Meeting of the Technical Steering Committee (TSC) Board

Wednesday, January 15th, 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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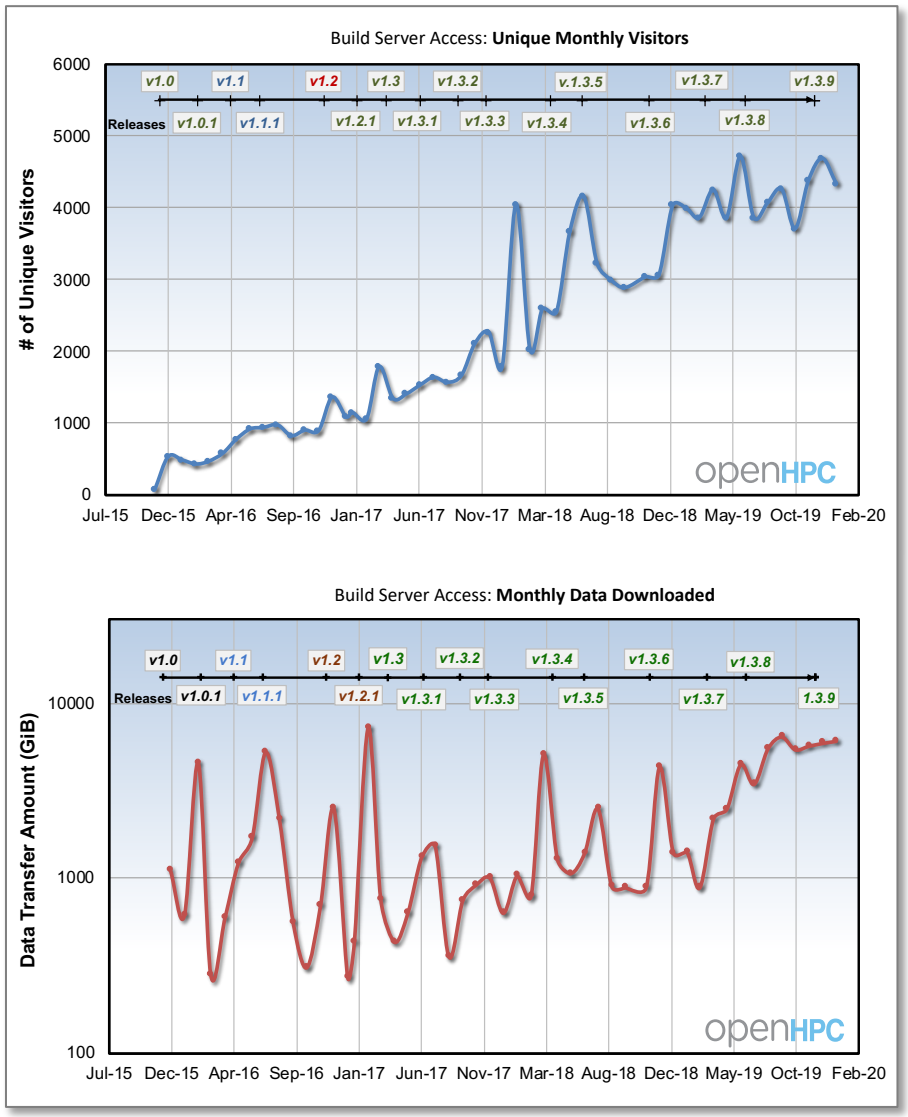
Agenda

- Upcoming deadlines:
  - ISC'20 (Frankfurt, June 21-25, 2020)
    - Tutorial: Submissions will be accepted through **February 12, 2020**
    - BoFs: Submissions will be accepted through **February 19, 2020.**
- Year end usage stats
- Review cycle #9
- PEARC'20 tutorial submission
- OpenMPI deprecated symbols
- annobin
- MOFED

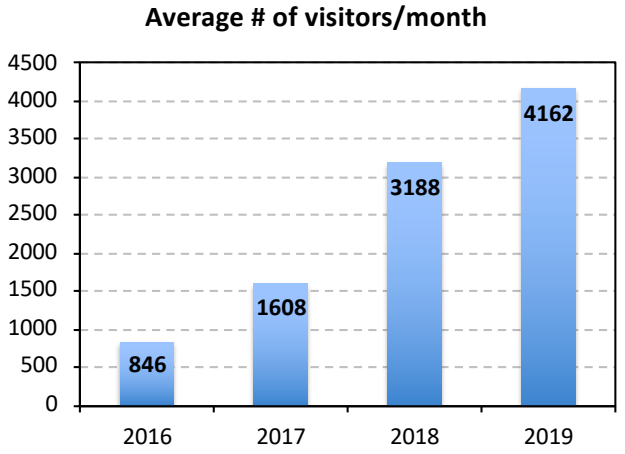
Updated Usage/Access Statistics (thru 2019)



- Stats for build/repo server (tracking # of unique visitors per month and amount of data downloaded):

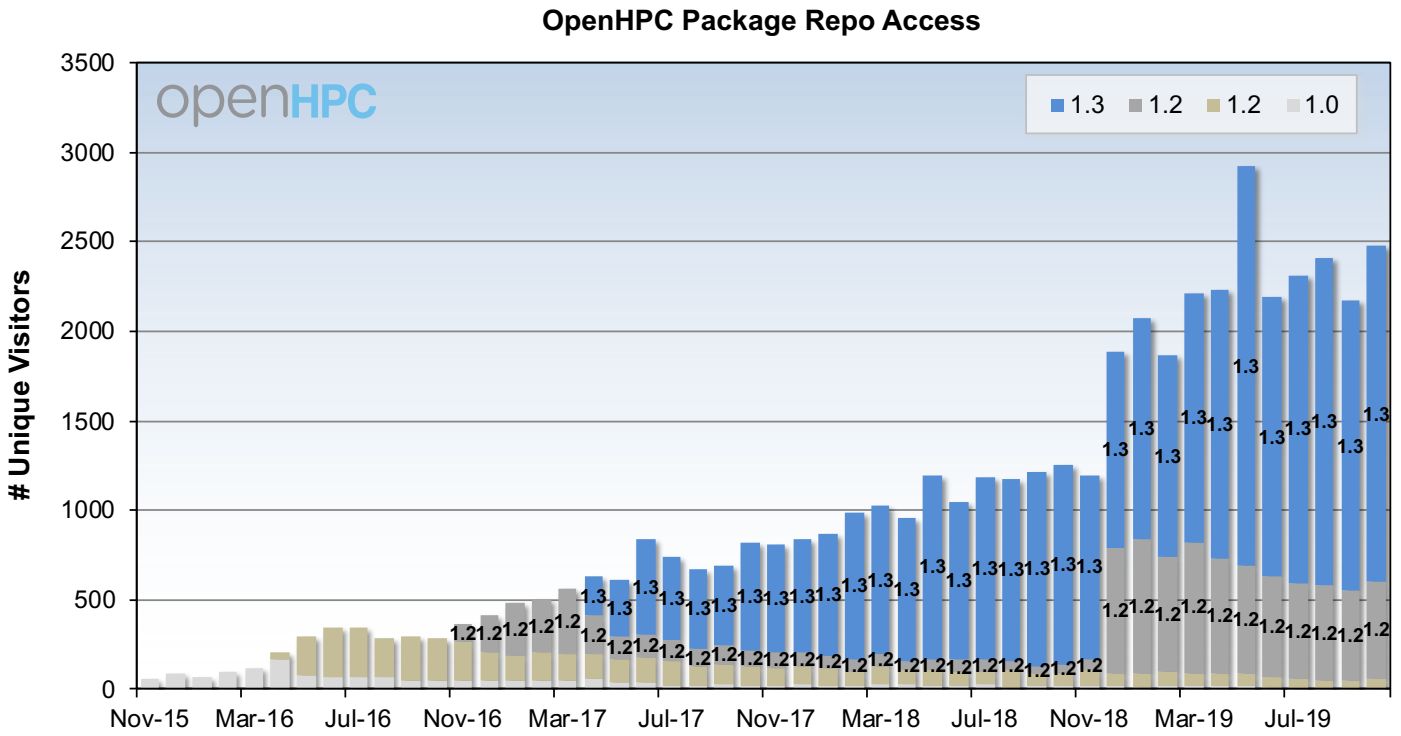
  http://build.openhpc.community

- **49.8 TB downloaded in 2019** (vs 21.5 TB in 2018)



Updated Usage/Access Stats (thru 2019)

- These stats monitor access specifically to package repository metadata (typically expected to be via yum/zypper)
- Repo access binned by minor version



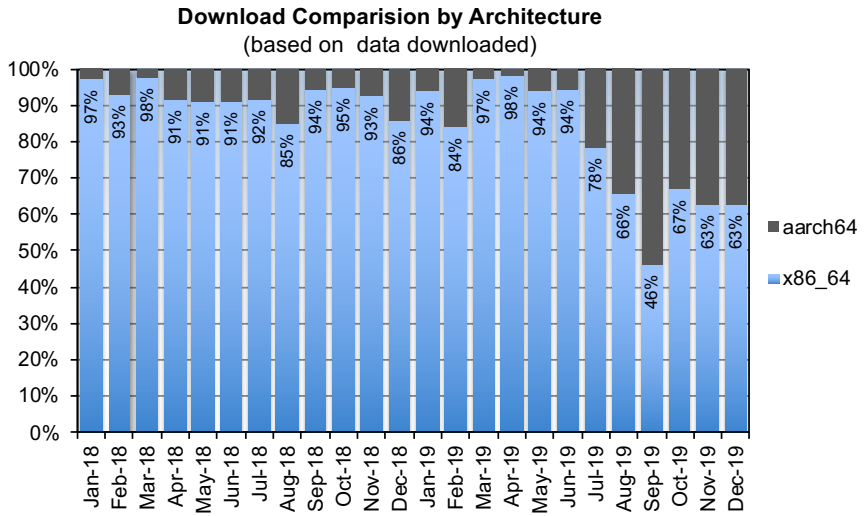
Updated Usage/Access Stats (thru 2019)

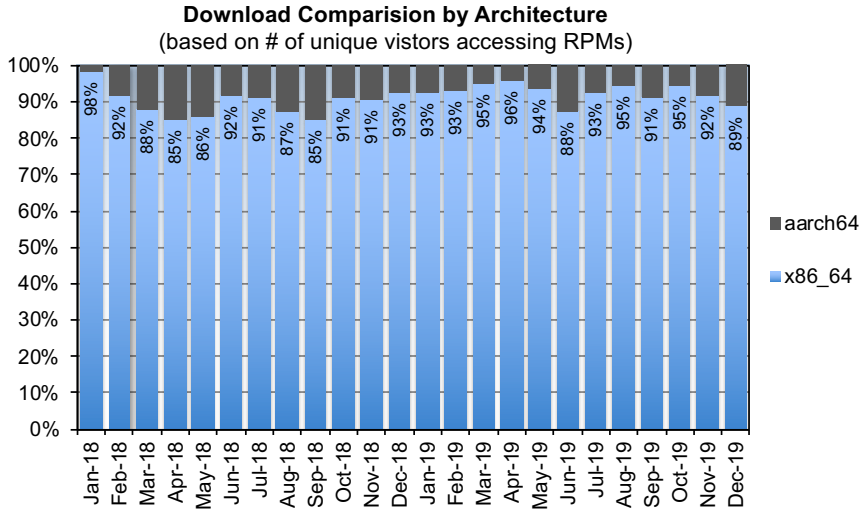
Architecture specific metrics:

- To provide some characterization, we scrape the access logs to analyze two architecture specific file types:

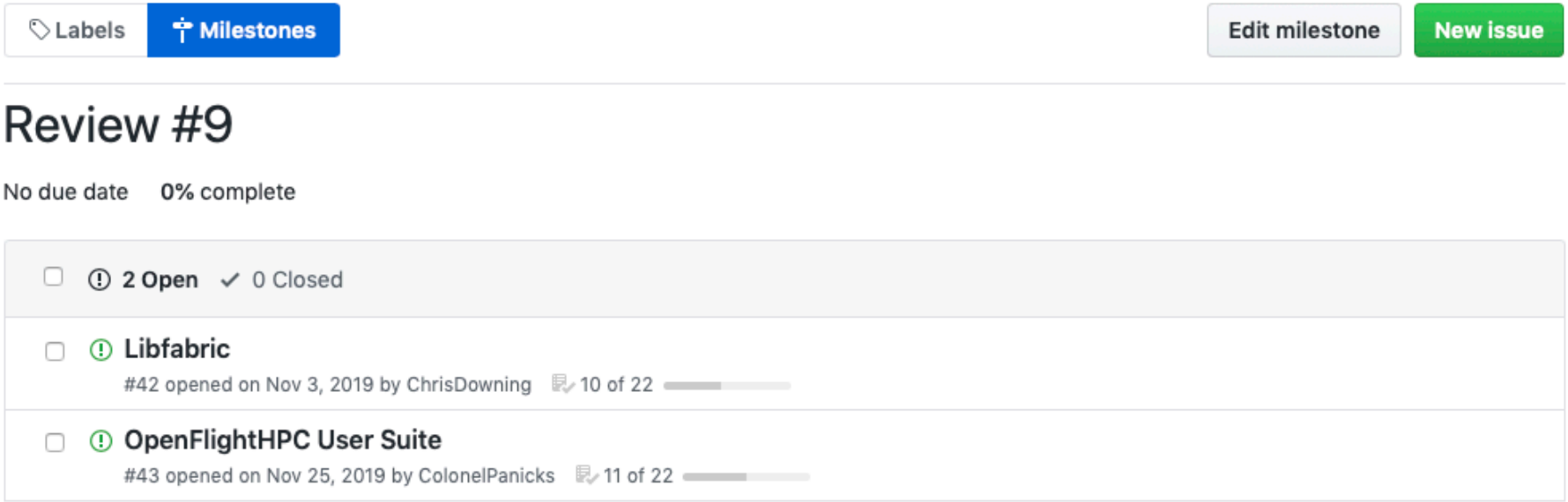
  `(aarch64|x86_64).rpm`
  `(aarch64|x86_64).tar`

- Plots compare percentages for the amount of data xfer'ed and the # of unique visitors accessing the (aarch64|x86_64) files





Review cycle #9



- We have two new submissions to review
  - need minimum of 4 volunteers to review....

Upcoming Deadlines

- PEARC'20 (Portland, OR - July 26-30, 2020)
  - Tutorial: **January 20, 2020**
  - Chris S. graciously volunteered to lead a submission for us
  - feedback on potential topic(s):
    - build on top of last year's PEARC tutorial and Adrian's European open-source summit
      - intro/philosophy of openhpc packaging/installation and hierarchical module environment
      - use cloud resource clusters (e.g. EC2) that are setup in advance
      - demonstrate assembly/modification of cloud image (e.g. packer stuff from PEARC'19 or cloud formation templates)
      - walk-them through basic job submission, run a few performance tests (e.g. omb or imb MPI benchmarks) - CLI oriented
        - run jobs through Open On Demand browser
      - assemble ML container and execute example on cluster (a la David B's TensorFlow example using CharlieCloud at SC'19)

Deprecated Symbols in OpenMPI

- OpenMPI4.x variant is our target version for ohpc 2.x
- We had a request to potentially also carry around an openmpi 3.x variant in order to maintain some legacy MPI symbols (https://github.com/openhpc/ohpc/issues/1080)
- More background info:
  - OpenMPI4 removed legacy MPI-symbols that were deprecated in MPI-2.0 in 1996 and deleted from the MPI-3.0 specification in 2012
  - These are no longer prototyped in OpenMPI's 4.x header file (mpi.h)
  - See https://www-lb.open-mpi.org/faq/?category=mpi-removed for the 16 relevant symbols and corresponding replacement
- If we want, we can still resolve these by building openmpi4 with a `--enable-mpi1-compatibility` flag, but they may disappear in a future major release series of Open MPI
- I am strongly against carrying around a separate openmpi3 to accommodate symbols deprecated a long, long time ago
  - no strong opinions on whether to build with mpi1-compatibility or not
  - comments/discussion?

Annobin

- **annobin** is a watermark specification utility that can be used to annotate binaries with additional information(https://developers.redhat.com/blog/2018/02/20/annobin-storing-information-binaries/)
- used in RHEL8 gcc compiler configuration by default
- plugin can be disabled in standalone gcc build
- potential options to be self-contained:
  - we build/maintain an ohpc-build of annobin for use with our gcc builds; does introduce a bootstrapping chicken/egg issue
  - we disable annobin completely for our builds and do not carry a separate annobin-ohpc build
    - there is an issue that Adrian discovered regarding python builds (namely, that annobin usage is hardcoded when doing builds using system python and cannot be disabled)
    - this has been fixed in RHEL 8.1 so we can, in theory, ignore annobin

MOFED

- There has been some posts on the user lists to use MOFED instead of distro provided OFED versions
- Also have a related pull request for openmpi3
- Before responding, what are folks thoughts on potentially supporting MOFED usage in some capacity?
  - there are publicly available RPMs available for RHEL8 and SLES15.1
  - https://linux.mellanox.com/public/repo/mlnx_ofed/4.7-3.2.9.0/
- If this is of interest, presumably would have to provide mofed-based variants for all of our supported IB supported MPI stacks for ohpc 2.0 (e.g. openmpi4, mpich3, mvapich2)
  - end user would have to opt-in to a MOFED variant
- Huge testing implication if we were to run full regression test suite for all of these:
  - could potentially do a very small subset to verify MPI in working order for MOFED builds

Miscellaneous 2.x Notes

- Minimum distro checks added to our OHPC_macros file minimum version distro checks. Intent for OS specific needs in package .spec files is to just discern whether building for rhel or suse

```
%if 0%{?rhel_version}
Requires: epel-release
Requires: redhat-release >= 8.0
%endif

%if 0%{?suse_version}
Requires: suse-release >= 15.1
%endif
```

- **ntpd** no longer available in RHEL8, we will have to update docs to use **chrony** instead
- **munge** is available in both RHEL8 and Leap15 now - will deprecate standalone ohpc build
- **clustershell** also in both RHEL8 and Leap15 - deprecate ohpc build
- OBS workers updated to point to new obs infrastructure (https://obs.openhpc.community). If you need build account, please let me know.