

Welcome to FoRMA'22

First Workshop on the Future of MPI RMA



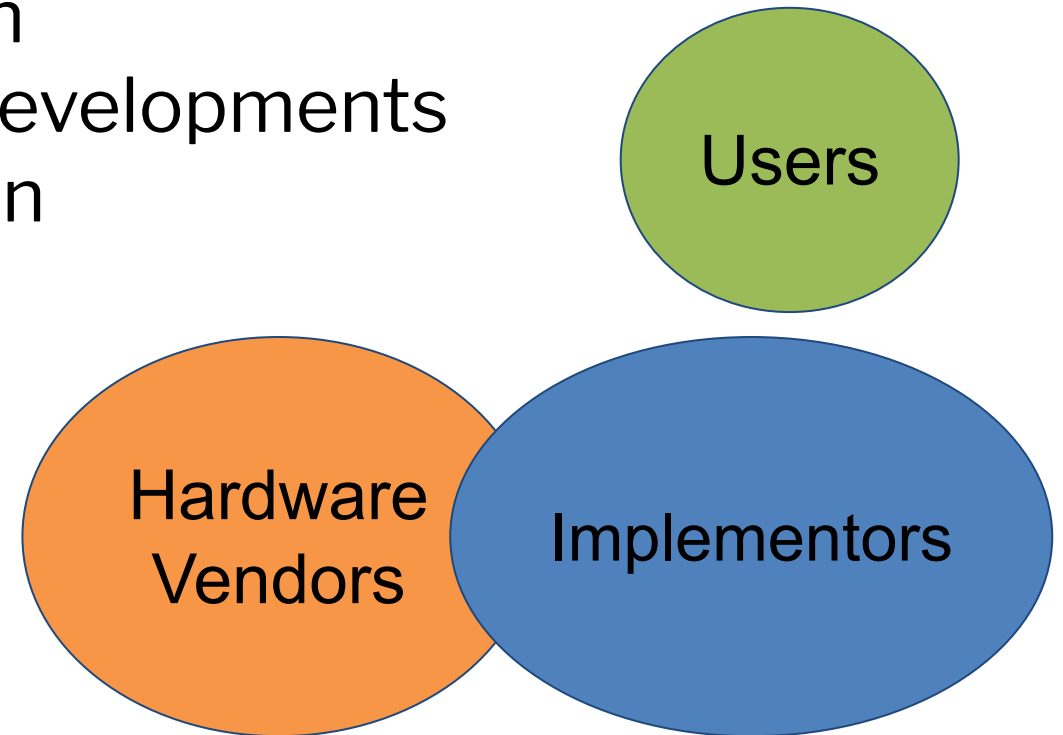
THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

MPI RMA

- 25+ years of standardized one-sided communication in MPI
- Promise of low-level hardware features
- Improved performance for (some) applications
- Are we there (yet)?
- Where do we go from here?

Goals of FoRMA

- Revived MPI Working Group Meetings
- MPI RMA largely unchanged over last decade
- A **look back** and a **path forward**:
 - **Experience** with current design
 - Current hardware and future developments
 - Discuss future MPI RMA design



Format

- 11 talks on 2 days + 2 user short talks
- Time for discussion after each talk
- Panel discussion at the end of day 2
- 60 registered participants
- We'd like to see plenty of **constructive discussion!**

Schedule: June 15

Time (CDT)	Speaker	Title
8:00 - 8:10	Joseph Schuchart	Welcome
8:10 - 8:50	Bill Gropp	<i>MPI RMA: Is It Time To Start Over?</i>
8:50 - 9:35	Jeff Hammond (Nvidia)	<i>Experiences with MPI RMA as a foundational communication abstraction for one-sided programming models</i>
9:35 - 10:15	Marc Sergent (Atos Bull)	<i>MPI-RMA at Atos Bull</i>
10:20 - 10:35		Break
10:35 - 11:15	Ioan Hadade (ECMWF)	<i>Experiences and opportunities for one-sided communication in the ECMWF weather forecasting model</i>
11:15 - 11:55	Marc Snir (UIUC)	<i>Task Asynchronous Programming Models and One-Sided Communication.</i>
11:55 - 12:35	Jim Dinan (Nvidia)	<i>NVSHMEM: CUDA-Integrated Communication for NVIDIA GPUs</i>

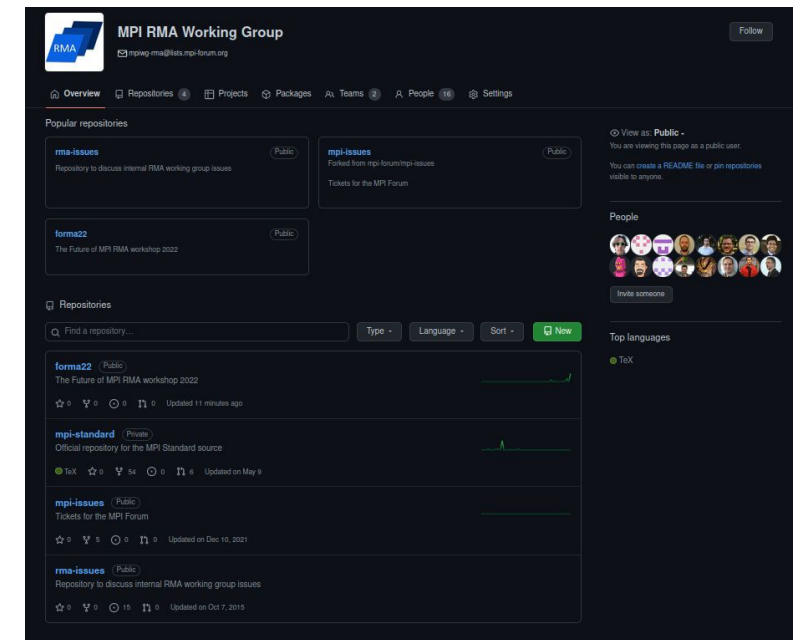
Schedule: June 16

Time (CDT)	Speaker	Title
8:00 - 8:40	Richard Graham (Nvidia)	<i>Perspective on MPI one-sided application support</i>
8:40 - 9:20	Naveen Ravi (HPE)	<i>Early Experience in Supporting One-sided Communications on Slingshot 11</i>
9:20 - 10:00	Maria Garzaran (Intel)	<i>Should we enable MPI RMA calls from the GPU?</i>
10:00 - 10:15		Break
10:15 - 11:00	Nils Imhoff & Christian Simmendinger (HPE)	<i>GASPI & Notified Communication in MPI RMA</i>
11:00 - 11:40	Yanfei Guo (ANL)	<i>Lessons Learned From OSHMPI</i>
11:40 - 12:00	User Short Talks: Chris Brady (University of Warwick)	<i>Experiences adding MPI RMA to the DFT code ONETEP</i>
12:00 - 12:15	User Short Talks: Sayan Ghosh (PNNL)	<i>Using MPI RMA in Graph Analytics</i>
12:15 - 13:00	Jim Dinan, Torsten Hoefler, Bill Gropp, Keith Underwood, Jeff Hammond	<i>Panel Discussion</i>

RMA WG Meetings

- Bi-weekly virtual meetings: Thursday 10:00 CDT
- <https://lists.mpi-forum.org/mailman/listinfo/mpiwg-rma>
- Clarifications for MPI 4.1, larger changes for MPI 5

Join us :)



Wrap-up

- Application Benchmarks needed
- Reduce some of the complexities
- Exposure of network compute capabilities
- Fine-grained completion notification
- Tension between static standard and dynamic hardware ecosystem