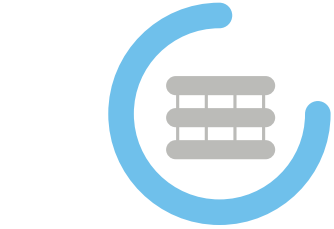

Meeting of the Technical Steering Committee (TSC) Board

Wednesday, Aug 26th, 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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THE LINUX FOUNDATION

Agenda/Updates

- Announcements/deadlines:
  - SC'20 Tutorial: Next deadline: Aug 27th
    - need signed consent/release forms from Derek and Nirmala

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- Cloud working group
- Mentorship program updates
- 2.0 stuff

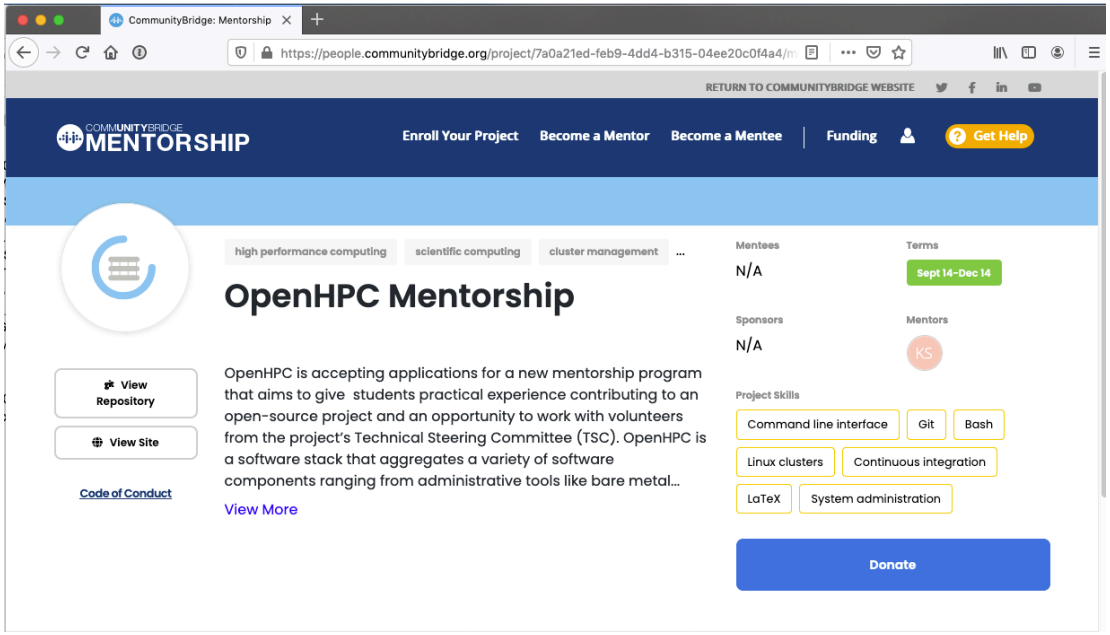
OHPC Cloud Working Group Updates

- SC tutorial submission due tomorrow
  - Need presenters to submit release form
  - Anything else?

- Next steps towards a release
  - Need mechanism to replace xCAT / Warewulf syncing of passwd, group, shadow (LDAP)
  - PBS support
  - Suse and ARM support
  - CI integration to be started after 2.0 release

Mentorship Program

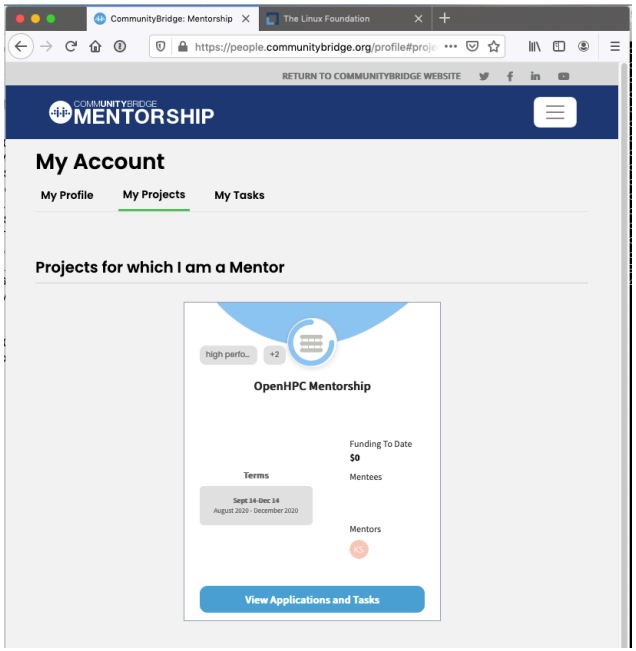
- Thanks for the feedback on the draft call for participation.
- Latest version is live on OpenHPC wiki (Neal tweaked diversity statement a bit based on LF feedback)
  - https://github.com/openhpc/ohpc/wiki/Mentorship-Program-Call-for-Participation---Fall-2020
- The OpenHPC mentorship project is now also live on LF Community Bridge
  - short turn around time: applications due September 7th



https://people.communitybridge.org/project/7a0a21ed-feb9-4dd4-b315-04ee20c0f4a4

Mentorship Program

- Next steps:
  - post announcement to openhpc-announce list?
  - post announcement on openhpc.community web site?
  - mentors need to sign up as such with Community Bridge
    - sign up at https://people.communitybridge.org/#mentors
    - note: you have to create an account with LF
    - potential volunteers: Reese, Nirmala, Karl, Peter, Chris S., Derek, Adrian
  - once you are signed up as a mentor, request addition to the OpenHPC project:
    - https://people.communitybridge.org/profile#projects



Mentorship Program

- Next steps:
  - seems we are now required to have a code of conduct and CII badge
  - CII = core infrastructure initiative – intended to promote best practices for projects
    - I have just started this process for our ohpc github repo
      - not clear we will get a passing criteria as some of the requirements aren't really applicable to us
      - not clear how required items are validated
  - code of conduct
    - need to try and agree on a project code of conduct
    - we looked at Contributor Covenant (v2.0) last time https://www.contributor-covenant.org/version/2/0/code_of_conduct/code_of_conduct.md
    - I have not yet looked for other canonical examples – if anyone has an example of a code of conduct they like from another project, please let me know….

2.0 Related Items - xCAT

- Update on xCAT recipe:
  - have resolved the resource manager problem mentioned last time
    - this was a firewall issue
  - after the fix, saw good CI results with all passing except one check (CentOS8):

All Failed Tests

Test Name	Duration	Age
RootLevelTests.bos.[BOS] consistent kernel (2 active computes)	0 ms	3

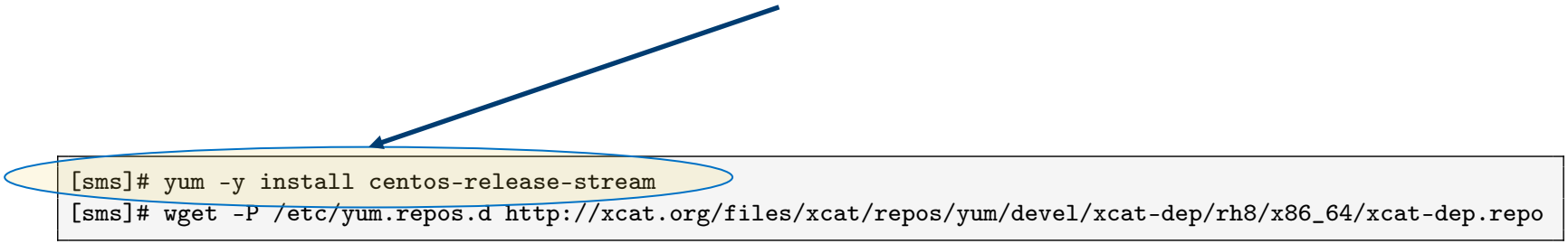
All Tests

Package	Duration	Fail	(diff)	Skip	(diff)	Pass	(diff)	Total	(diff)
InstallTests	0.55 sec	0		0		7		7	
RootLevelTests	25 sec	1		0		36		37	
UserLevelTests	33 min	0	-6	0		1415	+1388	1415	+1382

  - issue here is that the base compute node kernel is restricted to version in iso image which is starting point for xCAT
    - however, our head node kernel is newer from CentOS 8.2
  - normally we are checking to make sure we have the same kernel on headnode and computes, but more difficult in this case.
    - have to run `genimage` multiple times but this resets certain key files in the $CHROOT which means having to fix files multiple times in our current recipe…

2.0 Related Items - xCAT

- normally we are checking to make sure we have the same kernel on headnode and computes, but more difficult in this case.
  - have to run `genimage` multiple times but this resets certain key files in the $CHROOT which means having to fix files multiple times in our current recipe…
  - also, newer centos8.2 requires dependency resolution for some perl files that are not yet available in xCAT dependency repository
  - can resolve this last problem by enabling the CentOS stream repository



```
[sms]# yum -y install centos-release-stream
[sms]# wget -P /etc/yum.repos.d http://xcat.org/files/xcat/repos/yum/devel/xcat-dep/rh8/x86_64/xcat-dep.repo
```

2.0 Related Items - xCAT

- each time you run genimage, the BaseOS repository is disabled within the chroot (i have no idea why)
  - updated xCAT recipe commands now result in the same kernel on computes/head node

```
# copy credential files into $CHROOT to ensure consistent uid/gids for slurm/munge at
# install. Note that these will be synchronized with future updates via the provisioning system.
[sms]# cp /etc/passwd /etc/group $CHROOT/etc
# Add Slurm client support meta-package
[sms]# yum -y --installroot=$CHROOT install ohpc-slurm-client
# Register Slurm server with computes (using "configless" option)
[sms]# echo SLURMD_OPTIONS="--conf-server ${sms_ip}" > $CHROOT/etc/sysconfig/slurmd
# Add Network Time Protocol (NTP) support
[sms]# yum -y --installroot=$CHROOT install chrony
# Identify master host as local NTP server
[sms]# echo "server ${sms_ip}" >> $CHROOT/etc/chrony.conf
# Add kernel
[sms]# yum -y --installroot=$CHROOT install kernel
# Include matching kernel from head node into compute image
[sms]# genimage centos8-x86_64-netboot-compute -k `uname -r`
# Re-enable BaseOS repo
[sms]# yum-config-manager --installroot=$CHROOT --enable BaseOS
# Include modules user environment
[sms]# yum -y --installroot=$CHROOT install --enablerepo=PowerTools lmod-ohpc
```

  - all CI tests now passing as a result

2.0 Related Items - Lustre

- Have spent some time working on latest Lustre builds (we did not have Lustre in RC1)
  - have builds now for CentOS8.2 kernel
  - initially worked on CentOS8.2 and Leap 15.1 – builds successful for both
    - unfortunately, build is not successful with Leap 15.2 kernel
    - does not appear to be support yet for SLES15 (e.g. binary builds only provided for sles12 SP5)

Lustre 2.12.5 released

We are pleased to announce that the Lustre 2.12.5 Release has been declared GA and is available for download. You can also grab the source from git.

Details of changes since 2.12.4 can be found in the 2.12.5 change log.

There are the following notable enhancements over 2.12.4:

RHEL 7.8 is now supported for servers and clients (LU-13566).
RHEL 8.2 is now supported for clients (LU-13488).
SLES12 SP5 is now supported for clients (LU-13111).

    - propose we move forward without Lustre for Leap 15.2 in final 2.0 release

2.0 Current CI Results

2.x

OpenHPC CI Infrastructure

Thanks to the Texas Advanced Computing Center (TACC) and Linaro for hosting support. Thanks also to Intel, Marvell, Cavium, and Dell for hardware donations.

add description

2.0 | 2.0RC1 | All | +

S	Categorized - Job	Last Success	Last Failure	Last Duration	Test Result
	.. » [aarch64]	11 hr - #13	7 days 17 hr - #11	1 hr 42 min	N/A
	(2.0) - (centos8.2,aarch64) (warewulf+openpbs) (fabric=eth)	11 hr - #13	7 days 17 hr - #11	1 hr 42 min	0 of 1,076 failed (-2)
	(2.0) - (centos8.2,aarch64) (warewulf+slurm) (fabric=eth)	28 days - #8	28 days - #7	1 hr 33 min	0 of 1,102 failed (-4)
	(2.0) - (centos8.2,aarch64) (warewulf+slurm) (fabric=eth) + arm hpc compiler	26 days - #9	26 days - #8	31 min	0 of 284 failed (±0)
	(2.0) - (leap15.2,aarch64) (warewulf+slurm) (fabric=eth)	N/A	N/A	N/A	N/A
	.. » [x86_64] - CentOS 8	1 hr 28 min - #304	7 hr 21 min - #149	1 hr 7 min	N/A
	(2.0) - (centos8.2,x86_64) (warewulf+openpbs) (fabric=ib) - UEFI	3 hr 21 min - #290	7 days 18 hr - #259	1 hr 7 min	0 of 1,451 failed (±0)
	(2.0) - (centos8.2,x86_64) (warewulf+slurm) (fabric=eth) - UEFI	1 hr 28 min - #304	N/A	1 hr 7 min	0 of 1,139 failed (±0)
	(2.0) - (centos8.2,x86_64) (warewulf+slurm) (fabric=ib) + psxe	2 hr 49 min - #151	7 hr 21 min - #149	2 hr 47 min	0 of 2,852 failed (±0)
	(2.0) - (centos8.2,x86_64) (warewulf+slurm) (fabric=opa) + psxe	3 hr 13 min - #8	12 hr - #3	46 min	0 of 443 failed (±0)
	(2.0) - (centos8.2,x86_64) (xCAT+slurm) (fabric=ib)	9 hr 58 min - #39	16 hr - #35	1 hr 30 min	0 of 1,459 failed (±0)
	.. » [x86_64] - Leap15	3 hr 54 min - #156	3 hr 24 min - #5	54 min	N/A
	(2.0) - (leap15.2,x86_64) (warewulf+openpbs) (fabric=eth)	3 hr 54 min - #156	9 hr 54 min - #154	54 min	0 of 1,117 failed (±0)
	(2.0) - (leap15.2,x86_64) (warewulf+slurm) (fabric=eth)	22 days - #132	23 days - #125	1 hr 6 min	0 of 1,159 failed (±0)
	(2.0) - (leap15.2,x86_64) (warewulf+slurm) (fabric=ib) + psxe	N/A	3 hr 24 min - #5	2 hr 33 min	4 of 2,444 failed (+3)

Icon: S M L

Legend | Atom feed for all | Atom feed for failures | Atom feed for just latest builds

← unable to provision 15.2 kernel

← imb failures with intel compiler

2.0 Related Items – Leap 15.2 on aarch64

- have run into an issue while trying to update CI environment on aarch64:
  - going from Leap 15.1 -> Leap 15.2
- currently unable to provision SMS host with Warewulf

```
iPXE 1.0.0+ -- Open Source Network Boot Firmware -- http://ipxe.org
Features: DNS HTTP iSCSI TFTP AoE EFI Menu

net0: f4:e9:d4:cc:13:f8 using NII on NII-0000:0b:00.0 (open)
  [Link:down, TX:0 TXE:0 RX:0 RXE:0]
  [Link status: Unknown (http://ipxe.org/1a086194)]
Configuring (net0 f4:e9:d4:cc:13:f8)...... ok
net0: 192.168.1.201/255.255.255.0 gw 192.168.1.5
Next server: 192.168.1.5
Filename: http://192.168.1.5/WW/ipxe/cfg/f4:e9:d4:cc:13:f8
http://192.168.1.5/WW/ipxe/cfg/f4%3Ae9%3Ad4%3Acc%3A13%3Af8... ok
f4:e9:d4:cc:13:f8 : 474 bytes [script]
Now booting sms201 with Warewulf bootstrap (5.3.18-lp152.19-default)
http://192.168.1.5/WW/bootstrap/aarch64/229/initfs.gz... ok
http://192.168.1.5/WW/bootstrap/aarch64/229/kernel... ok
Could not select: Exec format error (http://ipxe.org/2e008081)
Could not boot image: Exec format error (http://ipxe.org/2e008081)
No more network devices
```

any thoughts?

2.0 Related Items – Leap 15.2 on aarch64

- bootstrap image size seems reasonable
  - going from 4.x to 5.x kernel

```
[root@ohpcadmin aarch64]# wwsh bootstrap list
BOOTSTRAP NAME             SIZE (M)      ARCH
4.12.14-lp151.27-default   47.5          aarch64
4.12.14-lp151.27-vanilla   9.3           aarch64
5.3.18-lp152.19-default    58.2          aarch64
centos7.7.aarch64          35.4          aarch64
centos8.1.aarch64          35.8          aarch64
centos8.1_8.aarch64        35.9          aarch64
centos8.2.aarch64          38.2          aarch64
```

- note: we boot 5.x kernel from centos8.2 fine on aarch64

2.0 Related Items – Trilinos/Intel

- we do still have some build failures with Trilinos and Intel compiler
  - all MPI stacks failing with Intel
  - this is a newer version of Trilinos (compared to ohpc v1.3.9) and we are also using a newer version of Parallel Studio

```
LocalOrdinal=Tpetra::default_local_ordinal_type={Tpetra::Details::DefaultTypes::local_ordinal_type={int}}, GlobalOrdinal=Tpetra::default_global_ordinal_type={Tpetra::Details::DefaultTypes::global_ord
Node=Tpetra::Kokkos_Compat_KokkosOpenMPWrapperNode]" at line 50 of
[ 8774s]                       "/home/abuild/rpmbuild/BUILD/Trilinos-trilinos-release-12-18-1/tmp/packages/stokhos/src/TpetraExt_MatrixMatrix_MP_Vector_16_OpenMP.cpp"
[ 8774s]
[ 8774s] /home/abuild/rpmbuild/BUILD/Trilinos-trilinos-release-12-18-1/packages/kokkos-kernels/src/sparse/impl/KokkosSparse_spgemm_mkl_impl.hpp(609): error: identifier "c_indexing" is undefined
[ 8774s]                     &c_indexing, &c_rows, &c_cols, &rows_start, &rows_end, &columns, &values)){
[ 8774s]                      ^
[ 8774s]           detected during:
```

  - no issues with gnu9 on build or CI testing

2.0 Remaining Items Summary

- would be nice to resolve Trilinos/Intel
- BeeGFS client testing…
- Leap15.2 on aarch64?
  - if not fixable, do we got without Leap, or go with Leap 15.1 for 2.0 release?
- should we expect any more build fixes for ARM compiler?