Supercomputers in Europe

Embedding the e-IRG discussion

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Why?

- During the meetings in November 2004 and March 2005 it was concluded that a grid without relevant (general purpose) facilities is rather empty
- The European Science Grid should comprise:
  - A fast and low latency hybrid network
  - Major data storage and servicing facilities
  - Competitive edge advanced facilities for reseach computing
  - Support of various kinds
  - Organisation

What kind of facilities?

- General purpose?
- Special purpose
- Mixture?
- Discipline bound?
- More than 1, 2, …5?

General/Special purpose

- The European Science Grid from scratch:
  - A landscape of various architectures
  - “TOP5”-level systems
  - Gridwise connected (“DEISA-like”)
  - Consecutively installed, exploiting More’s Law
  - Different locations in Europe

Discipline bound?

- Distinguish hardware and operations from knowledge and support
- Is there a single most suitable architecture for all codes in use in one discipline?
- Isn’t the grid software particularly supporting the principle of the most suitable machine for each code?

Questions

- Are SC needed on European Scale?
- Per discipline or per architecture?
- At what performance (price) level?
- How many more than one?
- All at the same time or consecutively?
- As a European effort or as (bundled) national efforts?
- As integral part of the European Science Grid?
- Build on top of the DEISA set-up or otherwise?