

Benchmarks for filterbank creation with psrfits2fil

A series of tests were ran on dragnet (drg01), directly (now through slurm), on fits files from a random LOTAAS observation. Number of cores, means number of different fits files processed simultaneously. The total time is an extrapolation of this benchmark.

Data read/written on the same disk

1-core:354sec

Total time for 16 files:5664sec

3-cores:630sec

Total time for 16 files:3360sec

4-cores:720sec

Total time for 16 files:2880sec

5-cores:1106sec

Total time for 16 files:3539sec

8-cores:1735sec

Total time for 16 files:3360sec

16-cores:3778sec

Total time for 16 files:3778sec

When writing the filterbank in the same disk with the fits file, the best performance is achieved by having 4 psrfits2fil instances running.

Input/output on different disks

1-core:329sec

Total time for 16 files:5264sec

4-cores:523sec

Total time for 16 files:2092sec

8-cores:901sec

Total time for 16 files:1802sec

16-cores:1686sec

Total time for 16 files:1686sec

Using all the cores in the dragnet nodes gives the best performance.

Moving a fil file from /data2 to /data1 takes 1 minute.

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