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Title:	MPI Sessions - Working Group activities post MPI 4.0 standard ratification
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MPI Sessions –
Working Group activities post MPI 4.0 standard ratification

ECP WBS	2.3.1.17 / OMPI-X
Epic/Story	STPR 17-114
PI	David Bernholdt, ORNL
Milestone Lead	Howard Pritchard, LANL
Members	ORNL, LANL, LLNL, SNL, UTK

Scope and objectives

- ECP OMPI-X develops a production grade MPI library
- Complete Sessions related text changes for MPI 4.1 Standard
- Major updates for a future MPI 5 Standard targeting better support for malleable and fault tolerant MPI usage models

Better support for multi-component applications

- Different components of an application can specify different levels of thread safety
- Specify different operational characteristics of MPI (e.g. spin polling vs blocking) on a per component basis
- Backward compatibility with apps using MPI_Init
- Better support for beyond BSP applications

Impact

- **New Way to Use MPI:** better isolation of application components use of MPI (thread support, polling models, more scalable resource requirements specificity etc.)
- **New Application spaces:** only components of application that need to use MPI need do so, potentially expanding range of applications which can use MPI

Project accomplishment

- Sessions related corrections and clarifications for the MPI 4.1 standard completed and merged into text base
- Continued meeting with fault tolerant WG to better synchronize efforts targeting MPI 5. Resolved some questions about failure semantics for Sessions related functions.

Deliverables Report describing Sessions WG activities targeting MPI 4.1 and beyond STPR17-114
WG artifacts on GitHub: https://github.com/mpiwg-sessions/sessions-issues/wiki

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