Open MPI
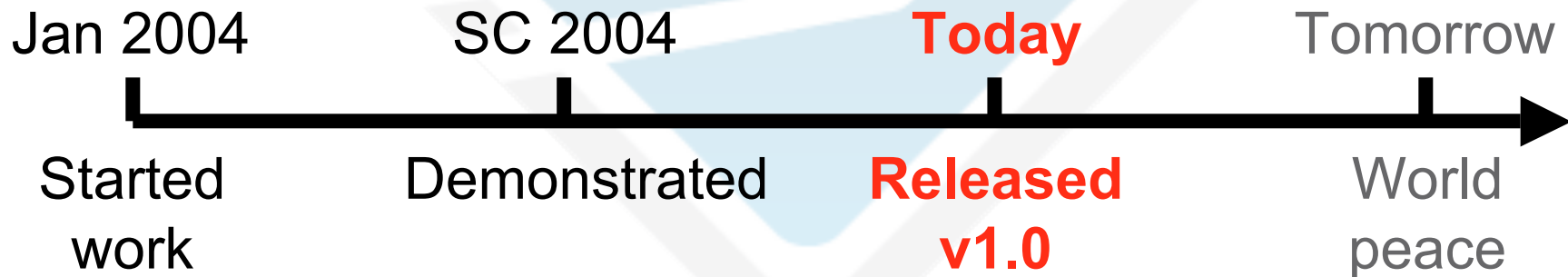# Join the Revolution

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`http://www.open-mpi.org/`

Technical Contributors

- Indiana University
- The University of Tennessee
- Los Alamos National Laboratory
- High Performance Computing Center, Stuttgart
- Sandia National Laboratory - Livermore

MPI From Scratch!

- Developers of FT-MPI, LA-MPI, LAM/MPI
  - Kept meeting at conferences in 2003
  - Culminated at SC 2003: Let's start over
  - Open MPI was born

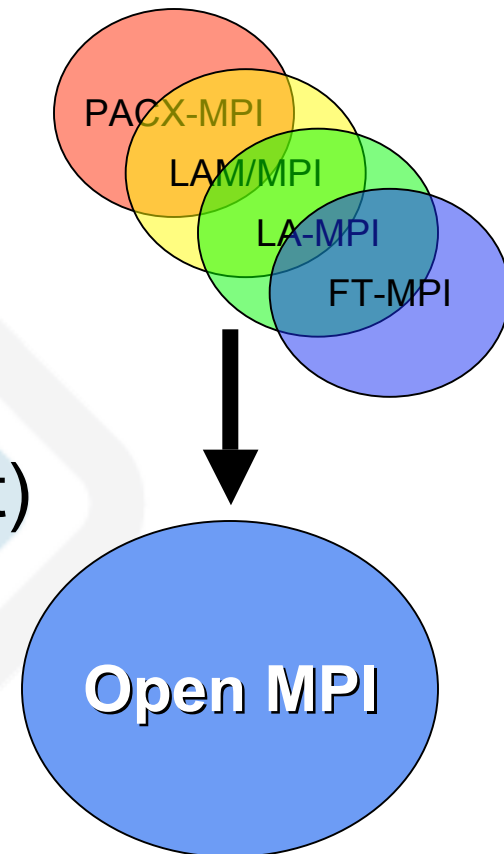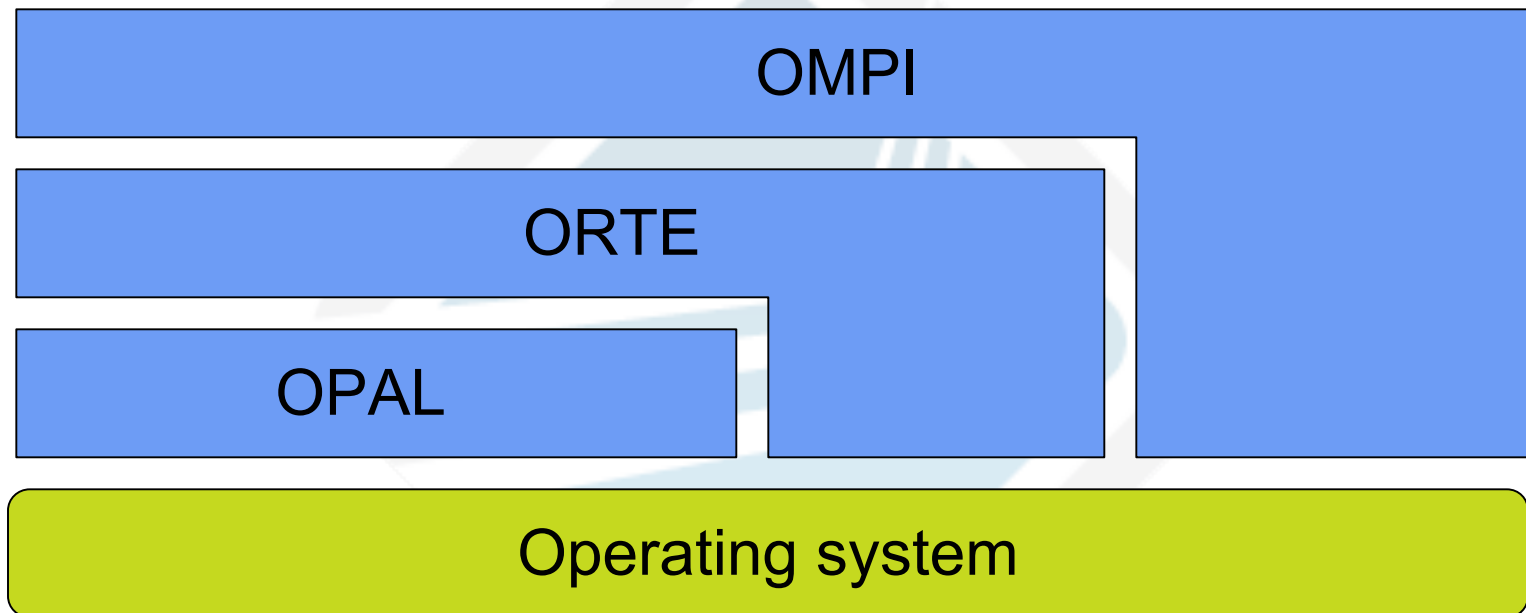| Jan 2004	SC 2004	**Today**	Tomorrow
Started work	Demonstrated	**Released v1.0**	World peace

MPI From Scratch: Why?

- Each prior project had different strong points
  - Could not easily combine into one code base
- New concepts could not easily be accommodated in old code bases
- Easier to start over
  - Start with a blank sheet of paper
  - Decades of combined MPI implementation experience
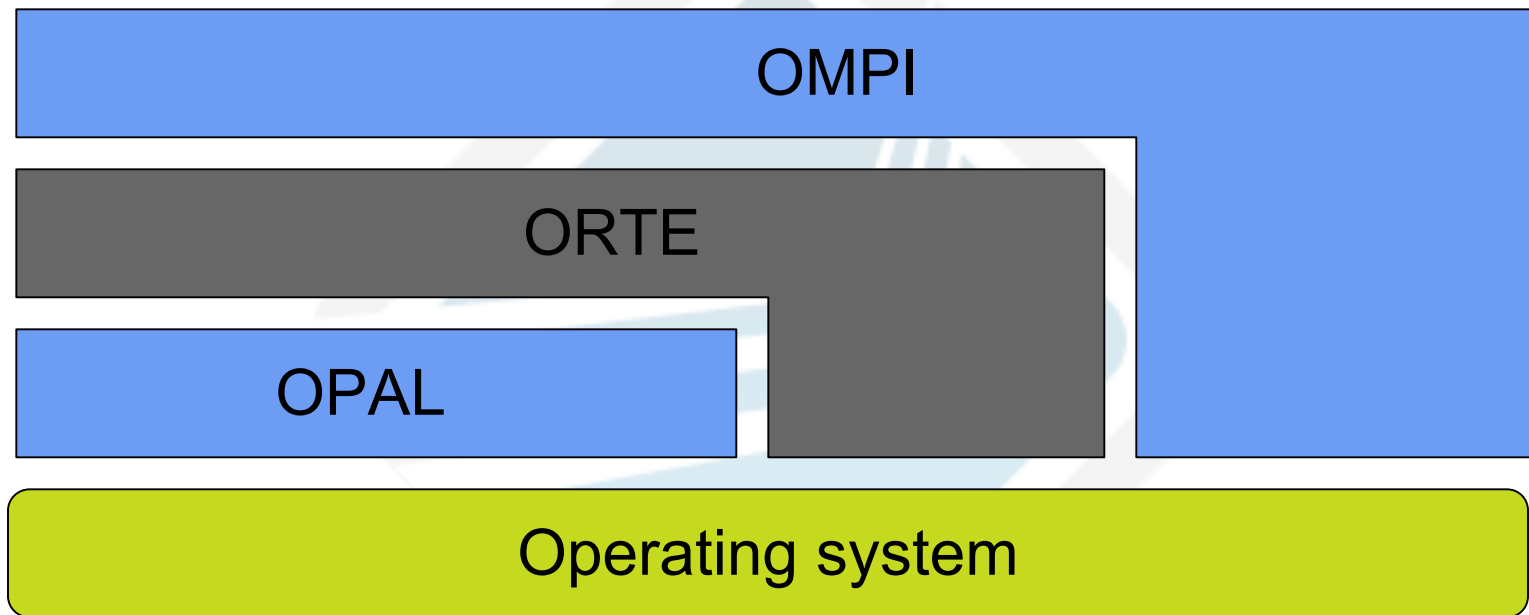
MPI From Scratch: Why?

- Merger of ideas from
    - FT-MPI (U. of Tennessee)
    - LA-MPI (Los Alamos)
    - LAM/MPI (Indiana U.)
    - PACX-MPI (HLRS, U. Stuttgart)

Layered Software

OMPI

ORTE

OPAL

Operating system

Layered Software

OMPI

ORTE

OPAL

Operating system

Open Run-Time Environment (ORTE)

- Parallel job control
  - Native launching and monitoring parallel jobs
  - rsh/ssh, SLURM, PBS/Torque, BProc, Xgrid
  - *Nothing to do with MPI*

- Rich set of hooks for tools
  - Open MPI's internal tools (e.g., mpirun)
  - External tools: Greg's parallel debugger

Current Status

- v1.0 released immanently (see web site)
- Much work still to be done
  - More point-to-point optimizations
  - Data and process fault tolerance
  - Support more run-time environments
  - New Fortran MPI bindings
  - More external tools
  - …
- *Come join the revolution!*