HPSF

HIGH PERFORMANCE
SOFTWARE FOUNDATION

EUM 2026

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Spack Core Developer

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What is HPSF?

Performance

Portability

Productivity

1. A neutral hub for open source, high performance software
2. Supports projects that advance portable software for diverse hardware by:
   - Increasing adoption
   - Aiding community growth
   - Enabling development efforts
3. Lower barriers to productive use of today's and future high performance computing systems

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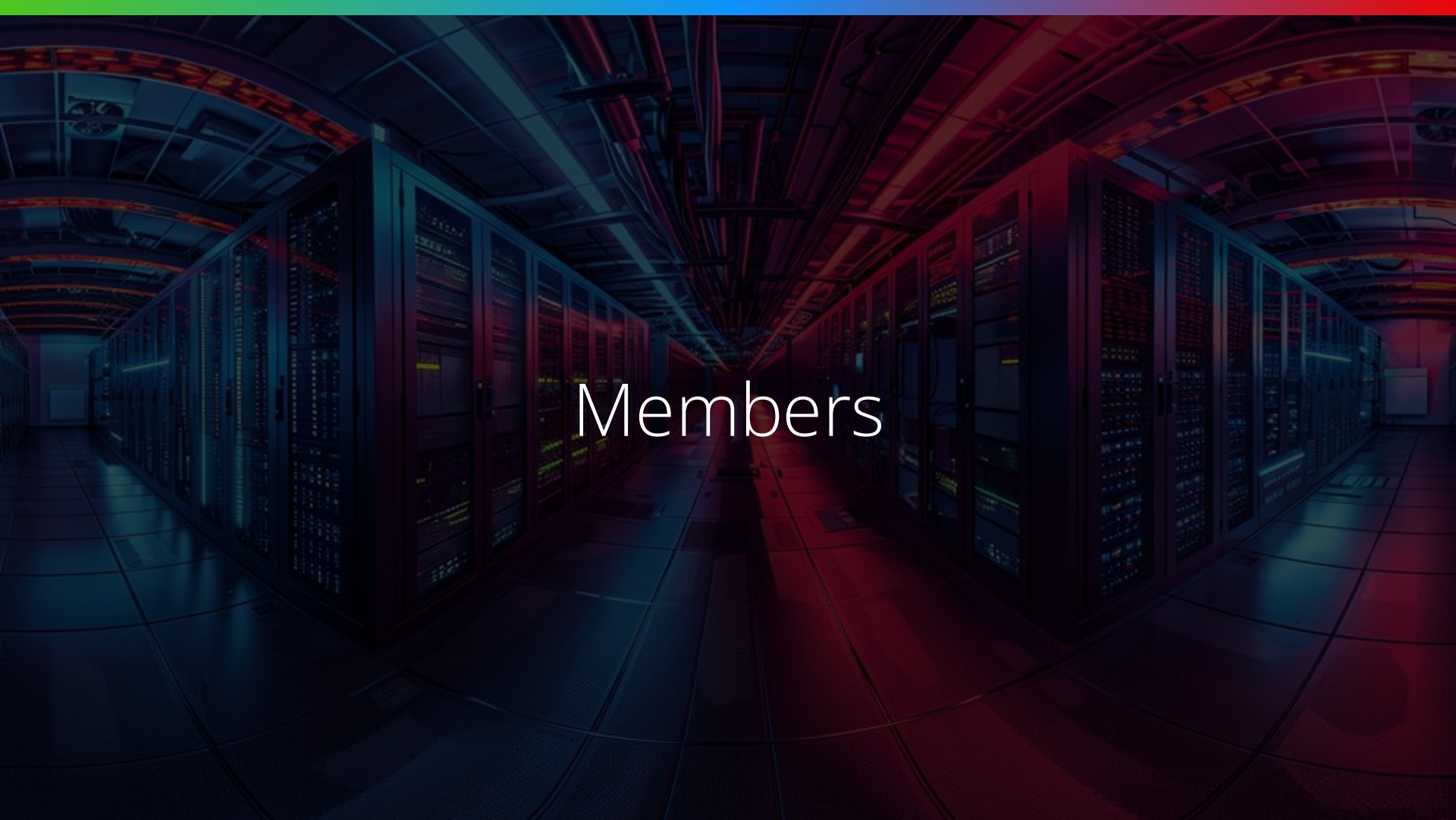
THE LINUX FOUNDATION


Members

What's in it for members?

HPC Providers (HW/SW/Services)

- **Leverage HPSF projects** to enhance your services and products
- Ensure your products are **well supported** by HPSF software
- **Secure mindshare** and collaborate with some of the leading software teams in the HPC space

HPC Sites (Scientists, Analysts)

- **Leverage HPSF projects** to develop, build, deploy and profile your projects
- **Connect with a community** that can help you use the latest high performance computing software and hardware
  - CPUs, GPUs, AI/ML architectures
- **Voice concerns and requirements** to the HPSF community
- **De-risk software decisions** knowing there's a community to rely on

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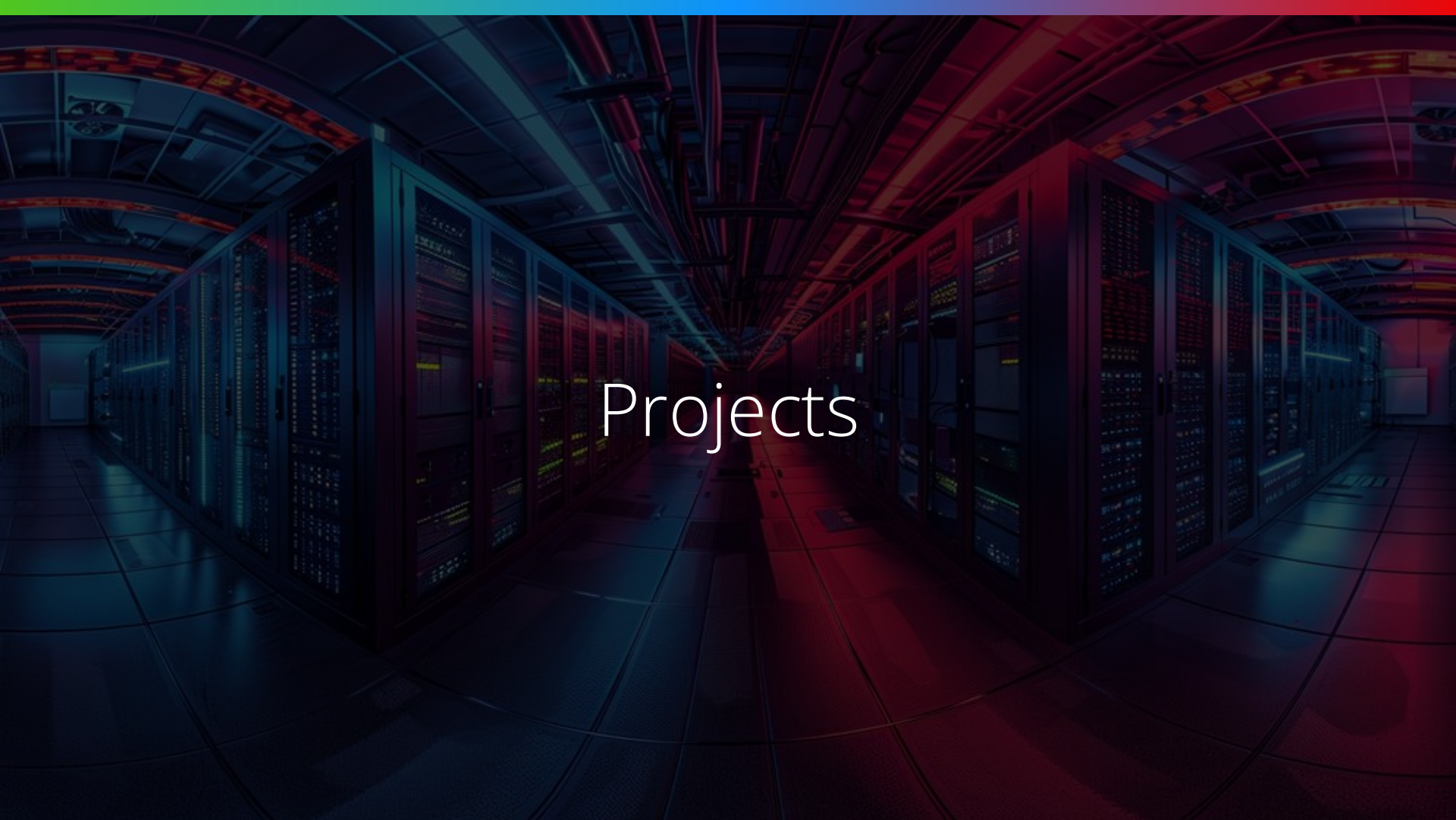
10 new members have joined since launch!

Premier

General

Associate


Projects

What's in it for projects?

- **Build a community** for your project grounded in **neutral open source governance**
- **Find synergies on common needs** with other HPSF projects
  - CI, software engineering best practices, community upkeep, marketing
- **Share your knowledge** with and learn from other high performance software projects
- **Participate in working groups** that aim to bring HPC open source software to the wider computing world

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Why Neutrality?

1. Sustaining OSS projects requires a **community**
2. Building a community requires trust
   - Projects will continue to be available
   - Projects are usable by anyone
   - No single organization can control the direction of the project
   - Projects are open to new contributors and new ideas
3. Trust gets us users; some users become contributors
4. Neutral, open governance ensures that we can build the broadest possible communities

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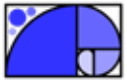
7 new projects have joined since launch


Spack



AMReX



A project lifecycle as a path to sustainability

Emerging

- Committed to open governance
- Working towards best practices
- Important projects for the HPC ecosystem

Established

- Wide usage by at least 3 orgs of sufficient size and scope
- Steady commits from at least one organization
- Robust development practices

Core

- Used commonly in production environments
- Steady commits from *more* than one organization
- Large, well-established project communities
- Sustainable cycle of development and maintenance

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How to join for projects

- Talk to Technical Advisory Council (TAC) members and find two sponsors
- Submit a GitHub issue at https://github.com/hpsfoundation/TAC
- Prepare a presentation on how your project meets lifecycle criteria
- Work with TAC sponsors to schedule presentation to TAC

1. Name of Project
2. Project Description
3. Statement on Alignment with High Performance Software Foundation's Mission
4. Project Website (please provide a link)
5. Open Source License (please provide a link)
6. Code of Conduct (please provide a link)
7. Governance Practices (please provide a link)
8. Two Sponsors from the High Performance Software Foundation's Technical Advisory Committee
9. What is the project's solution for source control?
10. What is the project's solution for issue tracking?
11. Please list all external dependencies and their license
12. Please describe your release methodology and mechanics
13. Please describe Software Quality efforts (CI, security, auditing)
14. Please list the project's leadership team
15. Please list the project members with access to commit to the mainline of the project
16. Please describe the project's decision-making process
17. What is the maturity level of your project?
18. Please list the project's official communication channels
19. Please list the project's social media accounts
20. Please describe any existing financial sponsorships
21. Please describe the project's infrastructure needs or requests

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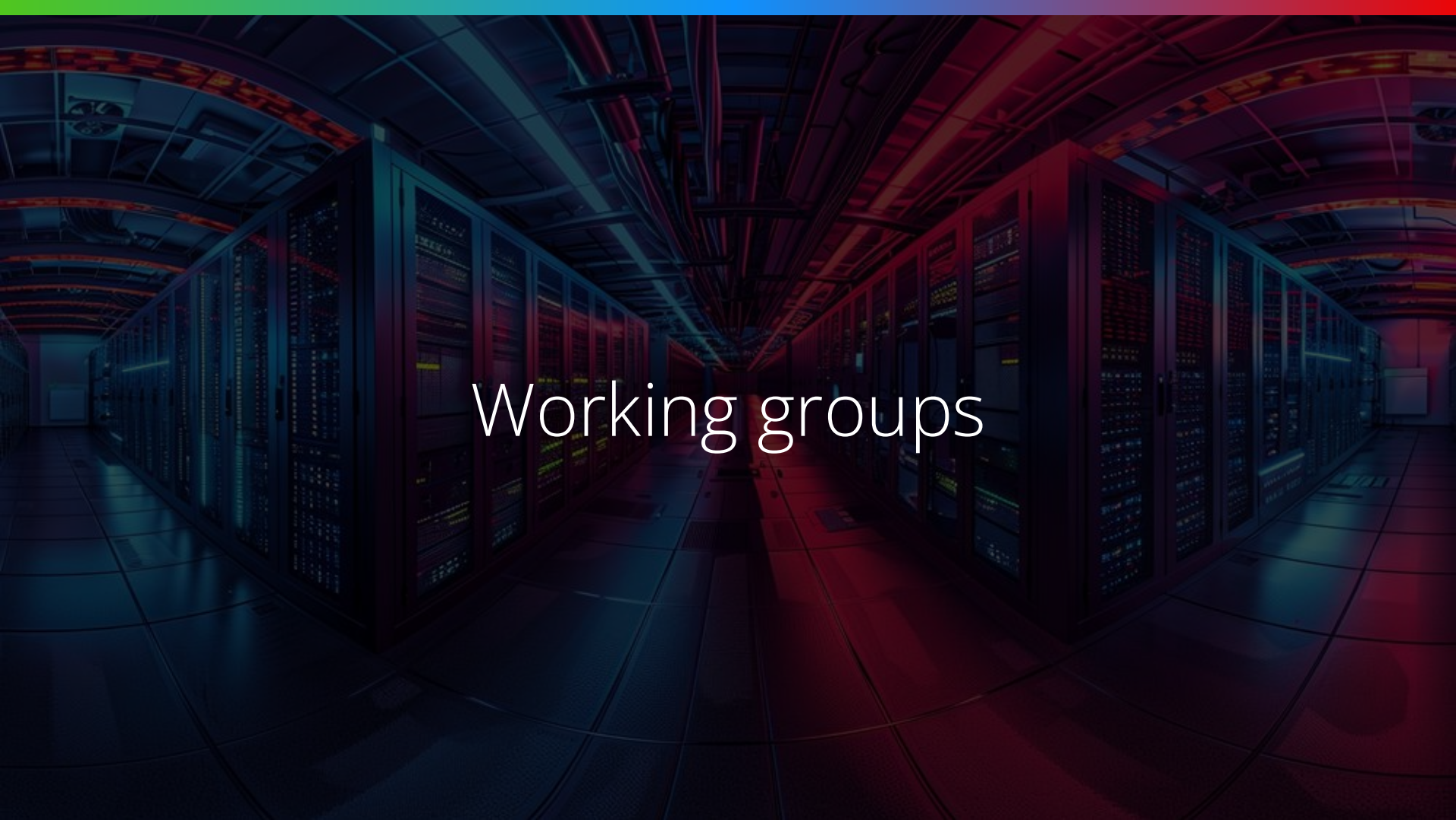
How to join for projects (2)

- Once presented, TAC members vote to accept the project
- Once accepted, project works with the Linux Foundation to establish its
  - Technical Charter
  - Contributor Agreement
- Contributor Agreement is then signed to transfer ownership from the current organization to the Linux Foundation
  - Transfer includes project's names, domain names, logo, etc
- Final steps
  - Move project's repository under a neutral organization
  - Add LF as owner of the repository organization
  - Ensure new contributions adhere to the Developer Certificate of Origin (DCO) process
  - Add LF trademark mention on project's website
- That's it, the project is now a Linux Foundation project under the HPSF 


Working groups

CI/CD Working Group

- CI/CD tools are a key project development need.
- Need access to GPUs, next-gen architectures (not just the major ones)
- Not (easily or cheaply) available on GitHub, GitLab, etc.

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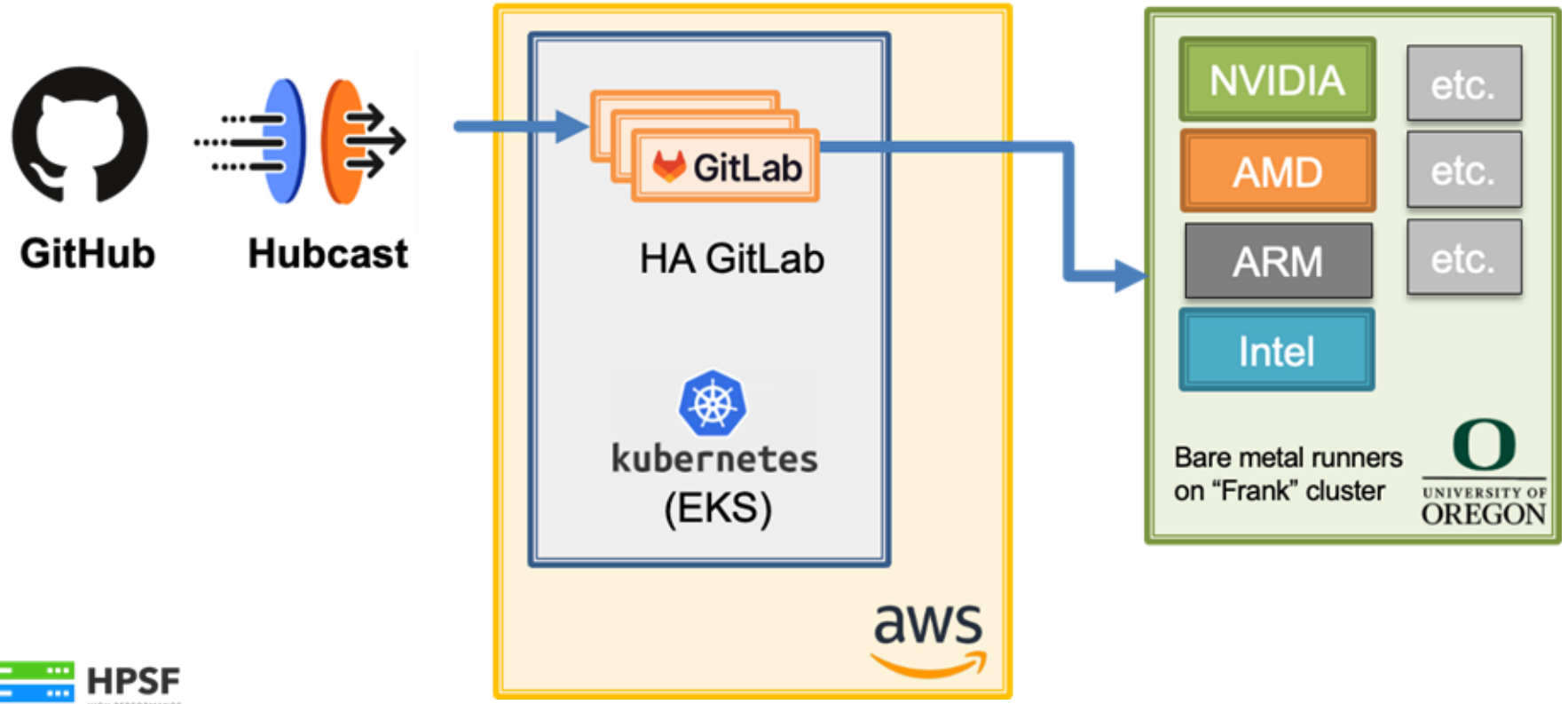
Bringing Infrastructure Together



Achievements (So Far)

Projects on boarded into CI/CD Infrastructure:

- ADIOS2
- Kokkos
- HPCToolKit
- Paraview
- SuperLU
- PETSc
- Spack
- Viskores
- Trilinos

Join the CI/CD Working Group!

- Bi-weekly Virtual Meetings
  - Join **#wg-cicd** on HPSF Slack (**https://hpsf.slack.io**) for an invite link

- Leads
  - Alec Scott (alec@llnl.gov)
  - Zack Galbreath (zack.galbreath@kitware.org)

Benchmarking Working Group

Mission

Benchmark diverse HPC systems and software stacks

Strategy

Develop and maintain reproducible *performance benchmarks*

- Benchmark build instructions
- Benchmark run instructions
- HPC system software stack
- HPC experiments (map benchmarks to systems)

Goals

- Testing/CI
- Collaborate on methodology
- Share insights
- Drive standards for consistent performance evaluation

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Join the Benchmarking Working Group!

- Bi-weekly Virtual Meetings
  - Join **#wg-benchmarking** on HPSF Slack (**https://hpsf.slack.io**) for an invite link

- Leads
  - Olga Pearce (olga@llnl.gov)
  - Looking for co-leads

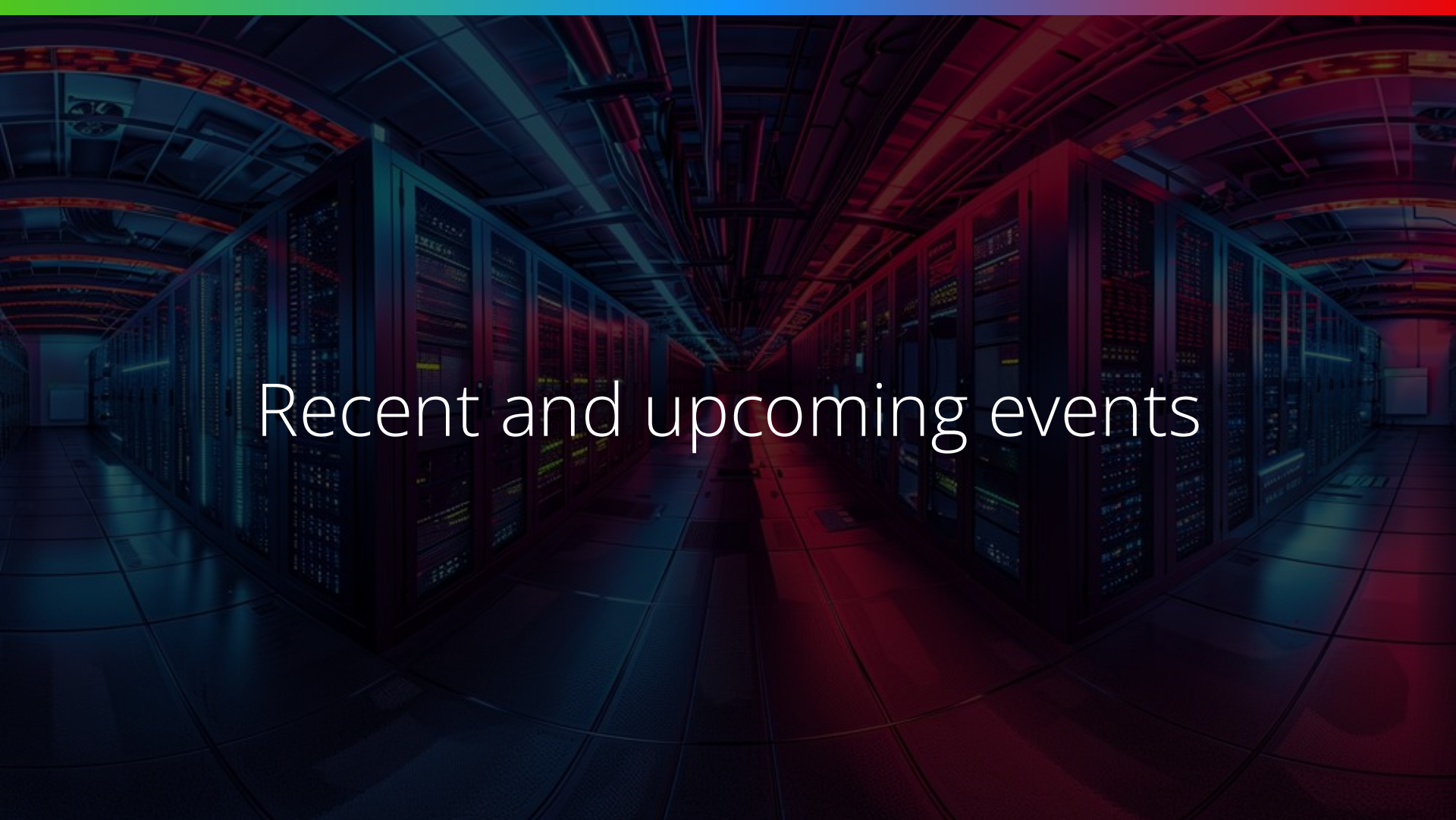
Binaries Working Group

- Installations from Binaries
  - ABI compatibility
  - Decreased burden on HPC sysadmins to provide “everything”
  - Better development workflows for HPC
- Consider security best practices for providing binaries
  - Help define standards around SBOMs used in HPC
  - Work with projects to build signing and verification pipelines
- Facilitate communities around software integration in HPC
  - Knowledge share across HPC ecosystems (EESSI, Spack, Containers)

Join the Binaries Working Group!

- Virtual Meetings
  - First one was held on January 15
  - Join **#wg-binaries** on HPSF Slack (**https://hpsf.slack.io**) for an invite link

- Leads
  - Ryan Krattiger (ryan.krattiger@kitware.com)


Recent and upcoming events

HPSF

CONFERENCE 2026

MARCH 16 - 20 | CHICAGO, IL

#HPSFcon

Upcoming events

May 2026

WED
6

May 6 - May 8

OpenCHAMI Developer Summit @ UCL 2026

Event: OpenCHAMI Developer Summit @ UCL 2026 Date: May 6-8, 2026 (Optional Day 0 on May 6th at Cambridge; Main Summit May 7-8 at UCL) Location: University College London, London,...

June 2026

MON
22

June 22 - June 26

ISC High Performance 2026

Congress Center Hamburg Congresspl. 1, 20355, Hamburg, Germany

ISC 2026 connects scientists, engineers, and technology leaders to explore the future of high performance computing. We will examine today's breakthroughs in artificial intelligence, high performance computing and quantum technologies,...

MON
29

June 29 - July 1

The PASC26 Conference

University of Bern & PHBern

The Platform for Advanced Scientific Computing (PASC) Conference, will be held from June 29 to July 1, 2026, at University of Bern & PHBern, Switzerland. HPSF will be participating in a Minisymposia.

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