



# EESSI Happy Hour

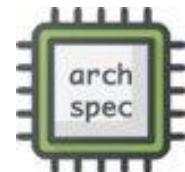
Mondays at 14:00 CE(S)T

*Topic Series: Scaling Software Builds Across Architectures with Automation*

<https://www.eessi.io/docs/training/2025/happy-hours-sessions>



*Current session: Goals and Design Decisions Behind a Multi-Architecture Build Bot*  
<https://www.eessi.io/docs/training/2025/happy-hours-sessions>



Streaming Optimised  
Scientific Software

**E E S S I**  
EUROPEAN ENVIRONMENT FOR  
SCIENTIFIC SOFTWARE INSTALLATIONS

Website: [eessi.io](http://eessi.io)

EESSI support portal:

[gitlab.com/eessi/support](https://gitlab.com/eessi/support)

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## Session Highlights:

- Scientific computing depends on ever growing ecosystem of software
  - Nature'23: 100k, PyPI: 700k, CPAN: 225k, CRAN: 23k, Julia: 10k, EasyBuild: 3k+ xk extensions
- Software is expected to "just work" on HPC systems, cloud instances & laptops
- Building (from sources) & maintaining software stack is
  - Time-consuming, error-prone & duplicated across sites
- EESSI to the rescue? Yes, but it requires tooling, so the sheer size is manageable
- **How many installations\* in EESSI today?** (\*) any software, any version, any architecture



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## Session Highlights:



1. Independent of whom triggers build or where it runs
2. Sometimes one needs rebuilding
3. Taking humans out of the loop\* for error-prone repetitive work
4. Avoid wasting scarce build resources
5. Cope with *MORE*: packages, architectures, sites, contributors



CernVM-FS



EASYBUILD

Lmod





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## Session Highlights:



6. If it's too hard to use, only experts will do → new bottleneck
7. Different scenarios need different workflows (build + test)
8. Cope with differences of build sites
9. Prevent unwanted changes that may compromise the stack
10. Confidence that installations are done correctly & transparently



CernVM-FS



EASYBUILD



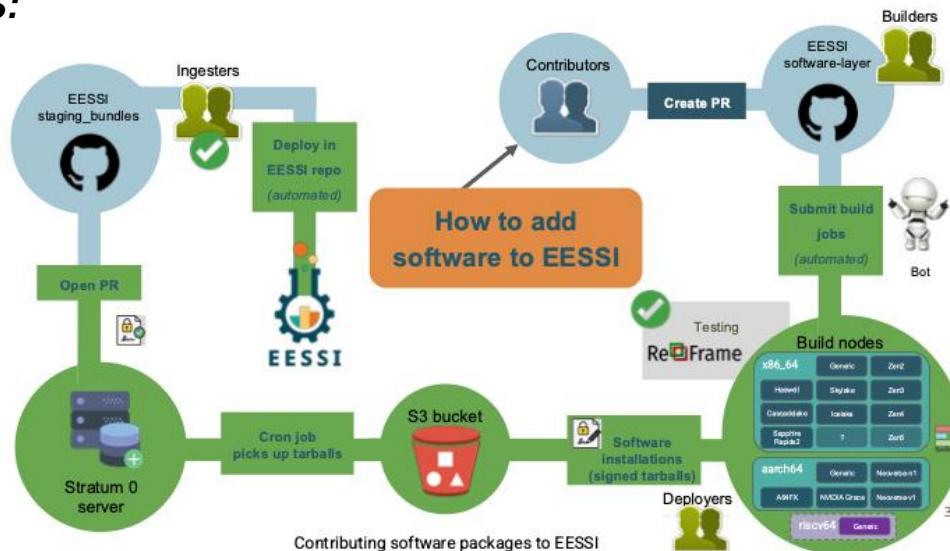
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**EASYBUILD**

**Lmod**





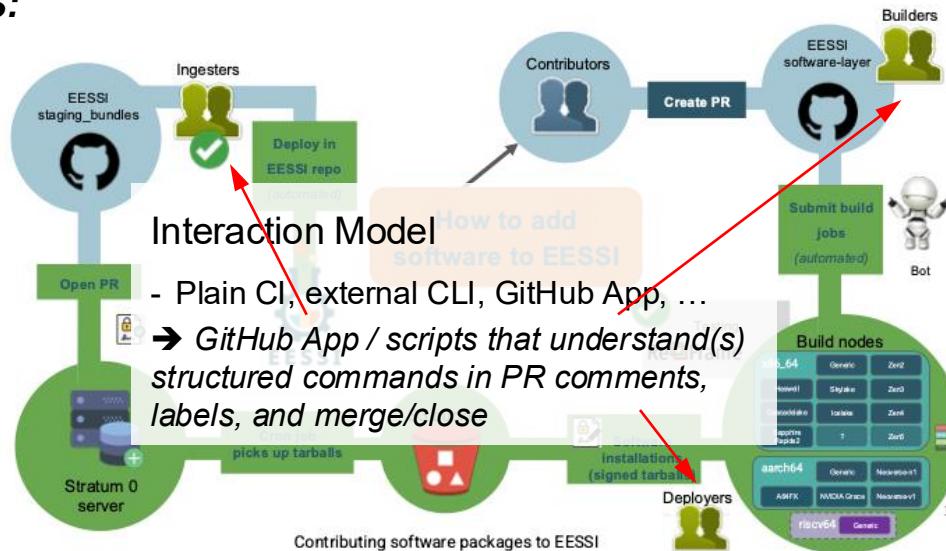
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## **Session Highlights:**



## Goals and Design Decisions Behind a Multi-Architecture Build Bot



CernVM-FS



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EASYBUILD

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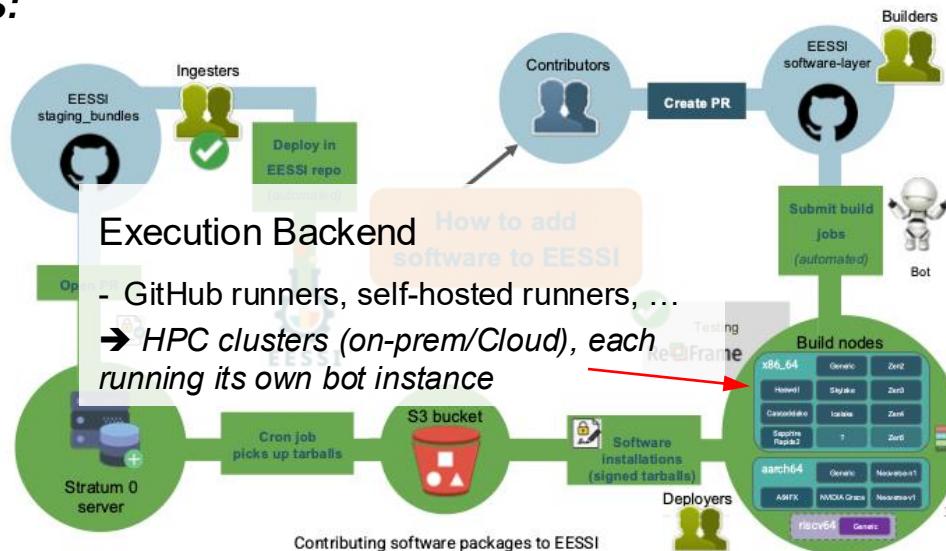
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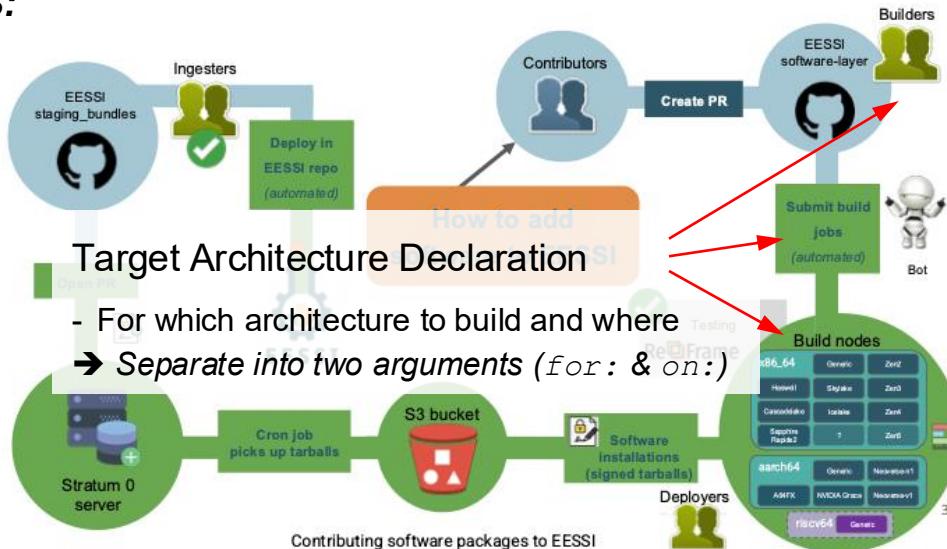
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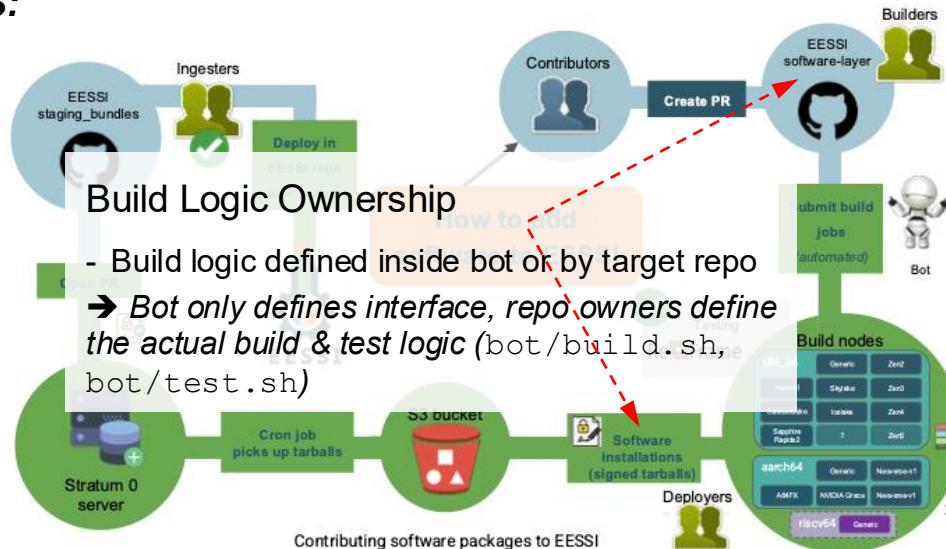
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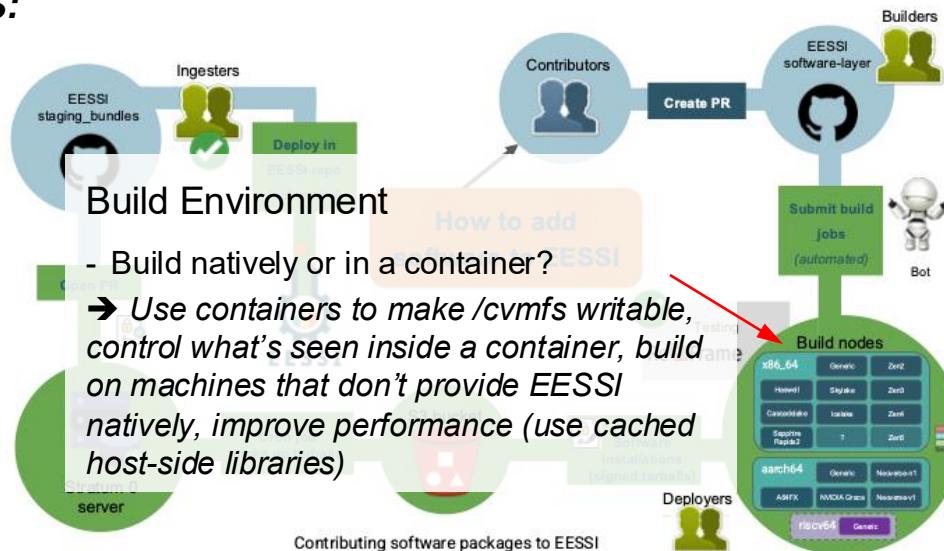
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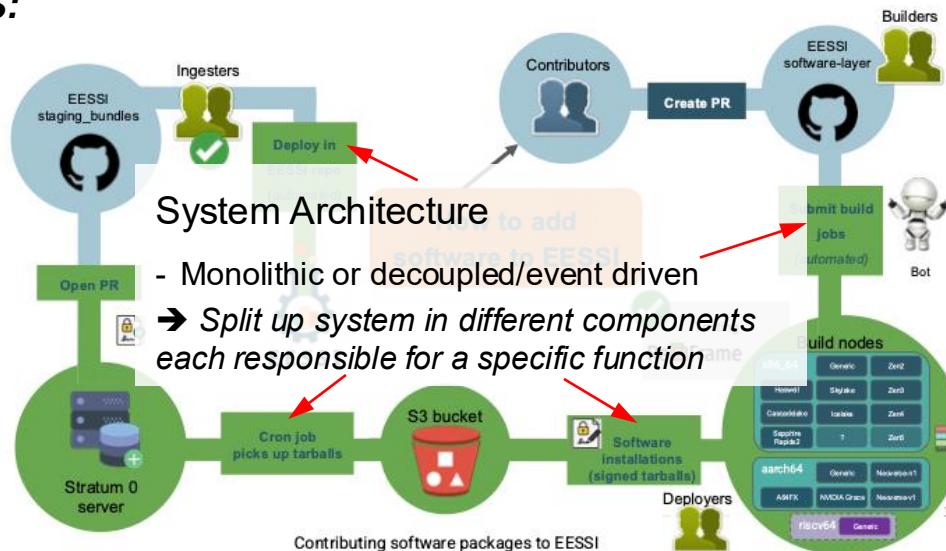
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CernVM-FS



EasyBuild

EasyBuild

Lmod





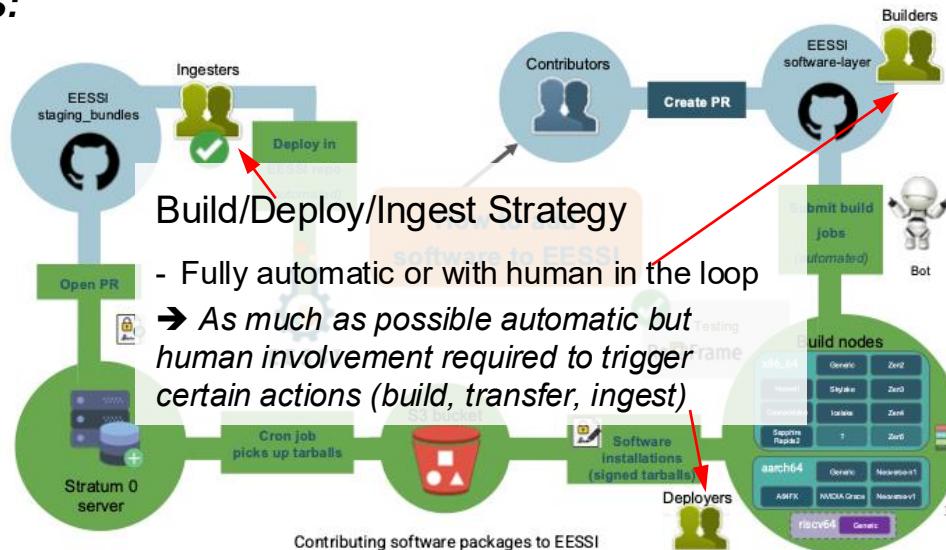
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**EasyBuild**

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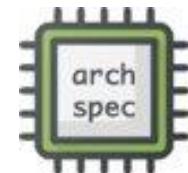
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*Next session: How It Works: Event Triggers, Build Clusters, and Automated Packaging at Scale*

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