Introduction to Disk Quotas

- You can store up to some limit - currently 8GB and 40000 files for UGs and MScs - in your DoC home directory. Limits enforced by the Unix quota system.
- Check your quota via: `quota -Q` in a Linux terminal.
- Check your quota at least once a week. When over quota, start freeing up space immediately!
- After a week over quota, all writes into your home directory will fail until you get under quota. This stops you logging into Linux via the X-Windows GUI - giving the error message `Could not update .ICEauthority`. In this situation, you can still login non-graphically and get under quota:
  - Type Ctrl-Alt-F1 to get a text-mode login prompt.
  - Log in, find where you’re using the space (using the commands from the following sections), then clear some space by removing or compressing files until your quota comes under the soft limit.
  - Then log out of the text-mode login (do not forget this), press Ctrl-Alt-F8 to return the machine to X-Windows, and login in graphically.

Duncan White (Systems Manager, CSG)  Oct 2015 1 / 4

Finding out: Where am I using all the space?

- Checking which directories contain the most number of files requires using another convenient utility we’ve written for you:
  ```bash
  cd /vol/linux/bin/nfiles
  ```
  This produces a list of sub-directories sorted by number of files contained. The directories with the largest number of files appear at the bottom of the list.
- As with usage, use nfiles to drill down:
  ```bash
  cd /vol/linux/bin/nfiles
  cd DIR_WITH_MOST_FILES
  cd SUBDIR_OF_THAT_WITH_MOST_FILES
  ```
  until you find a flat directory containing an unexpectedly large number of files - then you might consider deleting some/all of the contents (once you understand what they are).

Duncan White (Systems Manager, CSG)  Oct 2015 2 / 4

Other options

- Other ways of reducing your quota involve removing object files and executables, compressing large files via `bzip`, and tarring up and compressing entire directories via `tar`:
  ```bash
  cd /vol/linux/bin/tarmeup
  ```
  You can store data in a 10TB shared volume `bitbucket`. `mkdir /vol/bitbucket/$USER` and work in there - CSG reserve the right to delete any material stored anywhere else in bitbucket. **Note**: bitbucket is not backed up.
- Storing your Dropbox folder in your home directory is a waste of space. Store such information in `bitbucket` instead.
- `/data on each PC` is another place you may write data temporarily, like bitbucket it is not backed up. Unlike bitbucket, /data is private to each PC.
- If you really need extra quota to do your individual project (for example), email help@doc.ic.ac.uk, estimating **how much** extra you need, **why** you need it, and **how long** you need it for!
- Read [www.doc.ic.ac.uk/csg/guides/file-storage/quota](http://www.doc.ic.ac.uk/csg/guides/file-storage/quota) for even more quota-related tips and tricks.

Duncan White (Systems Manager, CSG)  Oct 2015 4 / 4