

HPCC Futures

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Question:

How do you make a small fortune in
HPCC?



Answer:

Start with a large fortune.

Current State:

- Less and less custom HPCC hardware.
 - SGI (interconnect)
 - Financial trouble
 - Cray (interconnect and vector CPU)
 - Unsure future
 - IBM (interconnect)
 - Moving to commodity interconnect (Infiniband)
 - NEC (interconnect and vector CPU)



Future of commodity CPUs

- Moore's Law
 - Actually said that the number of features on a CPU would double every 18 months (for a while that also implied doubling of compute power)
 - More cores
 - Today: 4 cores per chip
 - Near future: 8 cores per chip
 - Further:
 - More cores?
 - More cache?
 - More function units?
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Future

- Unclear
 - Obstacles
 - Memory performance
 - HEAT
 - Scaling
 - Near-term
 - More cores
 - Higher scaling via MPI
 - Hybrid coding techniques (OpenMP + MPI)
 - Far-term
 - Very unclear
 - New paradigm
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Thank you!

Questions?

