SC’12 MPI Forum – IBM status
MPICH2/PAMI status
BG/Q, Power and x86

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PAMI – Unified Messaging Layer Architecture Goal

Applications

MPICH2 2.1

PAMId
ADI

BG/Q

Intel/X86

IBM MPI 2.1

PEMPI impl.

APGAS Runtime

CAF Runtime*

X10 Runtime*

UPC Runtime*

GA/ARMCI*

CHARM++*

PAMI API

PAMI Common code

BG/Q messaging Base P2P impl.

Intel messaging Base P2P impl.

PERCS messaging Base P2P impl.

PAMI Common code

PAMI Common code

PAMI Common code

MU SPI

HAL API

BG/Q

Intel/X86

PERCS
MPICH2/PAMI usage in Top15 of November 2012 List

- MPICH2/PAMI on BG/Q – #2, #4, #5, #9
  - Largest MPI scaling to ~1.6M ranks/cores
- MPICH2/PAMI on x86 – #6, #13
  - Largest MPI scaling to ~160K ranks/cores
- PEMPI/PAMI on Power775 – #10
  - Largest MPI scaling to ~64K ranks/cores

NOTE: All the Linpack runs using single MPI task per core

PAMId (MPICH2 to PAMI API calls) is mostly common across all platforms and the PAMId common code have been contributed back to MPICH community
Goals for 2013+

• Provide MPICH2/PAMI on Power cluster which have IBM Parallel Environment Runtime Edition 1.2 installed
• Investigate MPICH MPI 3.0 support over PAMI to be delivered in phases across difference IBM platforms