



Meeting of the Technical Steering Committee (TSC) Board

Wednesday, November 11th, 2020
11:00am ET

Meeting Logistics

- <https://zoom.us/j/556149142>
- United States : +1 (646) 558-8656
 - Meeting ID: 556 149 142

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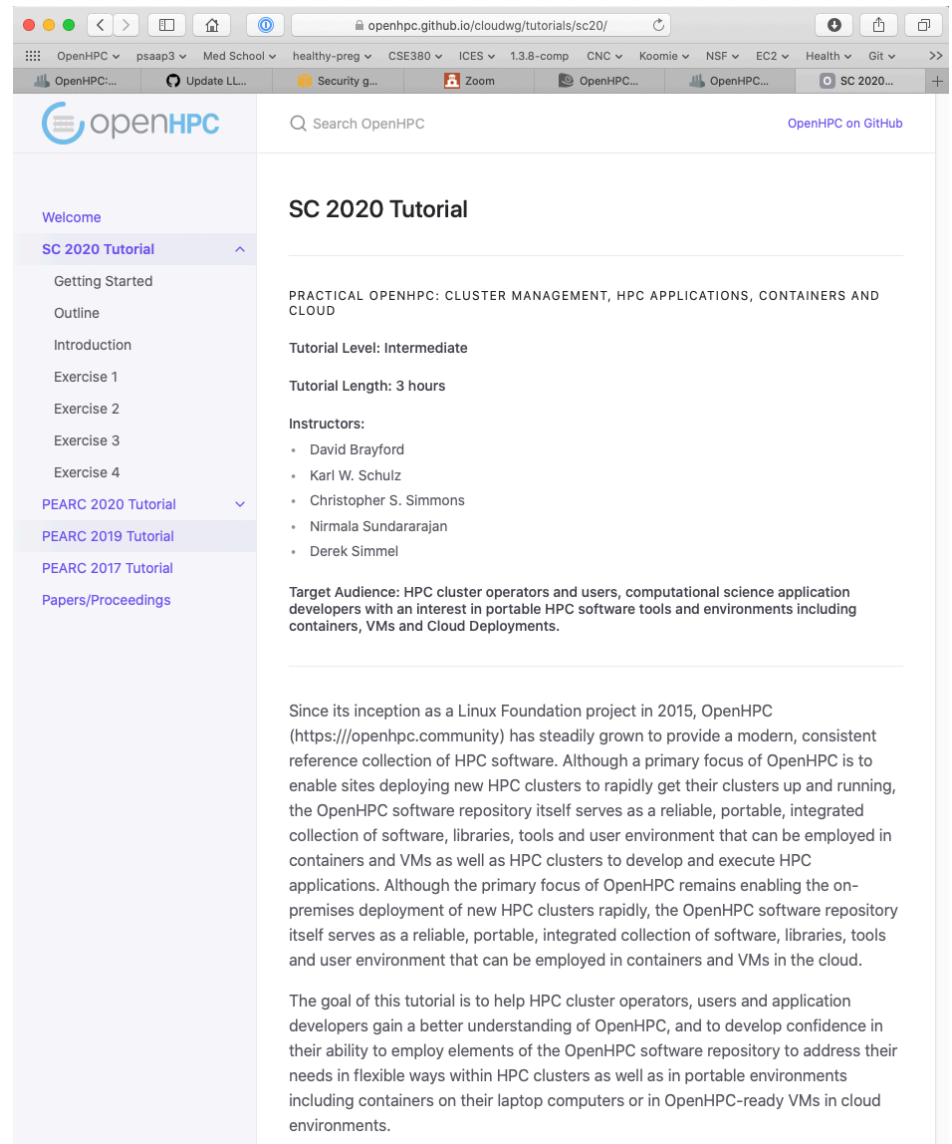
Agenda/Updates

- Announcements, deadlines, upcoming events:
 - SC'20 Tutorial scheduled: Tuesday, 10 November 2020 (10am-2pm, EST)
-

- Cloud working group (csim)
- University access
- ARM compiler compatibility issue
- Bright
- Infrastructure updates

OHPC Cloud Working Group Updates

- Have been working to update our tutorials area with SC20 tutorial collateral
 - just about done
- <https://openhpc.github.io/cloudwg/tutorials/sc20/>



The screenshot shows a web browser window displaying the OpenHPC website. The URL in the address bar is openhpc.github.io/cloudwg/tutorials/sc20/. The page features a navigation menu on the left with the following items: Welcome, SC 2020 Tutorial (highlighted), Getting Started, Outline, Introduction, Exercise 1, Exercise 2, Exercise 3, Exercise 4, PEARC 2020 Tutorial, PEARC 2019 Tutorial, PEARC 2017 Tutorial, and Papers/Proceedings. The main content area is titled "SC 2020 Tutorial" and includes the following information:

- PRACTICAL OPENHPC: CLUSTER MANAGEMENT, HPC APPLICATIONS, CONTAINERS AND CLOUD**
- Tutorial Level: Intermediate**
- Tutorial Length: 3 hours**
- Instructors:**
 - David Brayford
 - Karl W. Schulz
 - Christopher S. Simmons
 - Nirmala Sundararajan
 - Derek Simmel
- Target Audience:** HPC cluster operators and users, computational science application developers with an interest in portable HPC software tools and environments including containers, VMs and Cloud Deployments.

Below this information, there are two paragraphs of text. The first paragraph describes the OpenHPC project's history and goals, mentioning its inception as a Linux Foundation project in 2015 and its focus on providing a modern, consistent reference collection of HPC software. The second paragraph states the goal of the tutorial: to help HPC cluster operators, users, and application developers gain a better understanding of OpenHPC and develop confidence in their ability to employ elements of the OpenHPC software repository to address their needs in flexible ways within HPC clusters and portable environments.

Academic Sites

- Had a discussion with HPCWire and mentioned we tend to get a lot of access from academic sites
- Lead me to peruse logs from last 2 months
 - from IPs I could resolve, seems we had over 85 institutions downloading from the repo
 - 55% of these from US Institutions
 - 22 countries in total

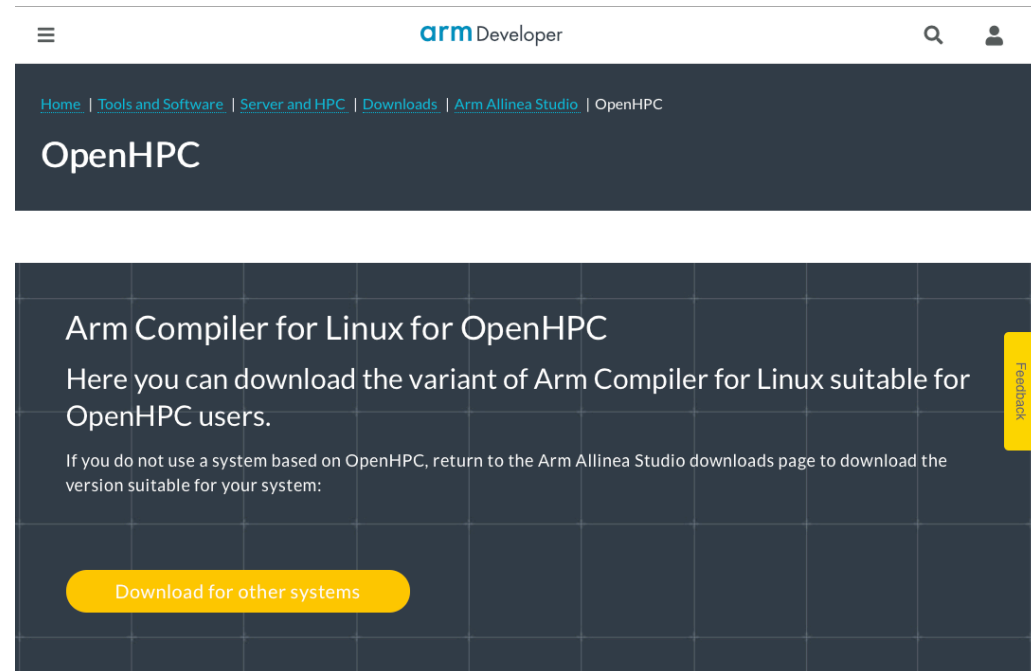
Auburn University
Clarkson University
Columbia University
Cornell
Florida Atlantic University
Franklin & Marshall College
George Mason University
Georgia Tech
Harvard
Illinois Tech
Michigan Tech
NC State University
New Jersey Institute of Technology
Pittsburgh Supercomputing Center
Planetary Science Institute
Portland State
Rutgers
Southern Illinois University
Stanford University
Syracuse University
Texas Tech University
Tulane
UC Santa Cruz
UCAR
United States Naval Academy
University of Arizona
University of Arkansas
University of Central Oklahoma
University of Georgia
University of Hawaii
University of Houston
University of Iowa
University of Kentucky
University of Louisville
University of Massachusetts Amherst
University of Minnesota
University of Missouri
University of New Hampshire
University of New Mexico
University of Northern Iowa
University of Tennessee Chattanooga
University of Texas at Austin
University of Texas at Dallas
University of Vermont
University of Washington
University of Wisconsin-Madison
Wayne State University
Yale

National University of Córdoba	Argentina
University of Queensland	Australia
Macquarie University	Australia
TU Wien	Austria
University of Sao Paulo	Brazil
McGill University	Canada
	Czech Republic
Czech Academy of Sciences	Denmark
Technical University of Denmark	Ecuador
University of Cuenca	Finland
University of Oulu	Finland
Tampere University	France
INRIA (National Institute for Research in Computer Science and Automation)	France
École Polytechnique	France
Sorbonne University	France
University of Stuttgart	Germany
Paderborn University	Germany
University of Bielefeld	Germany
Karlsruhe Institute of Technology	Germany
University of Münster	Germany
University of Cologne	Germany
Hong Kong University of Science and Technology	Hong Kong
Hungarian Academy of Sciences	Hungary
University of Pisa	Italy
Polytechnic University of Milan	Italy
Polytechnic University of Turin	Italy
Seoul National University	Korea
University of Guadalajara	Mexico
University of Amsterdam	Netherlands
Norwegian University of Science and Technology	Norway
University of Minho	Portugal
Institute of Astrophysics of Andalusia	Spain
Linköping University	Sweden
Uppsala University	Sweden
University of Neuchâtel	Switzerland
National Taiwan University	Taiwan
Dokuz Eylül University	Turkey
University of Warwick	UK
University of Cambridge	UK
University of Plymouth	UK
University of Bristol	UK

Arm HPC Compiler Issue

- Recall that 2.x introduces initial 3rd party builds against the Arm Linux compiler
 - Requires site to obtain vendor compiler separately
 - Once installed, a compiler compatibility package (`arm1-compilers-devel-ohpc`) is provided to enable the arm1 compiler variant

[*no workie]



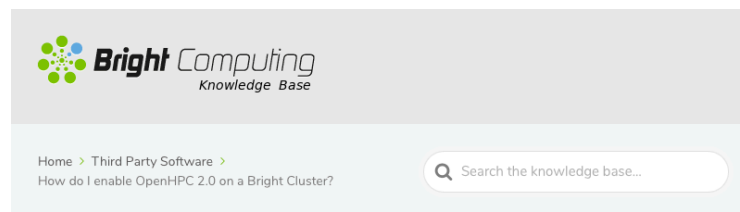
The screenshot shows the 'armDeveloper' website. The navigation bar includes links for Home, Tools and Software, Server and HPC, Downloads, Arm Allinea Studio, and OpenHPC. The main heading is 'OpenHPC'. Below this, the text reads: 'Arm Compiler for Linux for OpenHPC. Here you can download the variant of Arm Compiler for Linux suitable for OpenHPC users. If you do not use a system based on OpenHPC, return to the Arm Allinea Studio downloads page to download the version suitable for your system:'. A yellow button labeled 'Download for other systems' is visible. A 'Feedback' button is on the right side.

```
# Install 3rd party libraries/tools meta-packages built with Arm vendor toolchain
[sms]# yum -y install ohpc-arm1-serial-libs
[sms]# yum -y install ohpc-arm1-io-libs
[sms]# yum -y install ohpc-arm1-perf-tools

[sms]# yum -y install ohpc-arm1-mpich-parallel-libs
[sms]# yum -y install ohpc-arm1-openmpi4-parallel-libs
```

Bright-related Question

- Bright Computing has published a KB [article](#) explaining how to deploy OpenHPC packages on a Bright-based cluster
- Apparently they are working to run our test-suite to make sure everything works properly
- They have some sort of ohpc-reposetup package to enable integration
 - [planning to make this setup package publicly available after confirming test suite operation](#)
- Q: they are asking about possibility of writing an Installation Guide along the lines of versions we have now...



How do I enable OpenHPC 2.0 on a Bright Cluster?

"OpenHPC is a collaborative, community effort that initiated from a desire to aggregate a number of common ingredients required to deploy and manage High Performance Computing (HPC) Linux clusters including provisioning tools, resource management, I/O clients, development tools, and a variety of scientific libraries."

Bright offers a package to easily integrate, and leverage OpenHPC libraries and packages for use within a Bright cluster.

Disclaimer

While steps have been taken to ensure compatibility between Bright and the OpenHPC packages, since Bright already provides many of the same packages as OpenHPC (such as SLURM), care should be taken before installing the OpenHPC packages on a Bright cluster. It is strongly recommended to first install and test your desired OpenHPC packages and ensure they work on a non-production Bright cluster first to ensure no breakages occur. The following steps have been tested as working on a Bright 9.0/CentOS 8 cluster.

Contents

[Disclaimer](#)

[Prerequisites](#)

[Setup](#)

Commercial efforts

- Other known commercially supported efforts leveraging ohpc:
 - [Bright Cluster](#)
 - [Lenovo Intelligent Computing Orchestration \(LiCO\)](#)
 - [Qlustar](#)
- We don't currently say anything about these
 - would be hesitant to publish an official recipe with something we don't test/own
 - could add a section in our wiki with pointers and some sort of disclaimer....
- Thoughts?

User Resources

Karl W. Schulz edited this page on May 15 - 10 revisions

Community Collateral

- [Official Install Guides for OpenHPC](#)
 - Recipes for installing the latest release of OpenHPC
- [OpenHPC via rsync](#)
 - Instructions for mirroring the OpenHPC repositories with rsync
- [Getting started with OpenHPC](#)
 - Tutorial presented at PEARC '17 Confernece

Other installation recipes leveraging OpenHPC

- [XSEDE Compatible Basic Cluster](#)
 - Quickstart guide for an OpenHPC-based development cluster using ansible and Virtual Box developed by NSF's Extreme Science and Engineering Discovery Environment
- Ansible based recipes:
 - [Vanilla recipe using Ansible \(LANL\)](#)
 - [Ansible playbook for OpenHPC \(Linaro\)](#)
 - [OpenHPC Ansible Role \(StackHPC\)](#)
- [Cross Platform Provisioning Assembly for Warewulf \(Fujitsu\)](#)
 - allows creation and assembly of `aarch64` images on existing `x86_64` host using containers

? Add list of other commercial-oriented offerings here....

Backend Updates

- Have created sandboxes on our two OBS servers for next release work:
 - 1.3.10
 - 2.1
- Did change branch naming for 2.X branch
 - 2.0 -> 2.x
 - unfortunately, this did wreak a bit of havoc on existing PRs for GitHub
 - any PR that was open against 2.0 was closed automatically by GitHub
 - will work thru relevant PRs and reopen/recast against 2.x