

A short report about GridFTP performance at
CINECA

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This report presents the results of a set of tests for measuring the performance of the GridFTP vers. 3.23 instance at CINECA using another Italian site as end-point.

number of streams	file size 2048MB	file size 128MB
0	18.88	18.88
1	19.04	19.28
2	38.00	38.08
3	56.40	55.92
4	74.40	73.68
5	87.60	84.64
6	88.32	85.36
7	88.72	85.36
8	88.08	85.36
9	88.88	85.36
10	88.64	86.80

Table 1: Transfer speed of GridFTP obtained for a file to file (2048MB column, in Mb/s) and a memory to memory (128MB column, in Mb/s) transfer.

The RTT (Round Trip Time), obtained from *ping*, is about 26 ms and the physical max speed of the connection is about 100Mb/s, obtained from <http://www.garr.it>. The command used for the test is *globus-url-copy*. It is used without any particular options except for the one relative to *streams*, i.e. $-p < n >$, using a range of values from 0 to 10, as reported in the pictures.

The value $-p 0$ gives a standard, i.e. *Stream Mode*, ftp transfer while $-p 1$ gives *Extended Block Mode*. Both pictures show the ratio between the GridFTP and the scp transfer speed reported in Table 1: the one on the top shows the results obtained transferring a 2048MB file while the other one shows the results obtained transferring 128MB from */dev/zero* to */dev/null*. All the tests were performed at around 2:00 am using GSI based authentication: no noticeable differences were observed using SSH based authentication.

As reported in the picture the GridFTP provides a transfer speed which is almost five time faster than the standard scp transfer technology.

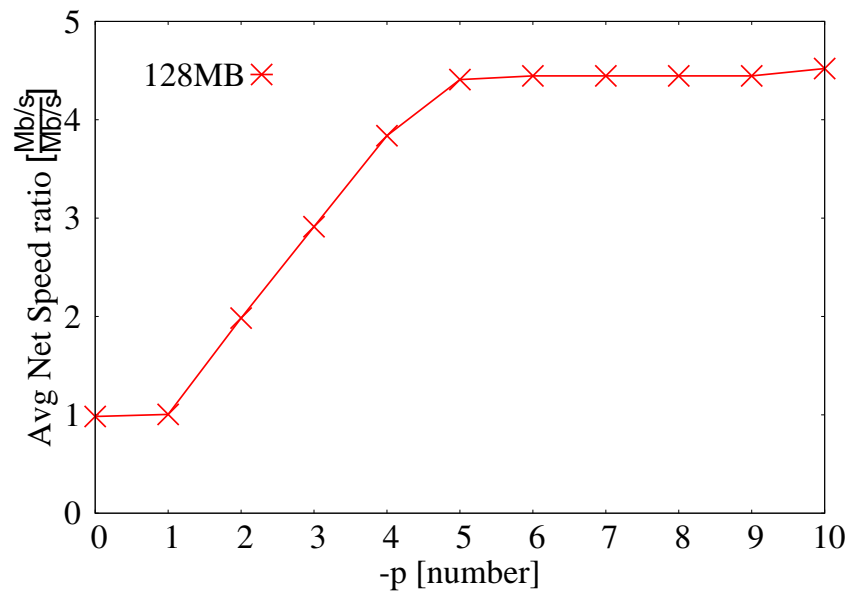
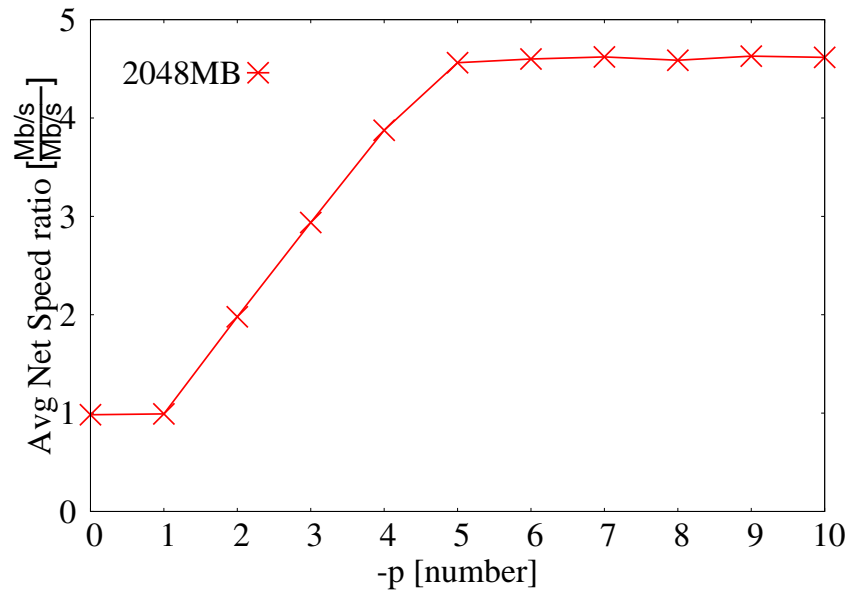


Figure 1: Effect of Parallel Streams in GridFTP: the upper picture shows the results obtained transferring a 2048MB file, the lower one shows the results obtained transferring 128MB from */dev/zero* to */dev/null*.