2nd Workshop on Resource Arbitration for Dynamic Runtimes (RADR)

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Emmanuel Jeannot, Inria
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Stacking Optimized Library and Runtime Systems

Multithreaded application
Multithreaded Com. Library
Multithreaded Runtime System
Hardware

Scientific app
Parallel Blas
OpenMP
Multicore+parallel

Pb: Each thread ignores the existence of the other threads! Mapping? Priority? Scheduling?
How to go beyond best-effort resource management?
The basic problem: how to share resources?

Each threaded library, runtime system, etc.

1. Query the topology (with hwloc, etc.)
2. Allocate threads
3. Bind them
4. Execute them

Never (?) takes into account the other part of the SW stack.
RADR workshop: discuss issues and possible solutions

Program:

An Implementation of User-Level Processes using Address Space Sharing, Atsushi Hori, Balazs Gerofi and Yutaka Ishikawa.

NUMA-aware CPU core allocation in cooperating dynamic applications, Jiri Dokulil and Siegfried Benkner.

Overlapping MPI communications with Intel TBB computation, Cassandra Rocha Barbosa, Pierre Lemarinier, Marc Sergent, Guillaume Papauré and Marc Pérache.

Program committee

Dorian Arnold, Emory University.
Siegfried Benkner, University of Vienna.
George Bosilca, Univ Of Tennessee.
Hal Finkel, Argonne Ntl Lab.
Karl Fuerlinger, LMU, München.
Brice Goglin, Inria.
Raymond Namyst, Univ. Of Bordeaux.

Stephen Olivier, Sandia Ntl Lab.
Tapasya Patki, Lawrence Livermore Ntl Lab.
Marc Perache, CEA.
Swann Perarnau, Argonne Ntl Lab.
Rolf Riesen, Intel.
Sameer Shende, U. of Oregon.
Christian Terboven, RTW Aachen.
Let’s start

Advise:

• Mute your mic when you do not speak
• Put your name in the PAD
• Ask questions in the PAD
• Register to IPDPS (it’s free): it is for the statistics...
• All details are on the website

Enjoy!
Any questions?