

IBRIX Quota System

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Basic Information

- IBRIX Quotas are like standard UNIX Quotas
 - Cover entire file system
 - Any file owned by a user or group which has a quota limit set within that file system will count against that user's/group's quota
 - Set on UID's and GID's
 - If there is quota limit set for uid and gid, the more strict quota wins
 - Currently users are only notified when they have reached their hard limit (no space left on device)
- They are not like AFS quotas
 - Not based on volumes

USCMS Set Up

- 2 IBRIX file systems: /uscms and /uscms_data/d1
 - quotas enabled on both
 - User's have a 2GB default quota in /uscms and 5GB default quota in /uscms_data/d1. This is based on the users UID (ownership)
 - Physics groups have a 5Gb default quota in /uscms and a 250Gb default quota in /uscms_data/d1. This is based on the physics group GID (group ownership)
 - For a file to count against the physics group quota, the file must be grouped to the appropriate physics group

Examples

- By default when a user writes a file, the new file inherits the uid and primary GID of the user writing the file. Information on a users current uid and gid(s) can be obtained by running the UNIX command "id":

Ex: <cmswn057> id

```
uid=1291(lisa) gid=5063(us_cms) groups=5063(us_cms),9632
(cmsfnal)
```

- In this example user lisa's UID is 1291, and her primary GID 5023. lisa is also a member of the group cmsfnal (GID 9632).
- If lisa wrote a file with her id information set as in the example, the file would be owned by lisa and grouped to her primary group, us_cms. Since the us_cms group has no quota restrictions in either file IBRIX file system, this file would count against lisa's quota.

Another Example

- This time we want the file to count against a physics group quota. In order to do this, the file needs to end up being grouped to the physics group the user has access to.
- In our previous example user lisa was a member of cmsfnal. If lisa was logged in interactively on the UAF, she would need to:
 - `ksu cmsfnal`
 - copy files in, create files, create directories
 - `chmod g+s any directory created`
 - This last step sets the setgid bit so that from a regular interactive session or from a batch job, any new files created under it will automatically be grouped to cmsfnal

Checking your quotas

- UAF cluster has 2 commands:
 - `ibrix_uquota`: returns quota usage in both `/uscms` and `/uscms_data/d1` for the users running the command
 - `ibrix_gquota <group>`: Returns quota usage information for the named group

Where to get more info

www.uscms.org/SoftwareComputing/UserComputing/test/IBRIX.html

www-oss.fnal.gov/scs/cms/ibrix/ibrix_main.html (work in progress)