# The Future of RAPS

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In the beginning... (early 1990's)
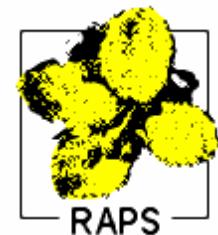
RAPS

How to parallelize my application?

SIMD

Compilers will do everything

PVM

Cray extensions

F90

SPMD

Amdahl's Law

Shared Memory v. Distributed?

Benchmarking?

PARMACS

Killer Micros

Vector v. Scalar

Parallel v. Serial

F77

What is RAPS?
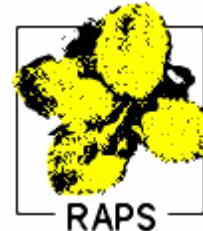
- **<u>R</u>eal <u>A</u>pplications for <u>P</u>arallel <u>S</u>ystems**

- **European Software Initiative**

- **RAPS Consortium (founded early 90's)**

- **Working group of hardware vendors**

- **Programming model (MPI + F90 + OpenMP)**

"The partners of the RAPS Consortium develop portable parallel versions of their production codes which are made available to a Working Group of Hardware Vendors for benchmarking and testing."

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RAPS Consortium

Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique (CERFACS)

Deutscher Wetterdienst (DWD)

Deutsches Klimarechenzentrum GmbH (DKRZ)

European Centre for Medium-Range Weather Forecasts (ECMWF)

European Organization for Nuclear Research (CERN)

Fraunhofer Gesellschaft SCAI (former GMD)

Gesellschaft für Parallele Anwendungen und Systeme mbH (Pallas)

Meteorological Office UK

Météorologique Nationale (METEO-FRANCE)

Natural Environment Research Council (NERC)

Office National d'Études et de Recherches Aérospatiales (ONERA)

University of Southampton

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Working Group of Hardware Vendors
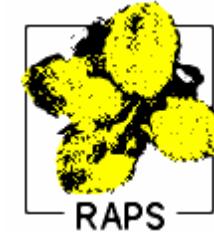
Cray	**IBM**
Fujitsu	**NEC**
Hitachi	**SGI**
HP	**SUN**

Anybody else interested?

RAPS benefit
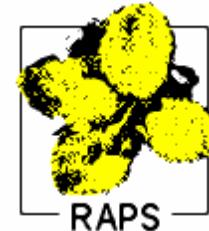
- **Portability of codes**

- **Availability of benchmark codes ahead of a formal procurement**

- **Some influence on standardization (PARMACS -> MPI)**

  - Vendors needed to support F90 + MPI to run benchmarks

- **Regular meetings in past years (20 in total)**

What is the the future for RAPS?

Proposed Future for RAPS
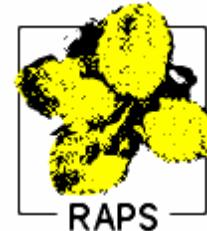
- **RAPS benchmarks to be distributed by individual organizations**

- **No official membership required for vendors**

- **Vendors approach (NDA) individual orgs for benchmarks**

- **RAPS web page (centralised or locally hosted)**
  - **Contact details**
  - **Links to RAPS members**
  - **Announcements / available benchmarks**

- **Meetings**
  - **Once a year if possible**
  - **Chairmanship with host organization**