



# Hubcast

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## Secure GitHub Mirroring for HPC Environments

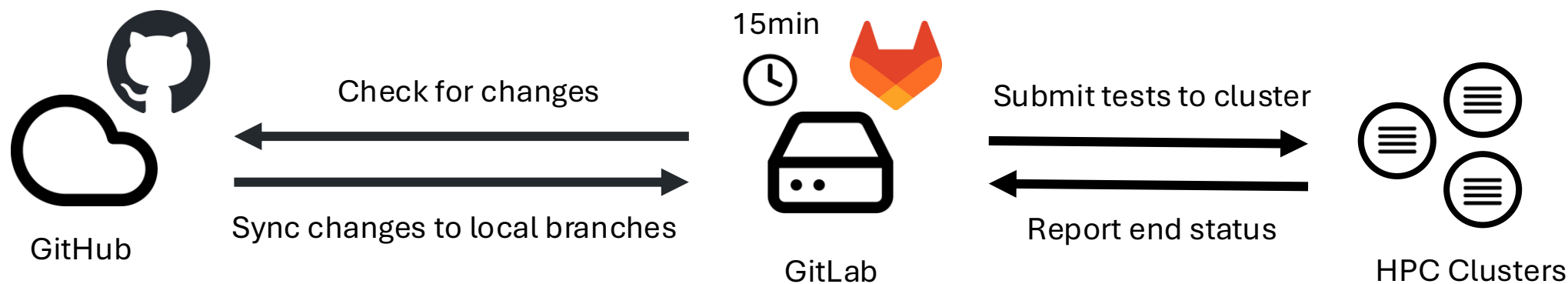
LC User Meeting October 2026

**Alec Scott | Livermore Computing**

**Caetano Melone | Livermore Computing**

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# Existing Ways to Mirror Across Ecosystems



- Downsides to this approach
  - Polling GitHub is slow and API credit intensive
  - For security, GitLab only copies internal branches (not pull requests)
  - CI/CD jobs are spawned off as the team member who setup the integration, not as the person who pushed to GitHub



<https://hpc.llnl.gov/software/hubcast>

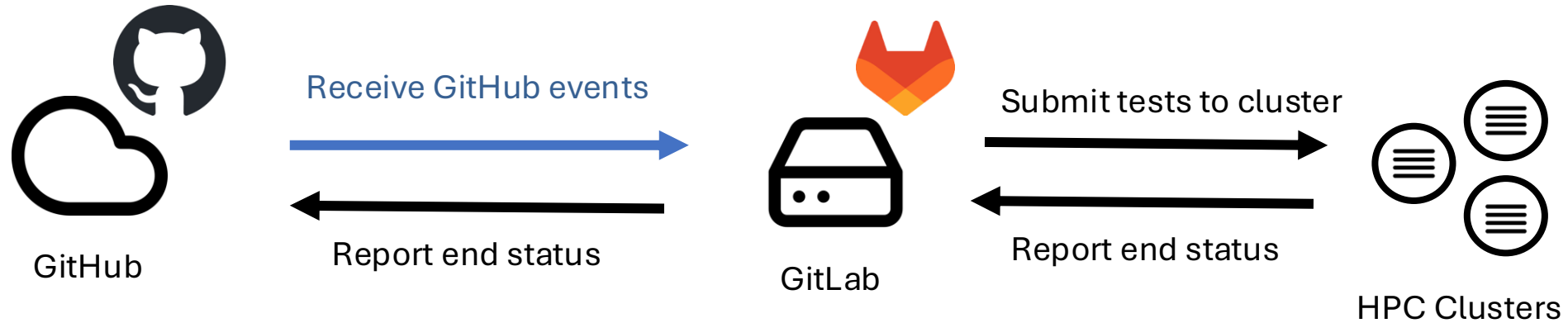
# Configuring Hubcast in a Repository

- Repository owners commit a simple YAML file with the sync target

```
# .github/hubcast.yml
Repo:
  # ../radiuss/umpire.git
  dest_org: radiuss
  dest_name: umpire
  check_name: gitlab-ci
```

- All created/updated/deleted branches and PRs will sync!

# How The CI Status is Rendered on GitHub



**All checks have passed**  
17 successful checks

 **gitlab-ci** Successful in 91m — External pipeline run

# Hubcast Allows for Easy Pipeline Retries

- Sometimes jobs fail due to hardware
- Restart jobs via GitHub web interface
  - Select failing jobs or the whole pipeline

**cmelone** commented 4 minutes ago

**@lc-hubcast** rerun pipeline

**@lc-hubcast** commented 2 minutes ago

I've restarted that [pipeline](#) for you!



**All checks have passed**

1 successful check

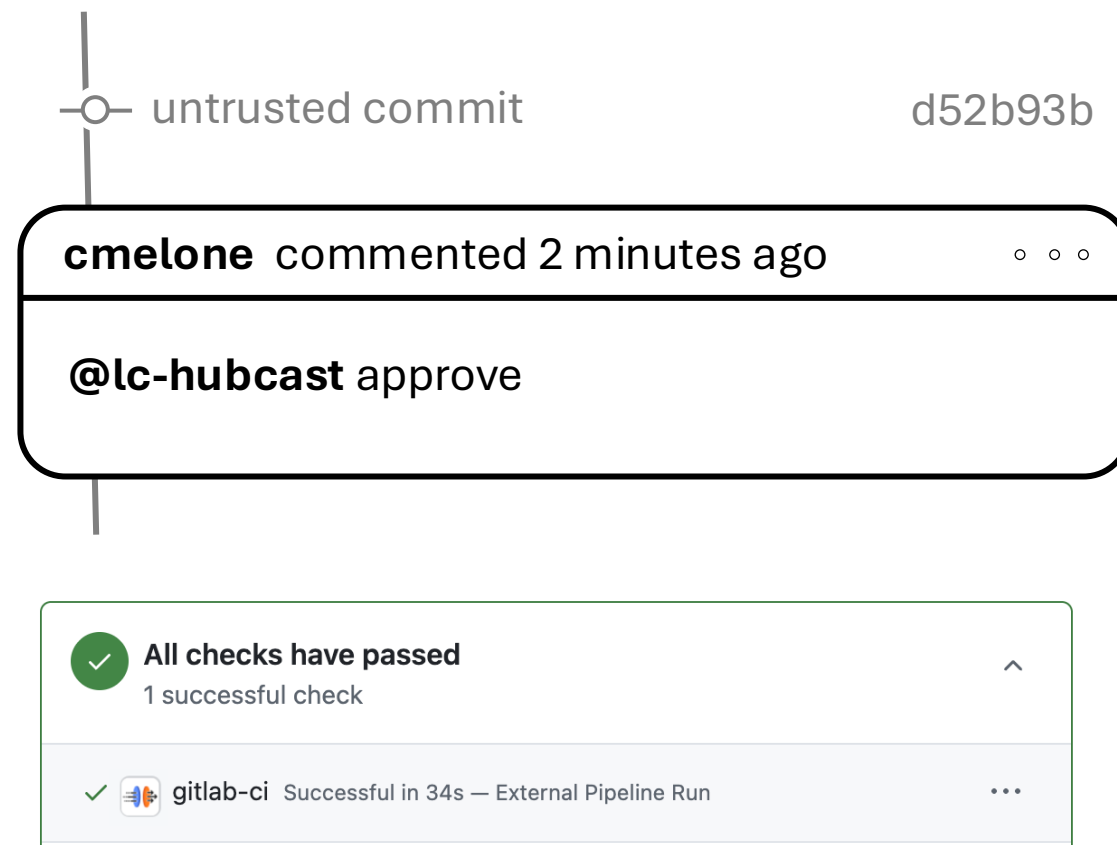


**gitlab-ci** Successful in 34s — External Pipeline Run



# External Contributions are Securely Mirrored

- A maintainer can approve a commit via a review comment to mirror internally
- Pipeline runs under the approver's identity NOT the committer
- Further commits are untrusted until reviewed



# How to Get Involved

- Hubcast is open source!
  - <https://github.com/llnl/hubcast>
  - Feature requests, feedback, and contributions are welcome!
- Reach out if you have questions or want to help:
  - [lc-hubcast@llnl.gov](mailto:lc-hubcast@llnl.gov)
- LC Documentation
  - <https://hpc.llnl.gov/software/hubcast>

