



PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

How much is 10^{15}
or
1 000 000 000 000 000



1 000 000 000 000 000 in High Performance Computing

- ONE PETAFLOP/S

1 000 000 000 000 000 floating points operations per second, or 1000 trillion calculations per second

- Roughly equivalent to the combined computing power of 100,000 of today's fastest laptop computers

A stack of laptops about 1.5 miles high

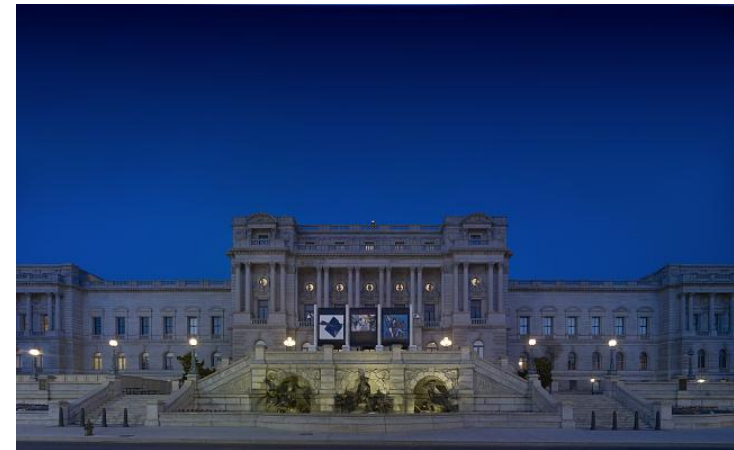


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- In one second the equivalent of 2 days of non-stop computation by every living person at one calculation per second
- The minimum computational capacity of platforms deployed by PRACE in 2010

1 000 000 000 000 000 000 bytes
of data

- 1 PETABYTE
- 1/3 of the total size of
the Library of Congress,
the largest library in the world



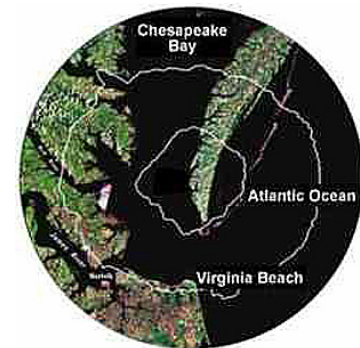
1 000 000 000 000 000 000 miles ?

- Close to 169 light-years
- 1.1 millions times the distance between the Sun and the Earth
- 40 times the distance between the Sun and its closest neighbor Proxima Centauri



1 000 000 000 000 000 seconds ?

- The number of seconds elapsed since the Oligocene period (31 Mio years ago) the start of a major extinction event due to a meteor impact in Chesapeake Bay (USA)



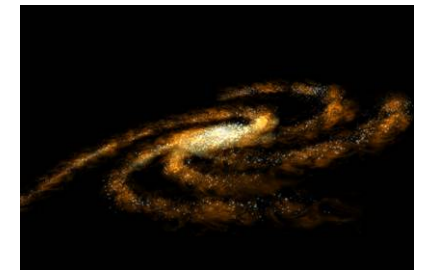
1 000 000 000 000 000 000 gallons ?

- Close to 2.73 times the estimated total earth water reserves !



1 000 000 000 000 000 000 stars ?

- Close to 3333 times the estimated total number of stars in the Milky Way



1 000 000 000 000 000 000 grains of sand ?

- Only 1/7500 times the estimated total number of grains of sand on the world's beaches

