



cOMPunity

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cOMPunity

OpenMP Architecture Review Board

and

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OpenMP is A Good Thing

- To some extent, it is codification of existing language features
- But streamlined and agreed upon by vendors
- We have long sought a higher level language
- It needs strong vendor commitment (compilers, tools)
- So OpenMP is a great opportunity for the HPC community



Early Workshops



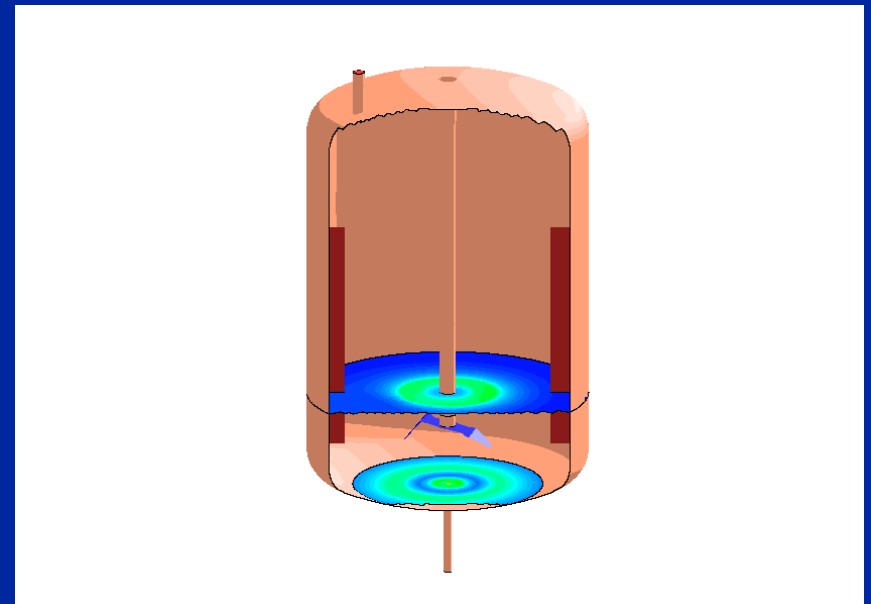
Reported on experiences with OpenMP

- Ease of programming confirmed
- Language features proposed
- Vendor extensions used (and API was only a year old)
- Scalability demonstrated on large-scale codes
- But many (maybe most) did not know how to optimize OpenMP code

Where is OpenMP today?

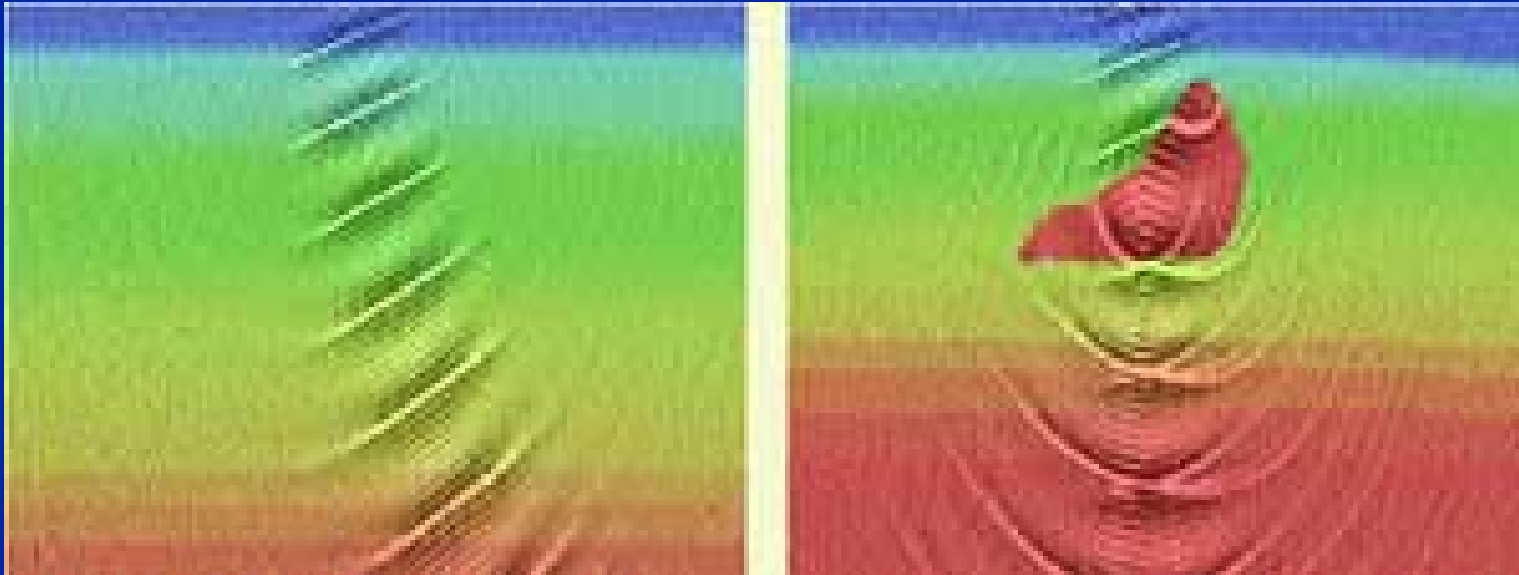
OpenMP is a widely used shared memory API

- SMPs/ccNUMAs
- With MPI, in clusters



- Optimization strategies better understood
 - ◆ But there is for improvement

Large-Scale OpenMP Computation



Seismic sound waves distorted by salt

Events



- **WOMPAT: late June, Toronto, Canada**
 - ◆ **Next year: May, Houston**
- **EWOMP: September, Aachen, Germany**
- **WOMPEI: at ISHPC, Tokyo, Japan**
- **Sessions at other events: ICCS, ParCo**

Where will OpenMP be Tomorrow?

- Target platforms, applications, user needs change over time
 - ◆ does OpenMP meet user needs?
 - ◆ do compilers and tools perform adequately?
 - ◆ are language features sufficient for needs of large-scale computations?
- Who will ensure that the answers to these questions are positive???



OpenMP Needs YOU



- There is plenty of language/compiler research needed
 - ◆ OpenMP for SMT architectures
 - ◆ OpenMP for distributed memory
 - ◆ OpenMP for large-scale applications

OpenMP Needs YOU

- There is plenty of development work needed
 - ◆ OpenMP test suites
 - ◆ OpenMP compiler infrastructure
 - ◆ Sharing of benchmarks? Application kernels?



cOMPunity Website



Some information updates needed

- **Teaching and training material**
 - **Experiences using OpenMP, tips and tricks**
 - **OpenMP-related freeware**
 - **Application reports**
 - **Collections of papers**
-
- ***<http://www.compunity.org>***

OpenMP at Supercomputing 2003

- BOF on Tuesday at 5.30 pm
- Interesting presentations?
- Idea of a prize for “efficient” use of OpenMP on an application
 - ◆ Flops per directive?

