



MPI-3 subsetting

MPI-3 subsetting WG

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Motivation & Goals

- Customers drift away from the MPI
 - Complaints about MPI inadequacy and complexity
 - Complexity is going to grow in MPI-3
 - Growing complexity may lead to lower performance
- Subsetting aims at countering this thru
 - Modularization to better fit different application areas
 - Identification of the MPI core and other subsets
 - Performance optimization for certain module combinations

Potential & Challenges

- Optimization potential: if we drop...
 - Dynamic process support: less overhead in the progress engine, easier global rank handling
 - Heterogeneity: better library memory footprint, easier data handling
 - MPI_ANY_SOURCE: faster, more simple progress engine
- Challenges: what can go wrong
 - Complication instead of simplification
 - Lack of application portability
 - Missing actual customer demands
 - Fighting a lost battle

Discussion items

Hierarchical subsets (Ron)

Per communicator subsets (Tony)

Other ideas?

Call to action

- Subsetting WG
 - Work closely with other WGs and the Forum as a whole
 - Define and present subsetting goals as early as possible
 - Solicit extensive Forum and customer feedback
- MPI Forum
 - Take part in the subsetting
F2F on Tuesday, March 11, 17:45 CDT
 - Join the discussion list
<http://lists.mpi-forum.org/mailman/listinfo.cgi/mpi3-subsetting>
 - Think subsetting when introducing new features

