



Meeting of the Technical Steering Committee (TSC) Board

Wednesday, November 18th, 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

- SC'20 Events
 - Last week:
 - Cloud tutorial (11/10) - David, Chris S./Chris D., Derek, Nirmala, Karl
 - HPCSYSPROS20 Workshop (11/13) - Reese
 - ARM HPC User's Group (11/9) - Karl
 - This week:
 - OpenHPC has a virtual booth
 - dedicated #sc20 channel in slack – we might get some questions there
-

- Cloud working group (csim)
- 3rd party efforts (wiki update)
- CernVM-FS
- CentOS Stream issue

OHPC Cloud Working Group Updates

- SC tutorial presented last week
 - Hit a peak of 115 attendees during first broadcast
 - 37 of 38 AWS “accounts” were at least redeemed
 - The conference interface was ... problematic
 - Timing of the event was correct; much better than PEARC20
 - The change away from the Cloud9 IDE to dedicated EC2 instances worked well
- Next steps
 - Small project to design/implement “the perfect” OHPC tutorial cluster
 - Decide what the next evolution of our tutorials look like for next year
 - Start working on a Cloud recipe for formal release
 - First thing to address is “Cloud CI” for testing

External ohpc-related links

- We talked last time about potentially listing related commercial efforts that leverage openhpc
- Have updated the wiki with a disclaimer and added 3 examples

User Resources

Karl W. Schulz edited this page now · 16 revisions

Official Community Collateral

- [Install Guides for OpenHPC](#)
 - Recipes for installing the latest release of OpenHPC 2.x
- [OpenHPC via rsync](#)
 - Instructions for mirroring the OpenHPC repositories with rsync
- [OpenHPC Tutorials](#)
 - Collection of OpenHPC-related tutorials
- [Join OpenHPC on Slack](#)

3rd Party Efforts Leveraging OpenHPC

The links below provide pointers to other community and commercial efforts that make use of OpenHPC. These links are provided as a convenience and are not tested or supported directly by the OpenHPC Linux Foundation project.

External 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 \(StackHPC\)](#)

External Tools:

- [Cross Platform Provisioning Assembly for Warewulf \(Fujitsu\)](#)
 - allows creation and assembly of `aarch64` images on existing `x86_64` host using containers

Commercial offerings leveraging OpenHPC:

- [Lenovo Intelligent Computing Orchestration \(LiCO\)](#)
- [Qlustar](#)
- [Bright Computing](#)

Related system

- Heard from John at StackHPC about a top 100 system using Ansible playbook with OpenStack+OpenHPC 2.0

The screenshot shows a web browser window displaying the StackHPC Ltd website. The main article is titled "OpenStack in the TOP500". The article text includes:

For the first time, the November TOP500 list (published to coincide with [Supercomputing 2020](#)) includes fully OpenStack-based Software-Defined Supercomputers:

- At [#99 is UM6P's Toubkal](#)
- At [#421 is Cambridge University's Cascade Lake extension of CSD3](#).

Drawing on experience including from the [SKA Telescope Science Data Processor Performance Prototyping Platform](#) and [Verne Global's hpcDIRECT](#) project, StackHPC has helped bootstrap and is providing support for these OpenStack deployments. They are deployed and operated using [OpenStack Kayobe](#) and [OpenStack Kolla-Ansible](#).

A key part of the solution is being able to deploy an [OpenHPC-2.0](#) Slurm cluster on server infrastructure managed by [OpenStack Ironic](#). The Dell C6420 servers are imaged with CentOS 8, and we use our [OpenHPC Ansible role](#) to both configure the system and build images. Updated images are deployed in a non-impacting way through a [custom Slurm reboot script](#).

With OpenStack in control, you can quickly rebalance what workloads are deployed. Users can move capacity between multiple Bare Metal, Virtual Machine and Container based workloads. In particular, OpenStack Magnum provides on demand creation of Kubernetes clusters, [an approach popularised by CERN](#).

In addition to user workloads, the solution interacts with iDRAC and Redfish management interfaces to control server configurations, remediate faults and deliver overall system metrics. This was critical in optimising the data centre environment and resulted in the high efficiency achieved in the TOP500 list.

Published: Wed 18 November 2020
Updated: Wed 18 November 2020
By [John Garbutt](#) [John Taylor](#)
In [News](#).
tags: [stackhpc](#) [openstack](#) [hpc](#)

The bottom part of the screenshot shows a dashboard with several charts and tables. The charts include "Power Consumption" (line graph), "Max CPU Temp" (line graph), and "Max GPU Temp" (line graph). The tables show "Power state" and "Chassis status" for various server nodes.

Related Wiki update

<https://openhpc.github.io/cloudwg/>

- Tutorials link on User Resources page now refers to the standalone github-pages site we used for PEARC'20 and SC'20 content development

– perhaps we want a vanity url for this?

- tutorials.openhpc.community
- docs.openhpc.community

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The screenshot shows the OpenHPC website interface. The top navigation bar includes the OpenHPC logo, a search bar, and a link to 'OpenHPC on GitHub'. The left sidebar contains a navigation menu with sections for 'Welcome', 'SC 2020 Tutorial', and 'PEARC 2020 Tutorial'. The 'SC 2020 Tutorial' section is expanded, showing sub-items like 'Getting Started', 'Outline', 'Introduction', and 'Exercise 1' through 'Exercise 4'. The main content area displays the 'Supercomputing 2020 (SC20) Tutorial' page. This page includes the title, a search bar, and a search button. The main content area contains the following text: '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.', and a paragraph describing the project's history and goals. The bottom of the page shows the goal of the tutorial: to help HPC cluster operators, users, and application developers gain a better understanding of OpenHPC and to develop confidence in their ability to employ elements of the OpenHPC software repository in flexible ways within HPC clusters and in portable environments.


CernVM-FS


- Received a request to discuss potential software addition request for [CernVM-FS](#)
- From Kenneth
 - CernVM-FS is a way to easily distribute software installations around the world, through essentially a scalable distributed filesystem that can be mounted anywhere.
 - Used by European Environment for Scientific Software Installations project ([EESSI](#))
 - Used for a long time on grid systems for LHC project at CERN
- Not clear to me yet how they benefit being in ohpc
 - already packaging rpms and have a yum repo
- Anybody have any experience with this utility?
 - planning to meet next Monday am (US)

CentOS Stream Conflict

- Recent 2.x issue filed regarding use of CentOS Stream repo ([#1277](#))
- We do not enable this optional repo in our tests
- hwloc tied to our slurm build

Centos Stream update conflict #1277


 LecrisUT opened this issue 5 hours ago · 1 comment



LecrisUT commented 5 hours ago

There seems to be an update conflict on `hwloc-libs`. Is version `1.11.9` strictly necessary or can it be update to use `base-os` newer versions?

```
# dnf update
- cannot install both hwloc-libs-2.2.0-1.el8.x86_64 and hwloc-libs-1.11.9-3.el8.x86_64
```



adrianreber commented 4 hours ago Member

Would have been good to see which package creates this conflict. But I guess this is one of the differences when running with CentOS stream.

Using CentOS 8.2 I see `hwloc-libs-1.11.9-3` CentOS stream has `hwloc-libs-2.2.0-1`. Looking at the provides of both packages:

```
$ rpm -qp hwloc-libs-2.2.0-1.el8.x86_64.rpm --provides
hwloc-libs = 2.2.0-1.el8
hwloc-libs(x86-64) = 2.2.0-1.el8
libhwloc.so.15()(64bit)
$ rpm -qp hwloc-libs-1.11.9-3.el8.x86_64.rpm --provides
hwloc-libs = 1.11.9-3.el8
hwloc-libs(x86-64) = 1.11.9-3.el8
libhwloc.so.5()(64bit)
```

I see different SO names and so everything linking against hwloc needs to be rebuilt. This will happen with the next release and I am pretty sure it is just a simple rebuild, but as OpenHPC 2.0 targets 8.2 we will not rebuild against a package in stream or the upcoming 8.3 release. This will probably be fixed in OpenHPC 2.1.