EESSI meeting

August 6th 2020

https://github.com/EESSI/meetings/wiki

Agenda

1. Short introduction by new partners
2. Progress update
    a. Brainstorm meeting July 7th (Caspar)
    b. Filesystem layer (Henk-Jan)
    c. Compatibility layer (Peter)
    d. Software layer (Kenneth/Caspar)
    e. Other
3. Who does what the coming weeks?
4. Q & A

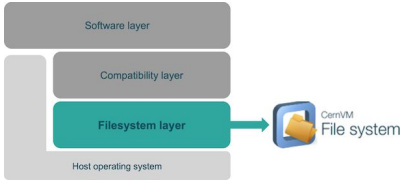
Short introduction by new partners

- New people on the call: feel free to quickly introduce yourself!
  - Who are you, where do you work, on what?
  - Why are you interested in the EESSI project?
  - Are you planning to actively contribute,
    and if so, to which layer(s) of the project?

Brainstorm meeting July 7th

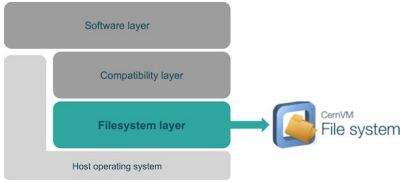
- Topics:
  - Workflow of adding installations to EESSI software stack
  - Using CVMFS gateway-publisher procedure for build nodes, potentially via containers (without requiring root?)
  - Potential optimizations in CVMFS config (e.g. catalogs)
- Meeting notes available at https://github.com/EESSI/meetings/wiki/Brainstorm-meeting-(July-7th-2020)---Syncing-software-to-Stratum-0

Progress update: filesystem layer (1)



- Improvements to Ansible playbooks contributed by Pablo
  - See https://github.com/EESSI/filesystem-layer/pull/27 and https://github.com/EESSI/filesystem-layer/pull/28
- cvmfs-config-eessi .deb and .rpm packages for Linux clients by Bob
  - WIP, see https://github.com/EESSI/filesystem-layer/pull/24
- Work on supporting Windows/macOS clients (by Jaco):
  - Mounting CVMFS pilot setup in WSL (Windows 10) and macOS (10.13+)
  - Documented at http://dell.eessi-hpc.org
  - See also https://github.com/JvD007/eessi-clients (installation scripts)
  - (outside of scope for pilot setup)

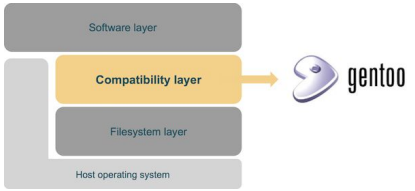
Progress update: filesystem layer (2)



- Evaluation of CVMFS gateway/publisher procedure by Bob
  - Using containers not working out as hoped (for now)
  - Still requires root to set up CVMFS transaction
  - Can be done through Docker container,

    would be better through Singularity (and not requiring root)
- ComputeCanada made their Ansible stuff for CVMFS available
  - https://github.com/ComputeCanada/ansible-cvmfs-server/tree/example
  - Something to take a closer look at?

Progress update: compatibility layer



- A Gentoo Prefix installation is now in place in CVMFS pilot repo

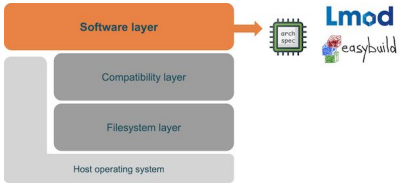
  `/cvmfs/pilot.eessi-hpc.org`

- Includes Lmod installation which required a custom ebuild,

  (see https://github.com/EESSI/gentoo-overlay)

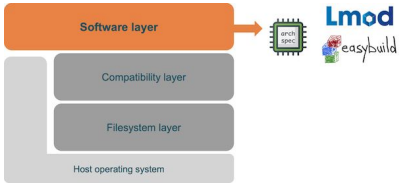
- Some concerns w.r.t. lack of control when using Prefix bootstrap
  - Is there a better way?
  - Ask Gentoo Prefix mailing list?
- Automation (with Ansible) still WIP

Progress update: software layer (1)



- Some progress made on driver script + “build list” by Caspar & Kenneth
  - See https://github.com/EESSI/software-layer/pull/5
  - Leverages EasyBuild as a library
  - Ensures correct EasyBuild configuration
  - Installs missing software based on build list
  - Will pick up customized easyconfigs, easyblocks + hooks as needed
  - Currently experimenting in own Gentoo Prefix environment (outside of CVMFS)

Progress update: software layer (2)



- Experimenting with installing software with EasyBuild on top of Gentoo Prefix
  - First target is getting GCC + binutils built (then OpenMPI > foss toolchains > apps)
  - Need to make sure nothing from host OS is picked up (only from compatibility layer)
  - Taking into account customizations done by ComputeCanada
    - see https://github.com/ComputeCanada/easybuild-computecanada-config
  - Requires minor customization of binutils + GCC installation procedure (--with-sysroot config opt)
    - May make sense to add support to EasyBuild for a --sysroot configuration option...
  - Slightly different approach compared to ComputeCanada:
    - They filter out binutils dependency, use binutils from Gentoo Prefix
    - Not sure if that's the best approach

Progress update: other

- Git/GitHub training by Kenneth (July 3rd)
  - Slides & recording available via https://github.com/EESSI/meetings/wiki/Git-and-GitHub-training-session
- Recording of HPCKP'20 talk now available: https://www.youtube.com/watch?v=E0LFvrZIsi8
- Conf call with CVMFS developers being planned (on their request)

  See doodle: https://doodle.com/poll/si78mqc8gwwnzc4k

Who does what in the coming weeks?

- Filesystem layer
  - Continue work on figuring gateway/publisher procedure?
  - User-facing documentation on mounting EESSI software stack (see WSL/macOS)?
- Compatibility layer:
  - Look into getting more control over installation procedure?
  - Think about how to deal with (security) updates?
- Software layer:
  - Continue work on driver script + pilot software stack (Kenneth/Caspar)
  - Think about testing of applications: which tests, where to host, how to organize...
- Testing, testing, testing + give feedback, report problems, ...