
- Export file system directory

Creating Files in the Grid

- Creating a file (or directory) places its state on same grid container as its containing directory
- For example, all these following commands place files and directories in container where ***/home/bob*** resides

```
echo "hello" > /home/bob/newFile
```

```
mkdir /home/bob/testDir
```

```
cp local:testFile grid:/home/bob/testFile
```

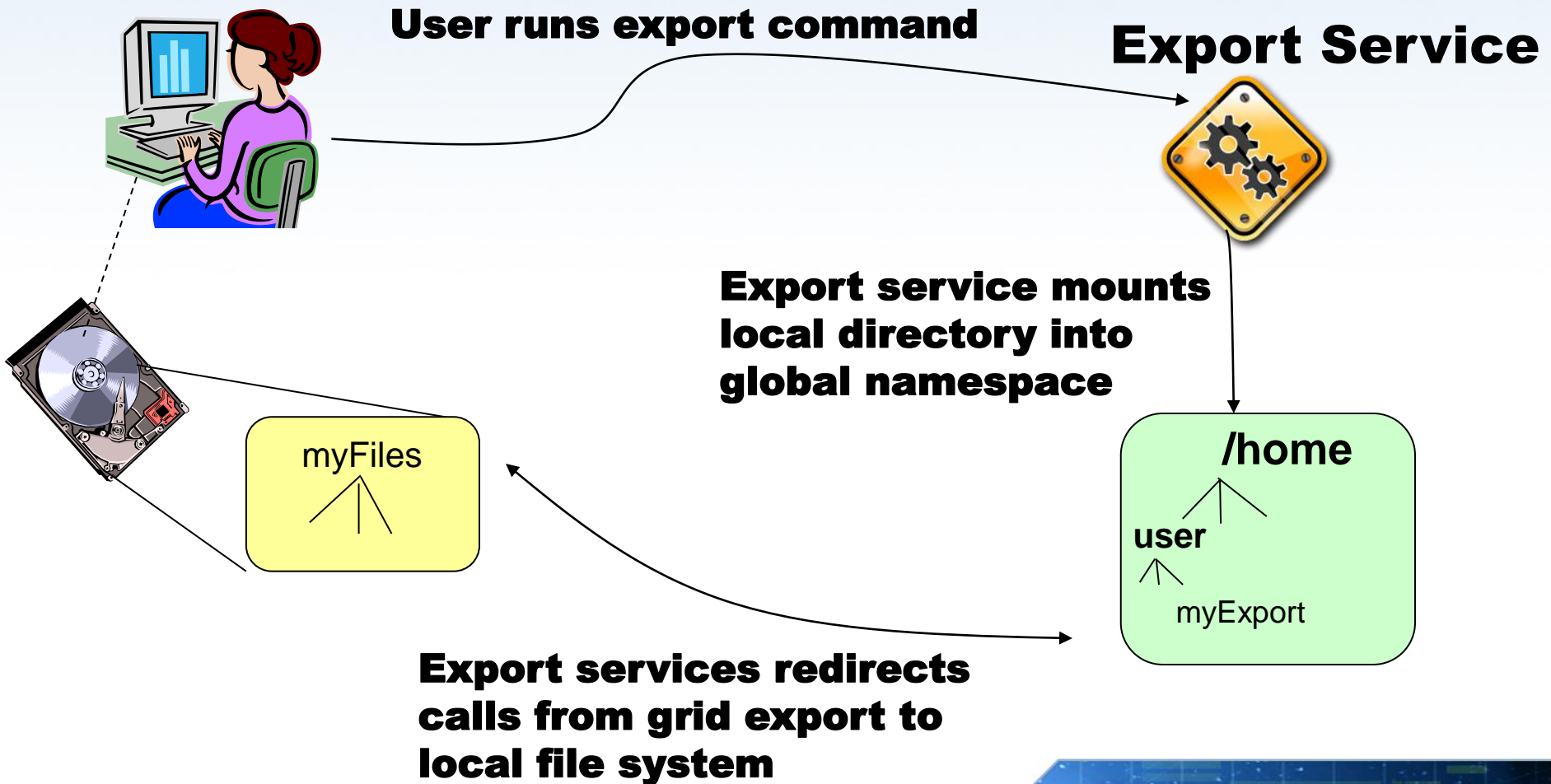
Creating Directories on Specific Containers

- Files can be created on other containers by specifying creating a containing directory on target container
- Directory placement location can be changed by explicitly specifying grid container to be used
 - Path to service on target container is given to directory creation command (service is *EnhancedRNSServicePortType*)
mkdir --rns-service=<rns-service-path> <new-dir-path>

Exports: Mapping Data into the Grid

- Basic idea: create grid resource that securely proxies access to local files and directories via RNS and BytelIO web services
- We use an “export” service to proxy a local file system directory tree into grid
- To create “export”, create instance of `LightWeightExportPortType`
 - Via the command line
 - Via the GUI (for local hosts)

Exporting: Mapping a local directory structure into the global namespace



Export Creation Example: Cmdline

- Creating an export maps specified directory on container host into specified GFFS path
- To run export command, you need to know
 - Location of files you want to export
 - On which container you will create export resource (service is *LightWeightExportPortType*)
 - Location in global namespace where you want to mount export

```
export --create <path-to-service> <local-path-to-files>  
<GFFS-path-for-export>
```
- Quitting export turns off export service (underlying files in local file system are left intact)

```
export --quit <GFFS-path-for-export>
```

Export Creation Example: GUI

- Provide:
 - Location of files you want to export
 - Location in global namespace where you want to mount files

The image illustrates the GUI for creating an export. It is divided into two parts by a large grey arrow pointing from left to right.

Left Panel: Shows the 'Export Creation' dialog box. The 'Deployment' dropdown is set to 'GeniiNetFullContainer'. The 'Light-weight Export' radio button is selected. The 'Local Path' and 'RNS Path' fields are empty, each with a 'Browse' button. The 'Create Export' and 'Cancel' buttons are at the bottom.

Right Panel: Shows the 'Export Directory Tool' window. The 'Current Exports' table contains one entry:

Deployment	Local Path	RNS Path
GeniiNetFullContainer	/localtmp/test	/home/grimshaw/warr...

The 'Export Data' and 'Quit Export' buttons are at the bottom of the window.

Export Security Settings Recommendation

- Give users extended access control to enable export creation
- Allow only admin users to create exports