MVAPICH
User Group Meeting

Welcome to the 4th annual event!
August 15-17, 2016

This meeting provides an open forum for all attendees (users, system administrators, researchers, engineers, and students) to:

• Discuss and share their knowledge on using MVAPICH2, MVAPICH2-X, MVAPICH2-GDR, MVAPICH2-MIC, MVAPICH2-Virt, OSU-INAM and OMB

• Experience with large-scale systems

• Usage with a diverse set of applications

• Getting exposed to tuning and optimization

• Sharing common knowledge and troubleshooting procedures

25 Organizations from Four Countries

Boise State	Caleb Enterprises
Center for Simulation and Modeling, University of Pittsburgh	Switzerland Computing Center (CSCS), Switzerland
Cray	Engility Corporation
Georgia Tech	Inspur, China
Intel Corporation	Kyushu University
Los Alamos National Laboratory	Lawrence Livermore National Laboratory
Mellanox	Mesosphere, Inc.
NVIDIA	Ohio Supercomputer Center
Ohio State University	Pacific Northwest National Laboratory
ParaTools Inc.	San Diego Supercomputer Center
Texas Advanced Computing Center	University of Cambridge, UK
University of Michigan	University of Texas at El Paso
University of Oregon	

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- Thanks to US National Science Foundation (NSF) for providing a Student Travel Award Grant!!
- Ten students have received awards
- A special welcome to all Student Awardees!!
- Poster presentation by students is scheduled for today (08/16/16) afternoon
- Thanks to Award Committee Chairs (Dr. Amit Majumdar@SDSC and Dr. Karen Tomko@OSC)!!

Name of Student	University
Roohollah Amiri	Boise State
Chao Chen	Georgia Tech
Esthela Gallardo	University of Texas at El Paso
Changwan Hong	The Ohio State University
Siddhartha Jana	University of Houston
Rakshith Kunchum	The Ohio State University
Israt Nisa	The Ohio State University
Richard Platania	Louisiana State University
Srinivasan Ramesh	University of Oregon
Soren Rasmussen	University of Oregon

MVAPICH User Group Meeting

07:45 –	Registration
7:45 – 9:00	Continental Breakfast
9:00 – 10:30	**Tutorial: Enabling Exascale Co-Design Architecture** Devendar Bureddy, Mellanox
10:30 – 11:00	Break
11:00 – 11:30	**Tutorial: Enabling Exascale Co-Design Architecture** Devendar Bureddy, Mellanox
11:30 – 12:00	**Tutorial: Designing High Performance Software on Intel Xeon Phi and Omni-Path Architecture** Ravindra Babu Ganapathi and Sayantan Sur, Intel
12:00 – 1:00	Lunch
1:00 – 2:30	**Tutorial: Designing High Performance Software on Intel Xeon Phi and Omni-Path Architecture** Ravindra Babu Ganapathi and Sayantan Sur, Intel
2:30 – 3:00	**Tutorial: Recent Advances in CUDA for GPU Cluster Computing** Davide Rossetti and Sreeram Potluri, NVIDIA
3:00 – 3:30	Break
3:30 – 5:00	**Tutorial: Recent Advances in CUDA for GPU Cluster Computing** Davide Rossetti and Sreeram Potluri, NVIDIA

07:45 –	Registration
7:45 – 8:15	Continental Breakfast
8:15 – 8:30	**Opening Remarks** • Dr. David Hudak, Interim Executive Director, Ohio Supercomputer Center • Dr. Sushil Prasad, Program Director, National Science Foundation • Dr. Dhabaleswar K (DK) Panda, Professor, The Ohio State University
8:30 – 9:30 **Keynote Talk**	**Exascale Computing: What are the Goals and the Baseline?** Thomas Schulthess, CSCS, Switzerland
9:30 – 10:00	**Overview of the MVAPICH Project and Future Roadmap** DK Panda, The Ohio State University
10:00 – 10:30	**Impatient with mpirun? Me too.** Adam Moody, Lawrence Livermore National Laboratory
10:30 – 11:00	Break
11:00 – 11:30	**User Managed Virtual Clusters in Comet** Rick Wagner, San Diego Supercomputer Center
11:30 – 12:00	**Reinit: A Simple and Efficient Fault-Tolerance Model for MPI Applications** Ignacio Laguna, Lawrence Livermore National Laboratory

12:00 – 1:00	Lunch
1:00 – 1:30	**The Good, the Bad and the Ugly** Davide Rossetti, NVIDIA
1:30 – 2:00	**Distributed Algorithms for GPU-enabled Molecular Dynamics** Jens Glaser, University of Michigan
2:00 – 2:30	**Caffe-MPI Framework Based on GPU Cluster: IB+GPU Cluster+Lustre+MPI** Wu Shaohua, Inspur, China
2:30 – 3:00	**Learning Experience Using GPU Direct over RDMA** Filippo Spiga, University of Cambridge, UK
3:00 – 3:45	Break and Student Poster Session
3:45 – 4:15	**Generalized Communication Pattern Offload using Open Fabric Interfaces (OFI)** Sayantan Sur, Intel
4:15 – 4:45	**Runtime Algorithm Selection of Collective Communication with RMA-based Monitoring Mechanism** Takeshi Nanri, University of Kyushu, Japan
4:45 – 5:15	Open MIC Session

Group Photo

Before lunch today we will be taking a group photo to commemorate the fourth MUG event!

Student Poster Presentations

Presented by NSF Student Travel Awardees and some of the MVAPICH Student Team Members.

Will start today afternoon and continue until tomorrow.

- **Free discussion on your thoughts and comments on MVAPICH projects (MVAPICH2, MVAPICH2-X , MVAPICH2-GDR, MVAPICH2-MIC, MVAPICH2-Virt, OSU-INAM, and OMB)**

- **Examples (not limited to):**
    - **Your experience on what works and what does not work**
    - **What can be improved**
    - **Suggestion for improvements**
    - **Feature requests**
    - **Challenges for the MVAPICH team**

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Tuesday, August 16ᵗʰ 6:00pm

Banquet Dinner at:
BRAVO Cucina Italiana Restuarant

1803 Olentangy River Rd.
Columbus, OH 43212

(Transportation will be provided)

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07:45 –	Registration
7:45 – 8:30	Continental Breakfast
8:30 – 9:30 **Keynote Talk**	**Smart Interconnect for Next Generation HPC Platforms** Gilad Shainer, Mellanox
9:30 – 10:00	**OpenHPC: Community Building Blocks for HPC Systems** Karl Shulz, Intel
10:00 – 10:30	**Evaluating Novel Networks, Combing Empirical and Predictive Test Beds in CENATE.** Darren Kerbyson, Pacific Northwest National Laboratory
10:30 – 11:00	Break and Student Poster Session (Cont'd)
11:00 – 11:30	**Performance Evaluation using the TAU Performance System** Sameer Shende, University of Oregon
11:30 – 12:00	**Checkpointing with DMTCP and MVAPICH2 for Supercomputing** Kapil Arya, Mesosphere, Inc. and Northeastern University
12:00 – 1:00	Lunch and Student Poster Session (Cont'd)

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1:00 – 2:00	**Demo and Hands-On Session** **Performance Engineering of MPI Applications with MVAPICH2 and TAU** Sameer Shende with Hari Subramoni, University of Oregon and The Ohio State University
2:00 – 3:00	**Demo and Hands-On Session** **Visualize and Analyze your Network Activities using OSU INAM** MVAPICH Group, The Ohio State University
3:00 – 3:30	Break
3:30 – 5:00	**Tutorial** **How to Boost the Performance of Your MPI and PGAS Applications with MVAPICH2 Libraries** MVAPICH Group, The Ohio State University

Thanks!!

- **Keynote Speakers**
- **All other Speakers**
- **All attendees**
- **All students presenting posters**

- **Award Committee Members**

- **OSC Staff members**

- **Student Volunteers**

- **Mark Arnold and Hari Subramoni**