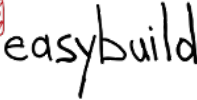# EESSI meeting

June 4th 2020

Agenda

1. Short introduction by new partners:
   Alan O'Cais (JSC), Thomas Röblitz (UiO), Oriol Mula (HPCNow!)

2. CVMFS update by RUG & SURFsara [Bob, Henk-Jan, Caspar, Marco]

3. Steps to move forward with EESSI [Kenneth]

4. Talk at HPC Knowledge Event (HPCKP) [Kenneth]

5. Update on role Dell HPC team [Jaco]

6. Need for introduction on Git & GitHub? [Kenneth]

7. Who does what the coming weeks?

Progress in last month

- GitHub organisation: https://github.com/EESSI
  - repositories for CVMFS, Gentoo, EasyBuild layers + docs
  - meetings repo for keeping track of meeting notes:
    https://github.com/EESSI/meetings/wiki

- initial documentation: https://eessi.github.io/docs

- test CVMFS setup with Ansible by Bob
  (https://github.com/EESSI/cvmfs-layer/pull/1)

Next steps

- complete first version of documentation: scope, layers, …

- set up Gentoo Prefix in test CVMFS repository (Bob?)
  (see notes at https://github.com/EESSI/gentoo-prefix-layer/wiki)

- start figuring out EasyBuild layer

  - EasyBuild configuration (installation prefix, RPATH, module naming scheme…)

  - figure out workflow

    - how to make proposals for adding software vs central EasyBuild easyconfigs repository?

    - process for installing software (build system -> CVMFS Stratum 0), via rsync?

  - set goals for pilot setup: OpenFOAM, TensorFlow + bioinformatics pipeline?

  - automation & testing (ReFrame?)

HPCKP'20 presentation

- see https://hpckp.org

- Thu June 18th 2020 – 2.30pm CEST

- talk proposal accepted (45min incl. Q&A)

- title:

  European Environment for Scientific Software Installations (EESSI)

- speaker: Kenneth Hoste (HPC-UGent)

- **presentation needs to be pre-recorded!** 😳

HPCKP'20 presentation (abstract)

What if there was a way to avoid having to install a broad range of scientific software from scratch on every HPC cluster or cloud instance you use or maintain, without compromising on performance?

The European Environment for Scientific Software Installations (EESSI, pronounced as "easy") is a brand **new collaboration between different European HPC sites & industry partners**, with the common goal to set up a **shared repository of scientific software installations that can be used on a variety of systems**, regardless of which flavor/version of Linux distribution or processor architecture is used, or whether it's a full size HPC cluster, a cloud environment or a personal workstation.

The concept is **heavily inspired by the Compute Canada software stack**, which was presented at PEARC'19 under the title "Providing a Unified Software Environment for Canada's National Advanced Computing Centers".
It consists of three layers:
* **a distributed filesystem layer leveraging the established CernVM-FS** technology (https://cernvm.cern.ch/portal/filesystem);
* a **compatibility layer using Gentoo Prefix** (https://wiki.gentoo.org/wiki/Project:Prefix) to install a limited set of "system" packages;
* a **software layer hosting scientific software installations** that were built for different processor architectures, where **archspec** (https://github.com/archspec/archspec), **EasyBuild** (https://easybuilders.github.io/easybuild) and **Lmod** (https://github.com/TACC/Lmod) are leveraged;

In this talk, we will present how the EESSI project grew out of a need for more collaboration to tackle the challenges in the **changing landscape of scientific software and HPC system architectures**. The project structure will be explained in more detail, covering the motivation for the layered approach and the choice of tools, as well as the lessons learned from the Compute Canada approach. Finally, we will outline the goals we have in mind and how we plan to achieve them going forward.