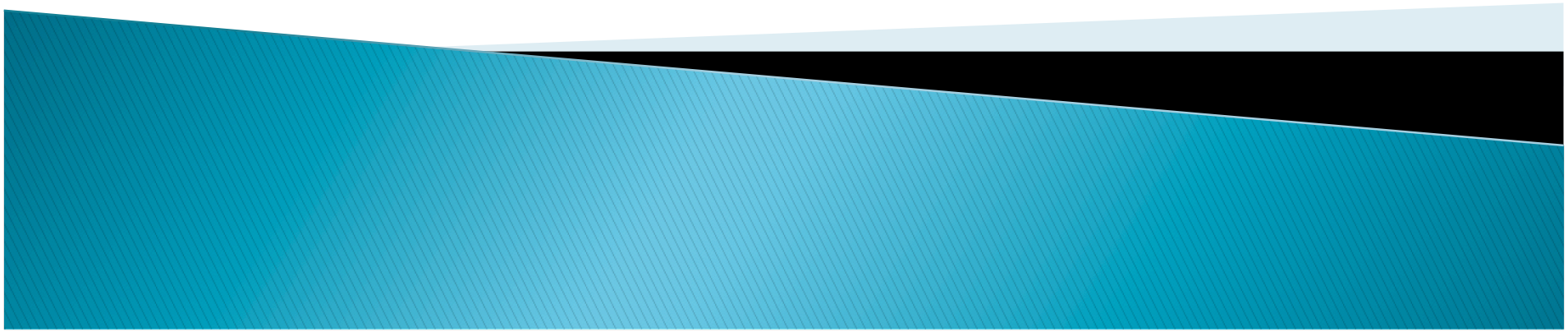
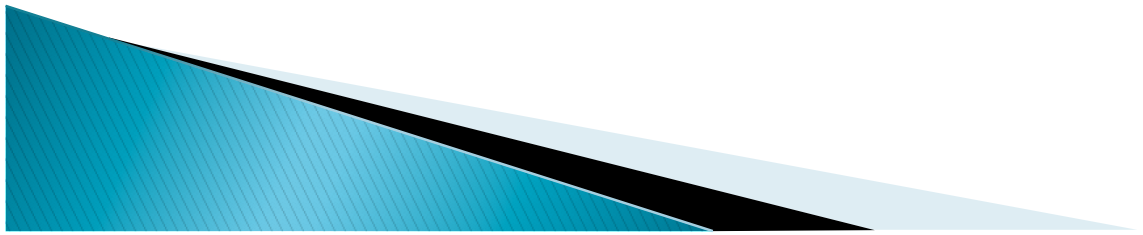
LLNL-PRES-420607

MPI-3 Tools Working Group



Agenda

- Overview / Status
- Questions on debugger ABI
- Document Structure
- Implementations



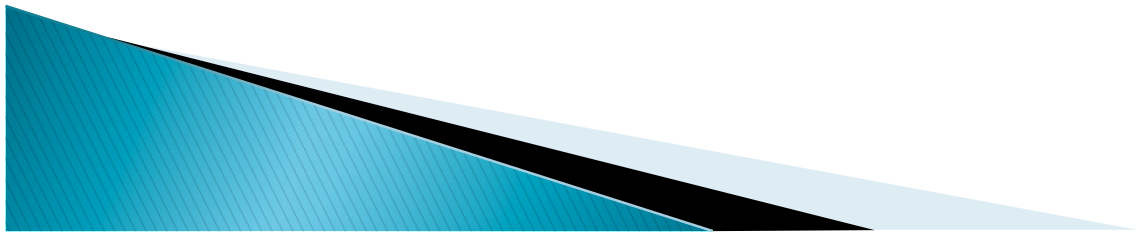
Current Proposals

- Performance Information Interface
- MPIR Interface
- Symbol Detection Process
- Message Queue Debugging
- Collective Completion Information
- Handle Information Interface

- Open issues
  - Version Management
  - MPI-2 Process Acquisition Interface

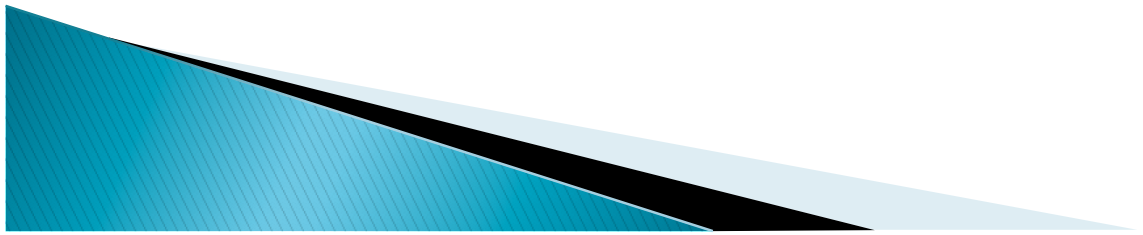
Performance Information

- Access to internal performance information
  - MPI can decide what to offer and in which type
  - Similar usage as PAPI counters
- Environment/Configuration Variables
  - Query all available variables
  - Option: setting configurations
- Performance counters
  - Counters, Timers, Watermarks
  - Separate type system
- Enable use before Init/after Finalize
  - Separate name space for this interface (MPIT)



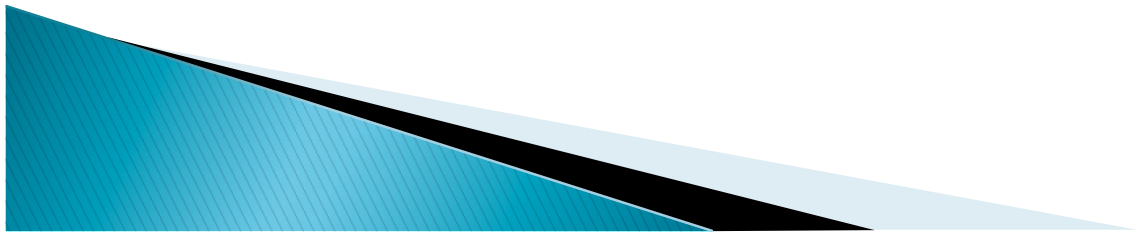
Process Acquisition Interface

- Currently available as MPIR in most MPIs
  - Locate and identify all rank processes
  - Available for third party tools
- Slight differences, since there is no binding documentation
- Proposal:
  - Document current interface
  - Include existing extensions (daemon launch)
  - Skip dynamic process support for now



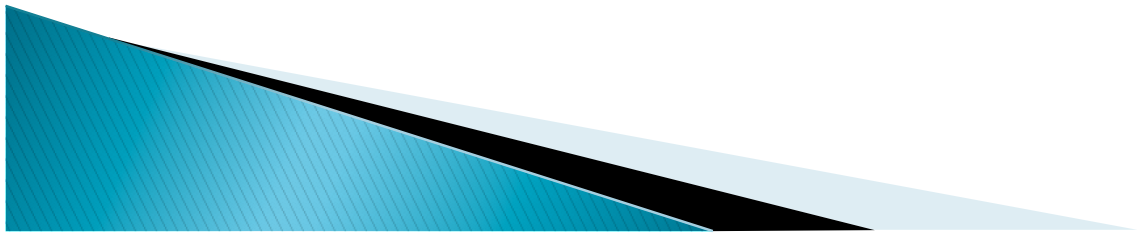
External Tools

- Symbol detection process
  - Provide extensibility
  - Not fixed on shared libraries
- Message Queue Debugging
  - Document existing interface
- Extension to track local completion of collectives
- Query additional information on handles



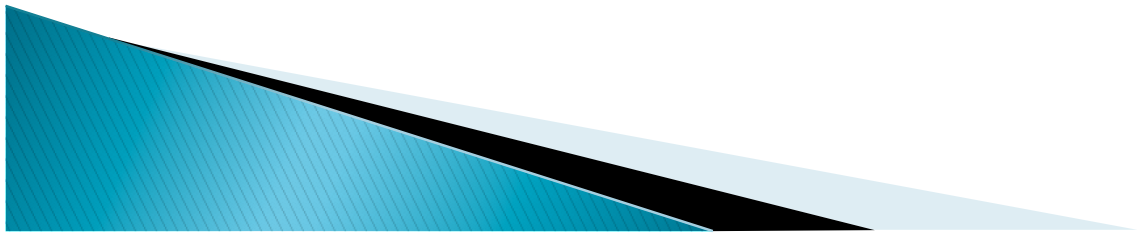
Proposals under Discussion

- MPIR-2
  - Extensions to MPIR to support dynamic processes
  - Early discussions
- Ability to query MPI Version
  - Current calls only support version/subversion
  - Often useful to know more
  - Suggestion: generic string
    - Each MPI implementation can use its own format
  - Would something more structured be helpful?



Agenda

- Debugger ABI
  - Documentation & Header location
- Document
  - Proposal: new tools chapter that also includes the current MPI Profiling Interface
  - Structure?
- Implementations
  - Status?
  - Who is willing to look into this?



Chapter Outline