



9 Jan 2025

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

Agenda



- Quick introduction by new people
- **HPCWire Readers' Choice award for EESSI**
- Progress update per EESSI layer
- Update on EESSI production repository `software.eessi.io`
- Update on EESSI test suite, build-and-deploy bot, documentation
- **Integration of EESSI in EuroHPC Federation Platform**
- AWS/Azure sponsorship update
- EESSI governance
- Upcoming/recent events
- Q&A

Quick introduction by new people



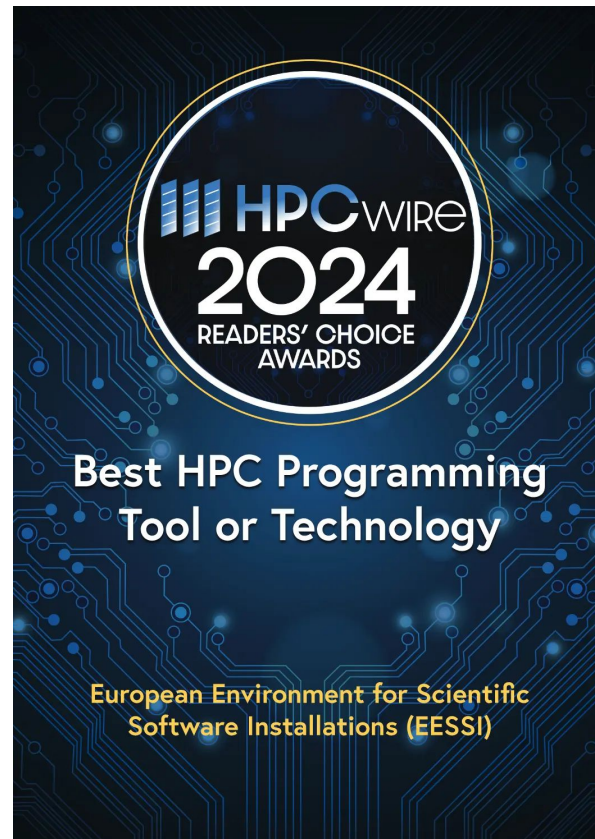
New people on the call: feel free to introduce yourself!

- 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 aspect(s) of the project?

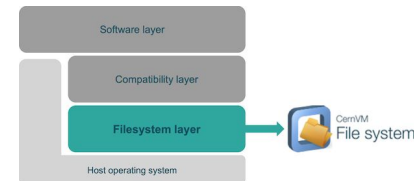
HPCwire 2024 Readers' Choice Awards

**HPCwire readers voted EESSI as
*Best HPC Programming Tool or Technology*** 🎉

- Award was presented at the Supercomputing 2024 conference in Atlanta (Nov'24)
- [Link to blog post](#) with more details & pictures

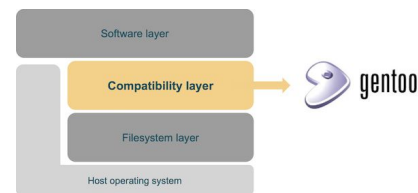


Progress update: filesystem layer



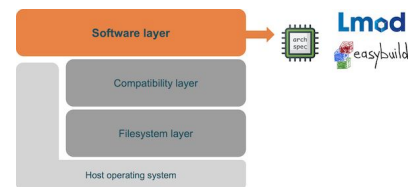
- Small change in the ingestion workflow to allow for additional project directories in the dev repository ([PR #203](#))
 - `/cvmfs/dev.eessi.io/versions/2023.06/example/software`
- CernVM-FS Stratum-0 + Stratum-1 servers have been running without (major) issues
 - Also see slide about monitoring

Progress update: compatibility layer



- Preparations for compatibility layer of next EESSI version have started (likely 2025.01)
 - WIP PR: <https://github.com/EESSI/compatibility-layer/pull/209>
 - WIP PR for package set: <https://github.com/EESSI/gentoo-overlay/pull/108>
 - Some first successful builds with the bot (incl. new test step) 🎉
 - Full discussion on new version: <https://gitlab.com/eessi/support/-/issues/56>
 - In short: new toolchains (foss/2024a), latest glibc version, OpenSSL 3.x, ld.bfd-only, using EasyBuild 5.0+, version bumps for all components

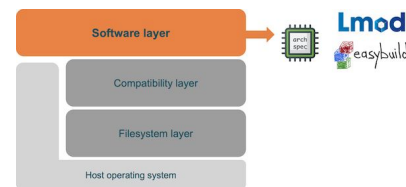
Progress update: software layer (1/3)



Highlights of recently merged software PRs:

- Cassiopeia 2.0.0 ([PR #806](#)), Cython 3.0.10 ([PR #807](#)), Mustache 1.3.3 ([PR #813](#)), GROMACS 2024.4 ([PR #815](#)), CUDA 12.4.0 and UCX-CUDA 1.15.0 ([PR #822](#)), GDRCopy 2.4 ([PR #818](#)), OpenFOAM 2406 ([PR #826](#)), SlurmViewer 1.0.1 ([PR #827](#)), LightGBM 4.5.0 ([PR #829](#)), Tombo 1.5.1 ([PR #838](#)), wxWidgets 3.2.6 ([PR #839](#))
- New GPU builds:
 - GROMACS 2024.4 w/ CUDA 12.4.0 ([PR #828](#))
 - LightGBM 4.5.0 w/ CUDA 12.1.1 ([PR #830](#))
 - OSU-Micro-Benchmarks 7.5 w/ CUDA 12.4.0 ([PR #831](#))
- Need to rebuild CUDA modules after [easyblock PR #3516](#)
 - PR adds `extras/CUPTI/lib64` and `nvvm/lib64` to `$LIBRARY_PATH` in module file
 - Needed for PyTorch w/ CUDA

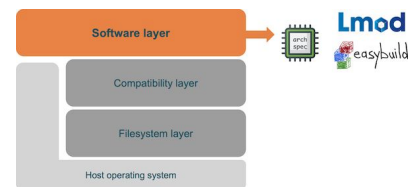
Progress update: software layer (2/3)



Recent active open PRs + for general improvements:

- Avoid that standard EasyBuild hooks are used in `install_cuda_and_libraries.sh` ([PR #809](#))
- Rebuild EESSI-extend module to use `$EESSI_ACCELERATOR_TARGET` ([PR #810](#))
- Update SitePackage.lua to reflect that URL to GPU docs has changed ([PR #811](#))
- Clean temporary directory after iterations in `install_cuda_and_libraries.sh` ([PR #814](#) & [PR #816](#))
- Catch `FATAL:` messages when checking build result ([PR #820](#))
- LAMMPS: Add 2Aug2023_update4 to zen4 hook ([PR #832](#))
- Use variable for CVMFS repository in Lmod initialization scripts ([PR #834](#))
- Use `$EESSI_VERSION` for EESSI-extend version and filter Yasm dependency on RISC-V ([PR #835](#))
- Disable CUDA installation for RISC-V build hosts in `bot/build.sh` (and some other minor enhancements) ([PR #836](#))
- Always set `$STORAGE` and `$JOB_STORAGE` in `bot/test.sh` ([PR #837](#))

Progress update: software layer (3/3)



Service accounts on on-premise systems for EESSI build-and-deploy bots

- Going beyond AWS & Azure, triggered by complications regarding GPU build nodes
- Service account for running EESSI build-and-deploy bot on Tier-2 clusters at Ghent University
 - Mostly intended for doing builds of GPU software on GPU build nodes (V100, A100, H100)
 - Currently being configured (by Lara)
 - May also be used to test EasyBuild easyconfig PRs on top of EESSI (to be implemented)
- Service account on EuroHPC system Deucalion in Portugal
 - Improve how builds are done for A64FX (was done via Kenneth's personal account)
- Service account under active consideration at SURF, for running EESSI build-and-deploy bot on Snellius
- Service account on BSC RISC-V cluster
 - Will be used in near future to start building RISC-V software in an automated way

EESSI production repository

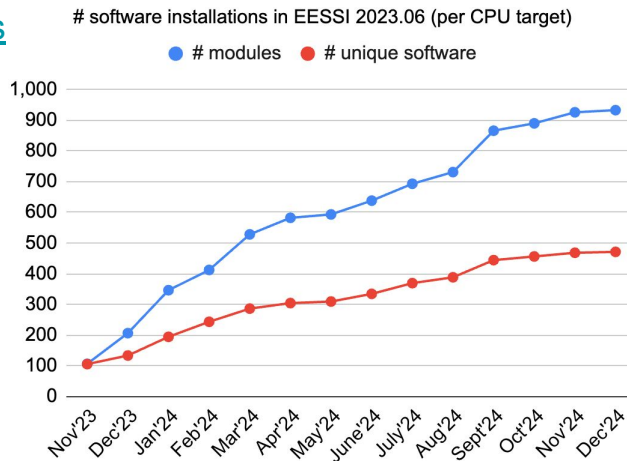
eessi.io/docs



`software.eessi.io` is the **production-ready EESSI repository**

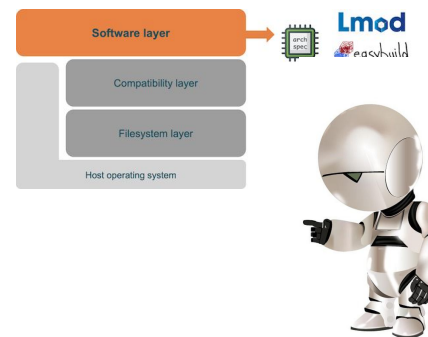
Version 2023.06 is being populated with software via [PRs to software-layer repo](#) + build-and-deploy bot

- 8 supported CPU targets: see eessi.io/docs/software_layer/cpu_targets
- 3 more CPU targets being added: zen4, a64fx, (sapphirerapids)
- Initial support for NVIDIA GPUs is in place, see eessi.io/docs/gpu
- **Currently: 933 software installations per CPU target**
(+43 in Nov+Dec'24)
 - 471 different software projects (+15),
8,453 software installations (across 8+2 CPU targets, +387)
- Current focus:
 - Providing optimized software installations for AMD Genoa (Zen4) + A64FX (+ Intel Sapphire Rapids)
 - Adding more (CUDA) software, processing incoming contributions, fixing broken builds/test suites, ...



Bot for building + deploying software layer

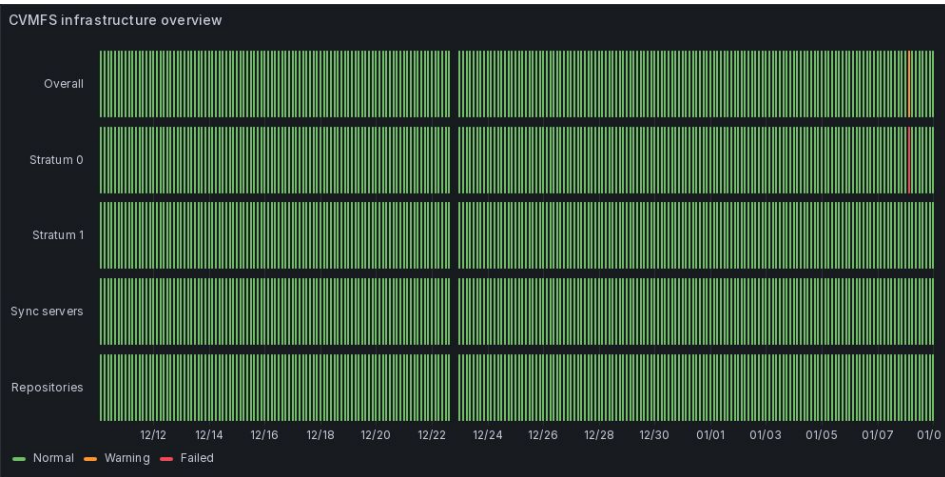
<https://github.com/EESSI/eessi-bot-software-layer>



- November-December'24
 - Support setting env vars with `bot: build` command [PR288](#) & [PR291](#) (community contrib)
`bot: build arch:zen4 export:MYVAR1=myval1 export:MYVAR2=myval2`
 - Bot creates script `cfg/export_vars.sh` in job dir. It's sourced by job before build step.
 - Allowed `MYVAR=myval` pairs have to be configured in the bot's `app.cfg` via
- Ongoing work
 - Installing bot on clusters with support for GPUs
 - New attribute for `bot: build` such as `node:NODE_TYPE` to submit to GPU nodes.
 - Improve deployment (single approval PR, flexible tasks), change way to submit jobs
- Side note: almost 40,000 Slurm jobs have been submitted on AWS Slurm cluster (bot + test suite)

[Thomas, Bob, Kenneth, Lara, Pedro]

EESSI CernVM-FS infrastructure monitoring



Yesterday

EESSI bot APP 1:52 PM
[FIRING:1] (PrometheusTargetMissing monitor.eessi.io rug-nl-s0.eessi.science node critical)

EESSI bot APP 2:12 PM
[FIRING:3] (monitor.eessi.io)

EESSI bot APP 3:12 PM
[RESOLVED] (monitor.eessi.io)



Dead Man's Snitch Alerts <alerts@deadmanssnitch.com>
aan mij

Hi Bob Dröge's Snitches,

FYI "EESSI Alert Manager" doesn't seem to be working.

Last healthy check-in: about 2 hours ago (23 Dec 02:03 UTC)



Dead Man's Snitch Alerts <alerts@deadmanssnitch.com>
aan mij

Hi Bob Dröge's Snitches,

Good News, "EESSI Alert Manager" is working again!

[Bob]

EESSI documentation

eessi.io/docs - GitHub repo github.com/EESSI/docs



Improvements to the EESSI documentation: ~18 merged PRs (+ 11 updates to software overview)

- Blog post about EESSI winning HPCwire Readers' Choice Awards 2024 🎉 ([PR #353](#))
- Initial page on EESSI governance ([PR #335](#))
- Documentation improvements on setting up a private stratum 1 ([PR #345](#))
- Updates known issue regarding older toolchains in zen4 ([PR #357](#))
- Updates to ReFrame test documentation using eessi_mixin ([PR #340](#))
- Add more systems on which EESSI is available natively ([PR #368](#) + [PR #364](#) + [PR #363](#) + [PR #362](#) + [PR #361](#) + [PR #360](#) + [PR #359](#))

EESSI documentation

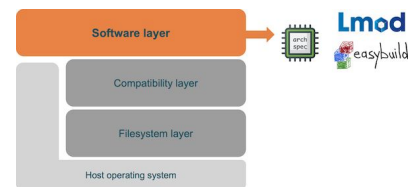


eessi.io/docs - GitHub repo github.com/EESSI/docs

- Auto-updates to overview of available software: eessi.io/docs/available_software/overview
- Several new entries to the overview of systems where EESSI is known to be available: eessi.io/docs/systems
 - **If you know about additional systems where EESSI is available, let us know!**
- Additional blog posts: eessi.io/docs/blog

EESSI test suite

eessi.io/docs/test-suite - github.com/EESSI/test-suite



ReFrame

Highlights

- Easier creation of portable tests with the `eessi_mixin` class now documented at <https://eessi.io/docs/test-suite/writing-portable-tests/>
- Port existing tests to use the `eessi_mixin` class (WIP, see PRs [#212](#), [#213](#), [#221](#), [#222](#))
- Log more info (CernVM-FS repo name, software subdir, modulepath, testsuite version) in ReFrame's report file ([PR #206](#))
 - Makes it easier to trace potential causes of performance regressions
- Better support for setting up regular runs of the test-suite on a local module stack ([PR #200](#))

Planned

- API documentation
- New release

Integration of EESSI in EuroHPC Federation Platform



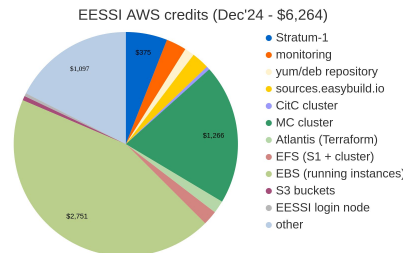
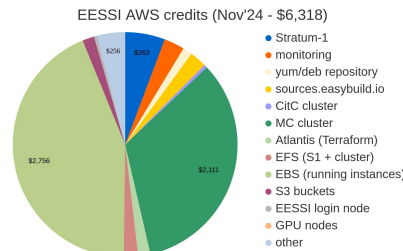
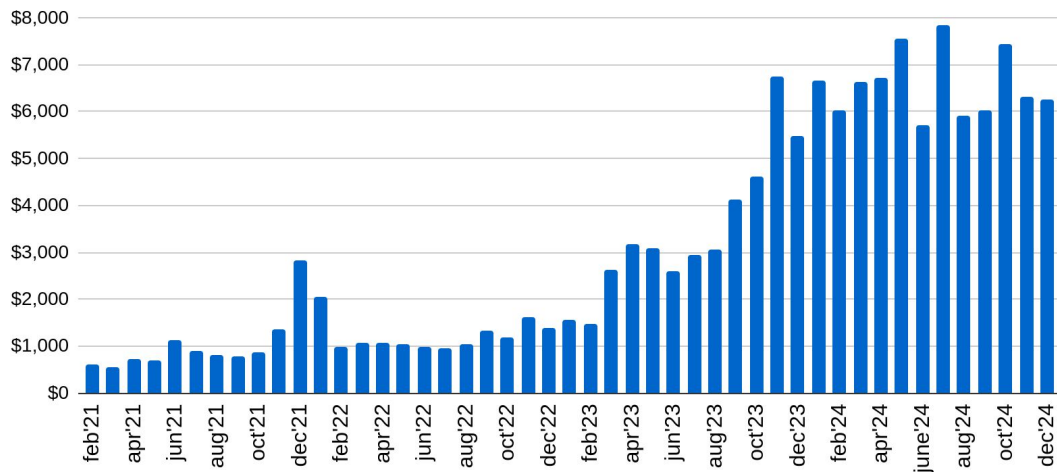
- Consortium was selected to implement the EuroHPC Federation Platform (EFP), a “one-stop shop” to facilitate usage of EuroHPC systems
- 5-year project (2025-2029)
- Consortium led by CSC, Ghent University as one of the partners
- https://eurohpc-ju.europa.eu/paving-way-eurohpc-federation-platform-2024-12-19_en
- Includes federated account, web portal (Open OnDemand), project management (Waldur), workflow service (LEXIS), ...
- **EESSI will be integrated into EFP as part of the Federated Software Stack component !**
 - Important to note: EESSI itself (and its development) is **not** funded by EFP
- Talk at FOSDEM'25 on EFP in HPC devroom on Sun 2 Feb 2025 (recorded + live-streamed):
<https://fosdem.org/2025/schedule/event/fosdem-2025-6718-eurohpc-fp-a-federated-platform-for-hpc-infrastructure-in-europe-built-with-open-source-software/>

Sponsored AWS credits



- Ask in #aws-resources Slack channel to get access!
- ~\$6,318 + \$6,264 “spent” in Nov’24 + Dec’24 on Stratum-1 servers, monitoring, demos, sources.easybuild.io, debugging (build) issues, Slurm clusters (build bot), testing on GPU nodes, ...
- **Bulk of consumed credits due to EESSI build-and-deploy bot**
- Regular sync meetings with AWS - more sponsored credits have been provided for coming months

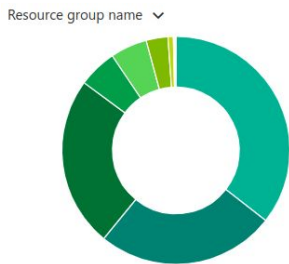
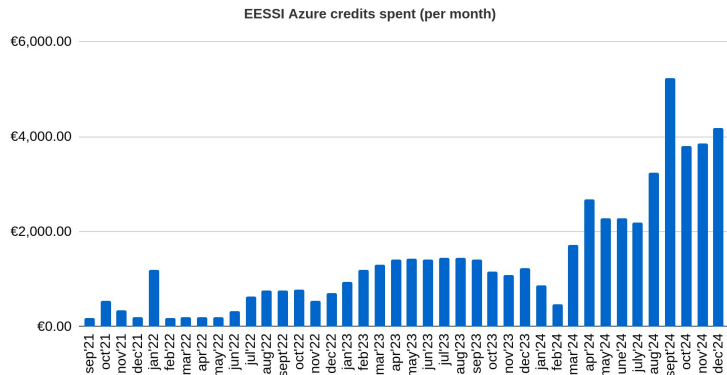
EESSI AWS credits spent (per month)



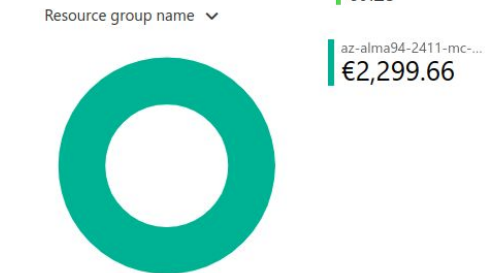
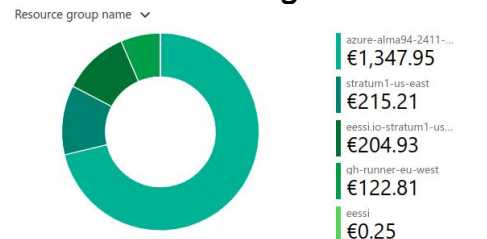
Sponsored Azure credits



- Ask in #azure-resources Slack channel to get access!
- In Nov+Dec'24: €3,853+€4,191 worth of credits spent
- Used for: **Slurm cluster for bot (Zen4)**, Stratum-1 mirror servers, GitHub Runners, GPU nodes, ...
- *Note: consumed credits for Dec'24 are known to be partial, due to change in how accounting is done*
- Ongoing discussions to extend sponsored credits into 2025



Nov'24 (€3,853)



Dec'24 (€4,191)

[Kenneth, Bob]

EESSI Governance - (interim) Steering Committee (1/2)

- Increasing popularity & recognition for EESSI
- Wish for some formal organisation that ensures sustainability of EESSI
- (interim) Steering Committee <https://eessi.io/docs/governance>
 - Kenneth/Lara, Alan/Davide, Bob/Henk-Jan, Caspar/Satish, Thomas/Terje
- Primary task for interim Steering Committee is to set up governance for EESSI, and find out what fits goals and community best ...

Perfectly fine if others in the EESSI community contribute to that process.

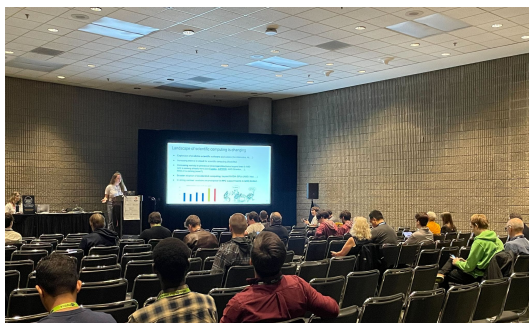
EESSI Governance - (interim) Steering Committee (2/2)

- 1st meeting, Tue 7 Jan'25
 - Choose a leader for the EESSI iSC: Kenneth
 - Discuss responsibilities of the EESSI iSC: governance structure, policies, strategy
 - iSC meeting frequency: quarterly, with exceptions when needed
 - Status and future of EESSI: mature, #software, training; need more GPU & uptake
 - Integration of EESSI in the EuroHPC Federation Platform (EFP)
 - Future funding opportunities
 - AOB: Code-of-Conduct for EESSI
- Next meetings: topical meeting on Tue 11 Feb 2025 (to discuss potential governance structures for EESSI) + quarterly meeting on Tue 1 April 2025

EESSI @ Supercomputing'24



- 17-22 Nov 2024 in Atlanta, Georgia (US)
- Birds-of-a-Feather session on EESSI, slides [here](#)
- Presentation at Microsoft Azure booth at SC'24 exhibit
- **Handover of HPCwire award for EESSI**
- Giveaway of two Raspberry Pi 5 starter kits, sponsored by DoltNow



[Kenneth, Lara, Helena, Eli, ...]

Other past webinars/presentations on EESSI

- EPICURE webinar (Fri 13 Dec'24 14:00-15:30 CET), **recording available**

Building Software With Ease: an Introduction to EasyBuild

Includes overview of how to install software on top of EESSI with EasyBuild

<https://epicure-hpc.eu/2024/11/29/webinar-building-software-with-ease-an-introduction-to-easybuild>

- Talk at the SURF Advanced Computing User Day 2024

(Thu Dec'24 14:30-14:55 CET in Utrecht)

Keeping it Simple, Keeping it EESSI: Updates from 2023-2024

<https://pretalx.surf.nl/acud-2024/talk/SUCPTY/>

slides available [here](#)

Upcoming webinars/presentations on EESSI

- HiPEAC 2025, 20-23 Jan 2025, Barcelona <https://www.hipeac.net/2025/barcelona>
 - [Presentation](#) (20 Jan) and [demo](#) + [half day tutorial](#) (both 22 Jan)
- HPC devroom @ FOSDEM'25, Sat-Sun 1-2 Feb 2025, Brussels
 - <https://fosdem.org/2025/schedule/track/hpc> (on Sunday)
 - Making Data Fun Again: Extending EESSI to improve Research Data Management (*by Thomas*)
 - EuroHPC FP: a Federated Platform for HPC Infrastructure in Europe, Built with Open Source Software (*by representative of EFP consortium*)
 - *All talks are recorded and live-streamed!*
- EasyBuild User Meeting 2025: 25-27 March in Jülich (Germany) - <https://easybuild.io/eum25>
 - Program to be determined, but likely one day mostly focused on EESSI

Frequency of EESSI update meeting

- From now on EESSI update meetings will be **bi-monthly**
- First Thursday of the month at 14:00 CE(S)T, only in odd months
- Next meetings:
 - Thu 6 March 2025 14:00 CET (13:00 UTC)
 - Thu ~~4 May~~ 8 May 2025 14:00 CEST (12:00 UTC)
 - Thu 3 July 2025 14:00 CEST (12:00 UTC)
 - Thu 4 Sept 2025 14:00 CEST (12:00 UTC)