



Welcome to the 3<sup>rd</sup> annual event!  
August 19-21, 2015



### 21 Organizations from Six Countries

Baidu Research	Ohio Supercomputer Center
Dell, The Netherlands	San Diego Supercomputer Center
Georgia Tech	Systap
Intel	Swiss National Computing Center, Switzerland
King Abdullah University of Science & Technology, Saudi Arabia	The Ohio State University
Korea Electronics Technology Institute, Korea	Texas Advanced Computing Center
Lawrence Livermore National Laboratory	University of California, San Diego
Mellanox Technologies, Israel	University of Michigan, Ann Arbor
Northeastern University	University of Pittsburgh
Numerical Algorithms Group	University of Tennessee
NVIDIA	

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 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



# MVAPICH

User Group Meeting

## Thursday, August 20 - Morning Schedule

07:45 –	Registration
7:45 – 8:20	Continental Breakfast
8:20 – 8:30	Opening Remarks
8:30 – 9:30 <b>Keynote Talk</b>	<b>The Accelerated Road to Exascale</b> Dale Southard, NVIDIA Corporation
9:30 – 10:00	<b>Overview of the MVAPICH Project and Future Roadmap</b> Dhabaleswar K. (DK) Panda, The Ohio State University
10:00 – 10:30	<b>Faster, Bigger, Better Science with MVAPICH</b> Adam Moody, Lawrence Livermore National Laboratory
10:30 – 11:00	Break
11:00 – 11:30	<b>Building `Cool` MVAPICH2</b> Abhinav Vishnu, Pacific Northwest National Laboratory
11:30 – 12:00	<b>MVAPICH2-MIC on Beacon: Exploring Performance on a Cluster with Four Coprocessors per Node</b> R. Glenn Brook, Joint Institute for Computational Sciences, Univ. of Tennessee
Before Lunch	Group Photo

12:00 – 1:00	Lunch
1:00 – 1:30	<b>Paving the Road to Exascale</b> Gilad Shainer, Mellanox
1:30 – 2:00	<b>Performance Tuning and Energy Savings Study with MVAPICH2</b> Martin Hilgeman, Dell
2:00 – 2:30	<b>How Parallelism Helps Computational Physics Discovery</b> Jens Glaser, Univ. of Michigan
2:30 – 3:00	<b>Using MVAPICH for Multi-GPU Data Parallel Graph Analytics</b> James Lewis, Systap
3:00 – 3:30	Break
3:30 – 4:00	<b>HPC Approaches to Training Neural Networks in Deep Learning</b> Patrick Legresley, Baidu
4:00 – 4:30	<b>A case of High Performance MVAPICH2 for Machine Learning Toolkit on Extreme Scale (MaTeX)</b> Abhinav Vishnu, Pacific Northwest National Laboratory
4:30 – 5:00	<b>Transparent Checkpoint-Restart: Re-Thinking the HPC Environment</b> Gene Cooperman, Northeastern University
5:00 – 5:30	Open Mic Session



# **WIFI details**

**Please connect to:**

**WIFI@OH-TECH**

**Password: 1224kinnear**



- **Free discussion on your thoughts and comments on MVAPICH projects (MVAPICH2, MVAPICH2-X , MVAPICH2-GDR, MVAPICH2-MIC, MVAPICH2-Virt, 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**
  - ....



**MVAPICH**

User Group Meeting

**Thursday, August 20<sup>th</sup> 6:30pm**

**Reception and Dinner at:  
Bravo! Cucina Italia**

**1803 Olentangy River Rd.  
Columbus, OH 43212  
(614) 291-8210**





## **Directions to Bravo! from OSC:**

- Head east on Kinnear Road

## **Directions to Bravo! from the Springhill Suites:**

- Head north on Olentangy River Road

**Bravo! Will be on in the Lennox Movie theater parking  
lot behind Champps Restaurant**

**(Transportation will be provided)**



07:45 –	Registration
7:45 – 8:30	Continental Breakfast
8:30 – 9:15 <b>Keynote Talk</b>	<b>Technology Trends in High Performance Computing</b> Karl Schulz, Intel
9:15 – 9:45	<b>MVAPICH2 on Intel Omni-Path Architecture</b> Sayantan Sur, Intel
9:45 – 10:15	<b>Performance of Scientific Applications on the New Comet HPC Machine Utilizing MVAPICH2</b> Mahidhar Tatineni, San Diego Supercomputer Center
10:15 – 10:45	Break
10:45 – 11:15	<b>Enabling Science and Discovery at Georgia Tech with MVAPICH2</b> Mehmet Belgin, Georgia Institute of Technology
11:15 – 11:45	<b>Using OpenSHMEM with MVAPICH2-X</b> Antonio Gomez-Iglesias, Texas Advanced Computing Center



# MVAPICH

User Group Meeting

## Friday, August 21 – Afternoon Schedule

11:45 – 12:05 <b>Contributed Presentations</b>	<b>Transparent Checkpointing for Supercomputing</b> Jiajun Cao and Rohan Garg, Northeastern University
12:05 – 12:20	Closing Remarks and Future MUG Planning
12:20 – 1:30	Lunch
1:30 – 3:30	<b>Demo of upcoming OSU InfiniBand Network Analysis and Monitoring (INAM) Tool &amp; Interactive/Hands-on Session with MVAPICH2 Developers</b>

# Presentation Slides

Please submit all presentations to:

**Mark Arnold**

**arnoldm@cse.ohio-state.edu**

**PDF version of the slides will be linked to the website  
Recordings of the presentations will also be available**

# Group Photo

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

# Parking

**Please see the registration desk  
for a daily event parking pass**



**MVAPICH**

User Group Meeting

# Thanks to our Sponsors!



**Ohio Supercomputer Center**

An **OH·TECH** Consortium Member



**THE OHIO STATE UNIVERSITY**

# Thanks!!

- **Keynote Speakers**
- **All other Speakers**
- **Authors of contributed presentations**
- **All attendees**
- **OSC Staff members**
- **Student Volunteers**
- **Mark Arnold and Hari Subramoni**