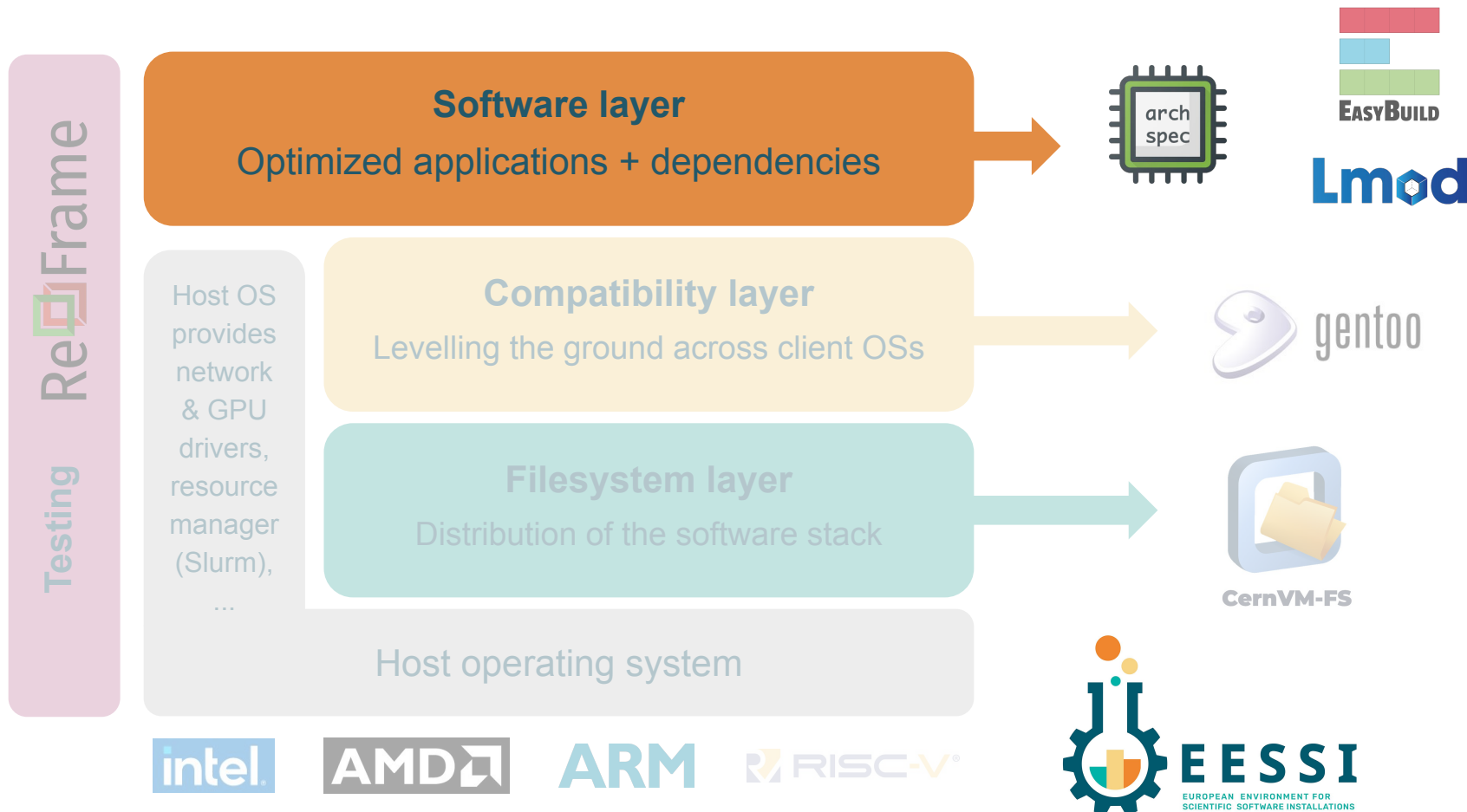
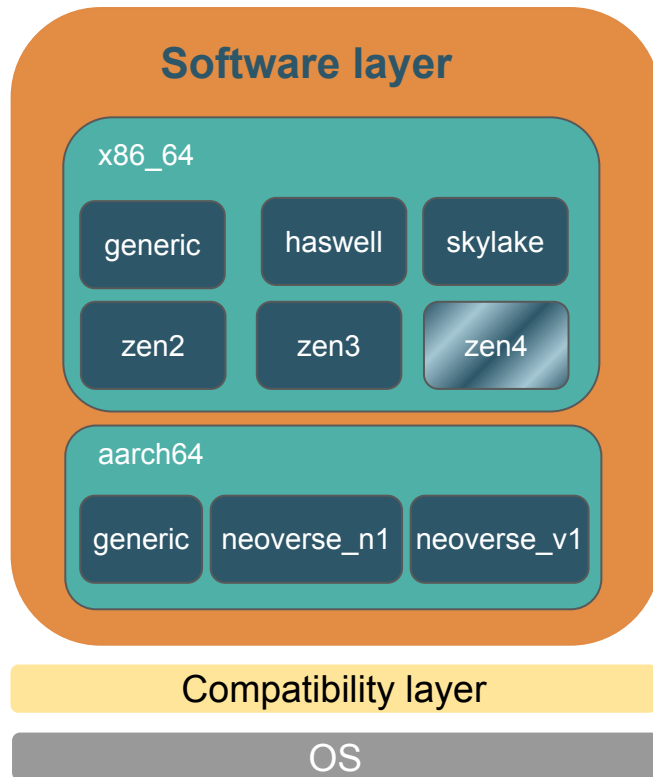
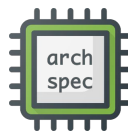




dev.eessi.io discussion

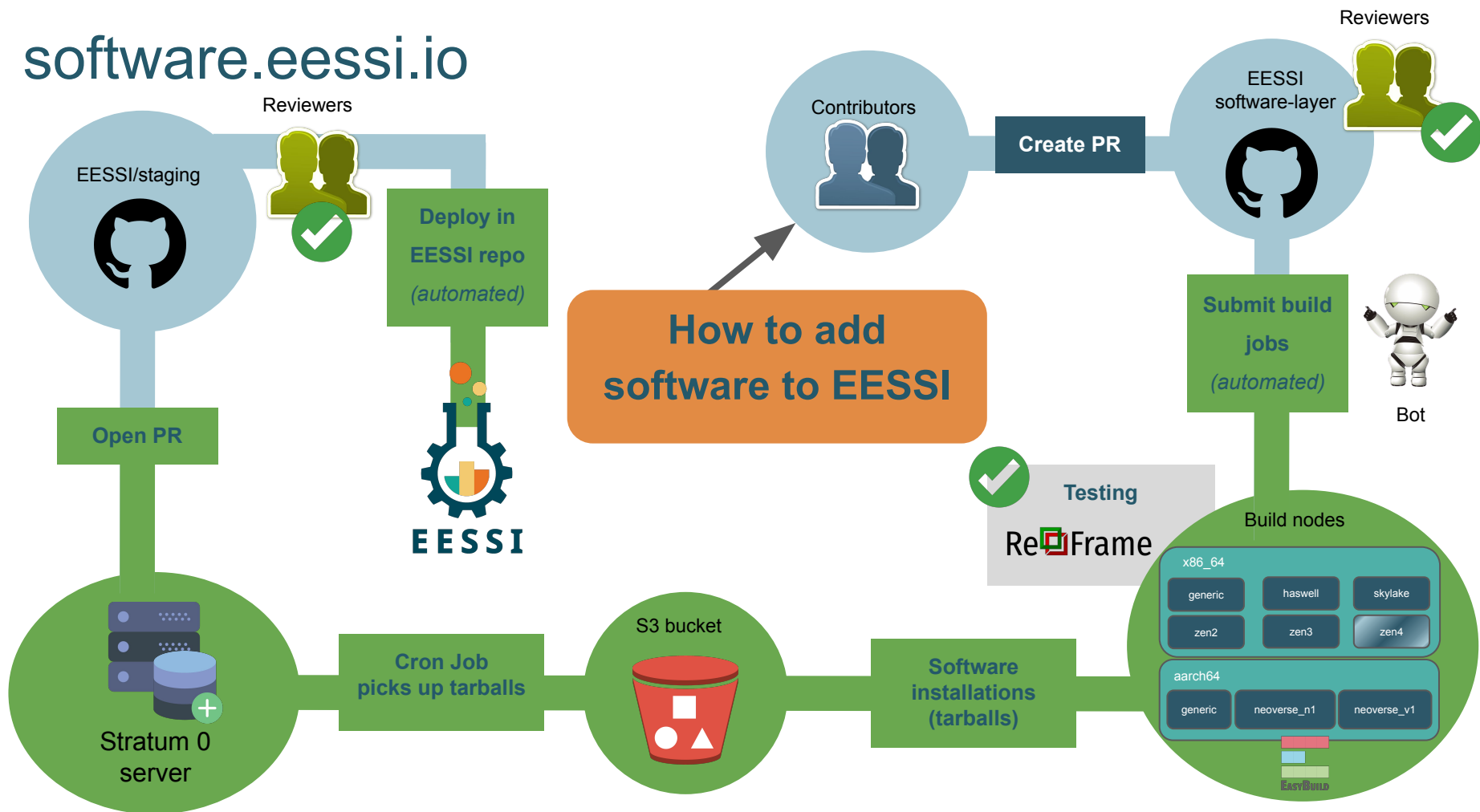
24/05/2024





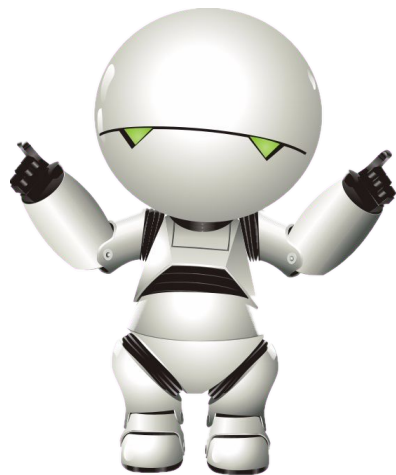
github.com/EESSI/software-layer

software.eessi.io



Bot

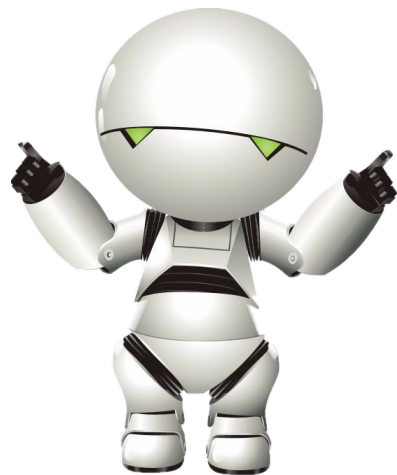
1/2



- GitHub App (bot) listening to pull request (PR) events
- **Builds software with EasyBuild**
 - Requires (merged) easyconfig file(s)
- Pulls easyconfig files from PR
- Triggers builds for all (currently 8) [supported CPU microarchitectures](#)
- Checks installations for errors (build problems, test suite failures, ...)
- Runs [EESSI test suite](#) (using ReFrame)

Bot

2/2



- Two instances running for EESSI in two cloud clusters:
 - AWS
 - Azure (zen4 WIP)
- Bot commands (permissions needed):
 - `bot: build repo:... arch:...`
 - `bot: deploy` (*currently via setting label bot:deploy*)
 - `bot: show_config`
- **Bot listens to maintainers** (GitHub account specific)
- Ingestion step to get software installations into EESSI repository

software.eessi.io - building 1/2

{2023.06}[foss/2023a] ESPResSo v4.2.1 #455

Merged

bedroge merged 2 commits into [EESSI:2023.06-software.eessi.io](#) from [boegel:2023.06-software.eessi.io_ESPResSo_foss2023a](#) on Jan 17

Conversation 13

Commits 2

Checks 33

Files changed 1

+5 -0

boegel commented on Jan 16 • edited

Member

```
12 out of 87 required modules missing:

* GSL/2.7-GCC-12.3.0 (GSL-2.7-GCC-12.3.0.eb)
* typing-extensions/4.9.0-GCCcore-12.3.0 (typing-extensions-4.9.0-GCCcore-12.3.0.eb)
* OpenPGM/5.2.122-GCCcore-12.3.0 (OpenPGM-5.2.122-GCCcore-12.3.0.eb)
* Pint/0.23-GCCcore-12.3.0 (Pint-0.23-GCCcore-12.3.0.eb)
* BeautifulSoup/4.12.2-GCCcore-12.3.0 (BeautifulSoup-4.12.2-GCCcore-12.3.0.eb)
* libsodium/1.0.18-GCCcore-12.3.0 (libsodium-1.0.18-GCCcore-12.3.0.eb)
* libxslt/1.1.38-GCCcore-12.3.0 (libxslt-1.1.38-GCCcore-12.3.0.eb)
* ZeroMQ/4.3.4-GCCcore-12.3.0 (ZeroMQ-4.3.4-GCCcore-12.3.0.eb)
* lxml/4.9.2-GCCcore-12.3.0 (lxml-4.9.2-GCCcore-12.3.0.eb)
* IPython/8.14.0-GCCcore-12.3.0 (IPython-8.14.0-GCCcore-12.3.0.eb)
* Boost.MPI/1.82.0-gompi-2023a (Boost.MPI-1.82.0-gompi-2023a.eb)
* ESPResSo/4.2.1-foss-2023a (ESPResSo-4.2.1-foss-2023a.eb)
```

{2023.06}[foss/2023a] ESPResSo v4.2.1

Verified 5577d24

boegel added the [2023.06-software.eessi.io](#) label on Jan 16

Reviewers

ocalisa

bedroge

Assignees

No one—[assign yourself](#)

Labels

[2023.06-software.eessi.io](#) [bot:deploy](#)

Projects

None yet


Milestone

No milestone

Development

Successfully merging this pull request may close these issues.


software.eessi.io - building 2/2



boegel commented on Jan 16 Member Author ...

bot: build repo:eessi.io-2023.06-software arch:aarch64/neoverse_v1


😊



eessi-bot-aws bot commented on Jan 16 • edited ...

► Updates by the bot instance `eessi-bot-mc-aws` ([click for details](#))

😊



eessi-bot-aws bot commented on Jan 16 • edited ...

New job on instance `eessi-bot-mc-aws` for architecture `aarch64-neoverse_v1` for repository `eessi.io-2023.06-software` in job dir `/project/def-users/SHARED/jobs/2024.01/pr_455/4231`

date	job status	comment
Jan 16 19:15:21 UTC 2024	submitted	job id <code>4231</code> awaits release by job manager
Jan 16 19:15:35 UTC 2024	released	job awaits launch by Slurm scheduler
Jan 16 19:20:37 UTC 2024	running	job <code>4231</code> is running
Jan 16 20:54:08 UTC 2024	finished	► 🎉 SUCCESS (click triangle for details)
Jan 16 20:54:08 UTC 2024	test result	(no tests yet)
Jan 17 06:45:02 UTC 2024	uploaded	transfer of <code>eessi-2023.06-software-linux-aarch64-neoverse_v1-1705438398.tar.gz</code> to S3 bucket succeeded

Ingestion step

Ingest eessi-2023.06-software-linux-x86_64-intel-skylake_avx512-1713253265.tar.gz #1172

Edit

<> Code

Merged

bedroge merged 2 commits into main from eessi-2023.06-software-linux-x86_64-intel-skylake_avx512-1713253265.tar.gz_approved last week

Conversation 0

Commits 2

Checks 0

Files changed 1

+0 -0



EESIsbot commented last week

A new tarball has been staged for [EESSI/software-layer#542](#).
Please review the contents of this tarball carefully.
Merging this PR will lead to automatic ingestion of the tarball.

► Metadata of tarball

▼ Overview of tarball contents

Total number of items in the tarball: 21

URL to the tarball: https://software.eessi.io-2023.06.s3.amazonaws.com/2023.06/software/linux/x86_64/intel/skylake_avx512/1713253265/eessi-2023.06-software-linux-x86_64-intel-skylake_avx512-1713253265.tar.gz

Full listing of the contents of the tarball:

```
2023.06/software/linux/x86_64/intel/skylake_avx512/modules/all/ncdu/1.18-GCC-12.3.0.lua
2023.06/software/linux/x86_64/intel/skylake_avx512/modules/tools/ncdu/1.18-GCC-12.3.0.lua
2023.06/software/linux/x86_64/intel/skylake_avx512/software/ncdu/1.18-GCC-12.3.0
2023.06/software/linux/x86_64/intel/skylake_avx512/software/ncdu/1.18-GCC-12.3.0/bin
2023.06/software/linux/x86_64/intel/skylake_avx512/software/ncdu/1.18-GCC-12.3.0/bin/ncdu
2023.06/software/linux/x86_64/intel/skylake_avx512/software/ncdu/1.18-GCC-12.3.0/easybuild
2023.06/software/linux/x86_64/intel/skylake_avx512/software/ncdu/1.18-GCC-12.3.0/easybuild/easybuild-ncdu-1.18
```

Reviewers

bedroge

Assignees

No one—[assign yourself](#)

Labels

None yet

Projects

None yet

Milestone

No milestone


Development


Documentation + getting help


- Comprehensive documentation for users, **contributors** and maintainers.
- Detailed instructions on:
 - Adding new software
 - Getting help
 - Debugging failing builds
- Support portal
- EESSI Slack

eessi.io/docs

eessi.io/docs/adding_software

 Opening a pull request

 Search

 EESSI @ GitHub
20

European Environment for
Scientific Software Installations
(EESSI)

Home

Project overview

Filesystem layer >

Compatibility layer >

[Software layer](#) >

Test suite >

To add software to EESSI, you should go through the semi-automatic software installation procedure by:

- 1) Making a pull request to the [software-layer](#) repository to (add or) update an [easystack file](#) that is used by [EasyBuild](#) to install software;
- 2) Instructing the [bot](#) to build the software on all [supported CPU microarchitectures](#);
- 3) Instructing the [bot](#) to deploy the built software for ingestion into the EESSI repository;
- 4) Merging the pull request once CI indicates that the software has been ingested. ✓

Table of contents

Preparation

Creating a pull request

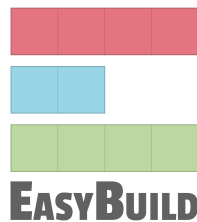
dev.eessi.io



- Similar CernVM-FS repository:
 - `/cvmfs/dev.eessi.io`
 - Identical reach: mount the repository and gain access to deployed software
 - Similar infrastructure can be set up:
 - GitHub (GitLab?) repository
 - CI on PRs
 - Bot instance that builds, runs tests, ingests software (semi-)automatically

dev.eessi.io - policies

- Submission/build control
- Ingestion/staging PR:
 - Trade-off in oversight and review vs speed of deployment
- Easyconfig files:
 - Included in the repository? (could be github.com/EESSI/dev.eessi.io)
 - Maybe auto-generated based on a template?
 - In project specific repositories?



Policy differences

software.eessi.io

- Permanent installations
- Only install releases
- Builds for all CPU architectures

dev.eessi.io

- Temporary installations
- Can install from commits
- Can skip some CPU targets
- Subdirectories per project
- dev.eessi.io built on top of software.eessi.io



dev.eessi.io - Triggering builds



- Builds could be triggered in different ways:
 - Within a PR, through a commit ID added to a (YAML) file that generates an easyconfig file
 - As in software.eessi.io: via comments/labels by trusted accounts
 - For certain CPU targets or systems
 - How frequently would builds happen?

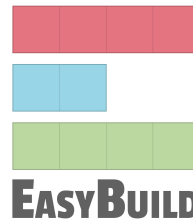
dev.eessi.io - GitHub/GitLab

- Current implementation runs through GitHub
- Bot can be ported to GitLab and CI to GitLab runners
- Public/private repositories
- GitHub Action that mounts EESSI
 - github.com/marketplace/actions/eessi
 - Support for GitLab under development
 - Can be integrated in the development workflow



dev.eessi.io - EESSI-extend module

- EESSI can be extended with EasyBuild for a site, group, or user
- Useful to quickly add to the EESSI stack for a particular application
- Permissions and EasyBuild configuration are handled automatically



dev.eessi.io - input

- Preferred way to trigger builds and deployments?
 - Via PR comments, through (specific) commits, by adding labels, etc.?
- How frequent would you be adding installations?
 - Multiple times per day/week/month?
- How long should build be kept?
 - Days, weeks, months?
- How many builds should be kept (most recent, X builds in total)
- Easystack and easyconfig files
 - Project specific repos, separate subdirectories?

