HPSF

HIGH PERFORMANCE
SOFTWARE FOUNDATION

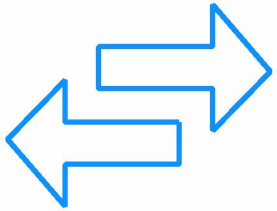
FOSDEM 2026

Xavier Delaruelle, CEA
Member of HPSF Technical Advisory Council

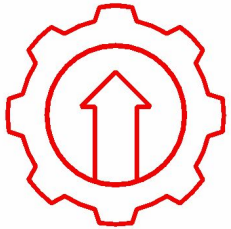
February 1, 2026

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

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 Users (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!

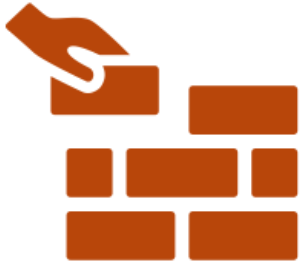
Premier

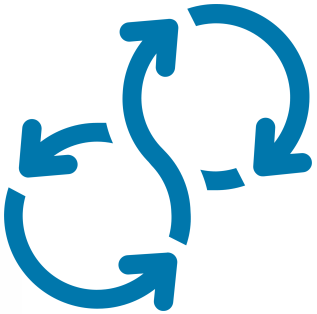
General

Associate

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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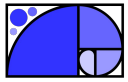
Why Neutrality?

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 one 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

7 new projects have joined since launch


Spack



AMReX



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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

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 🎉

Feedback from a project that recently joined

- Joining the foundation helped to structure the governance of the project
- TAC was welcoming and supportive during the audition

- Being under a neutral body help to get more interest
  - We are seeing now more contributions

- LFX platform provides useful resources for the project
  - domain name, mailing-list, zoom room for meeting, etc

- HPSF outreach team is of great help to give the project more visibility
  - Social media & blog posts
  - Booths and presentations at major conferences
  - Project benefits from the visibility of the foundation

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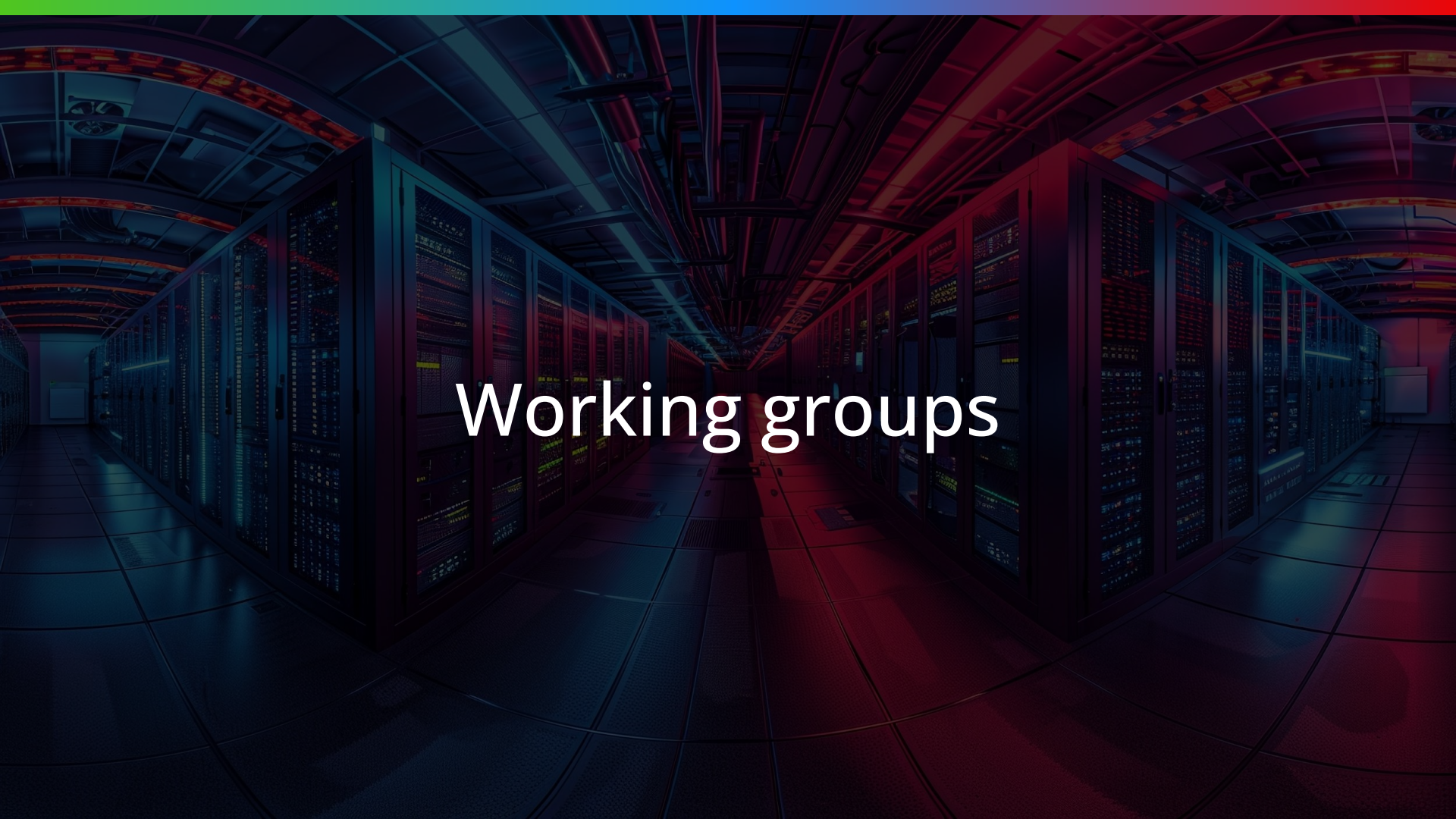
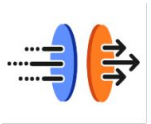
ENVIRONMENT MODULES

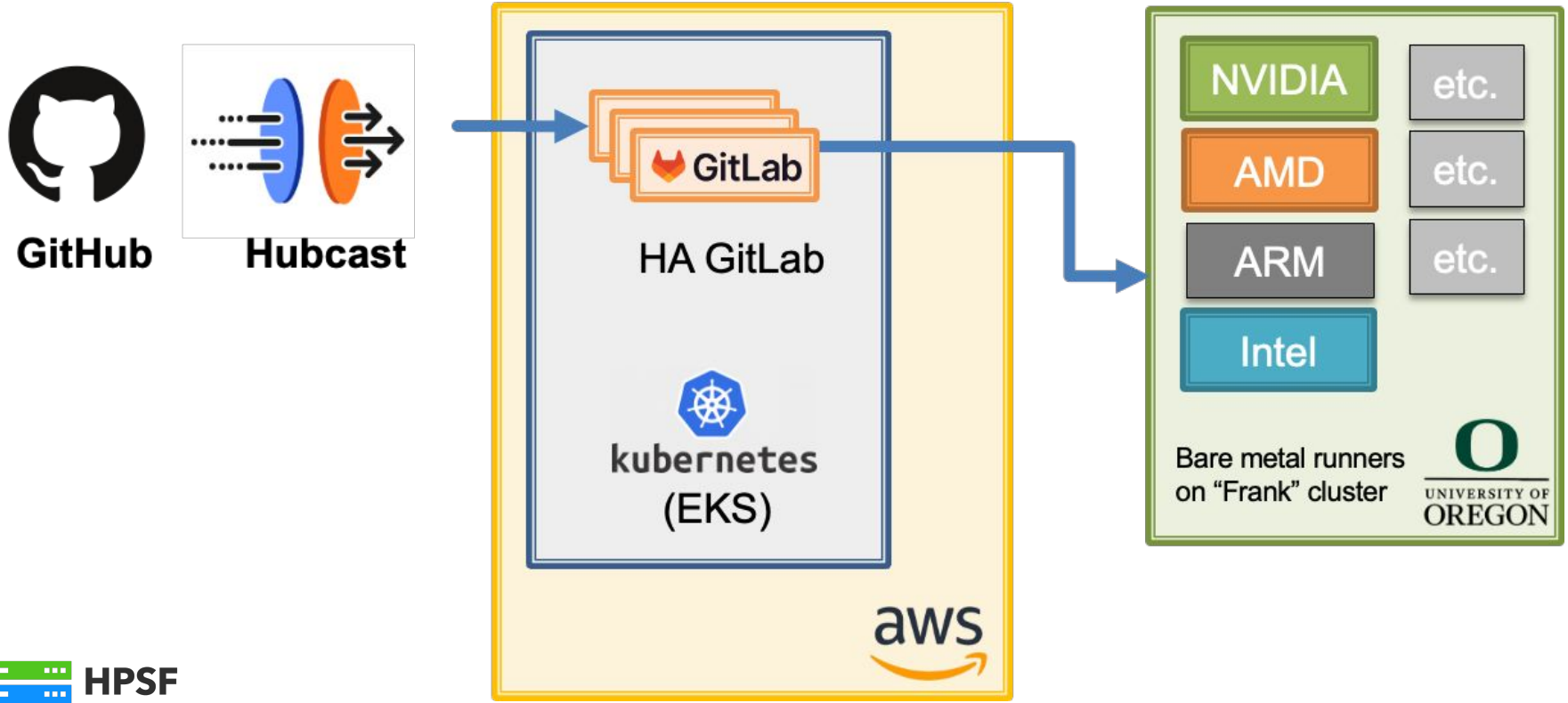

Working groups

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.



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

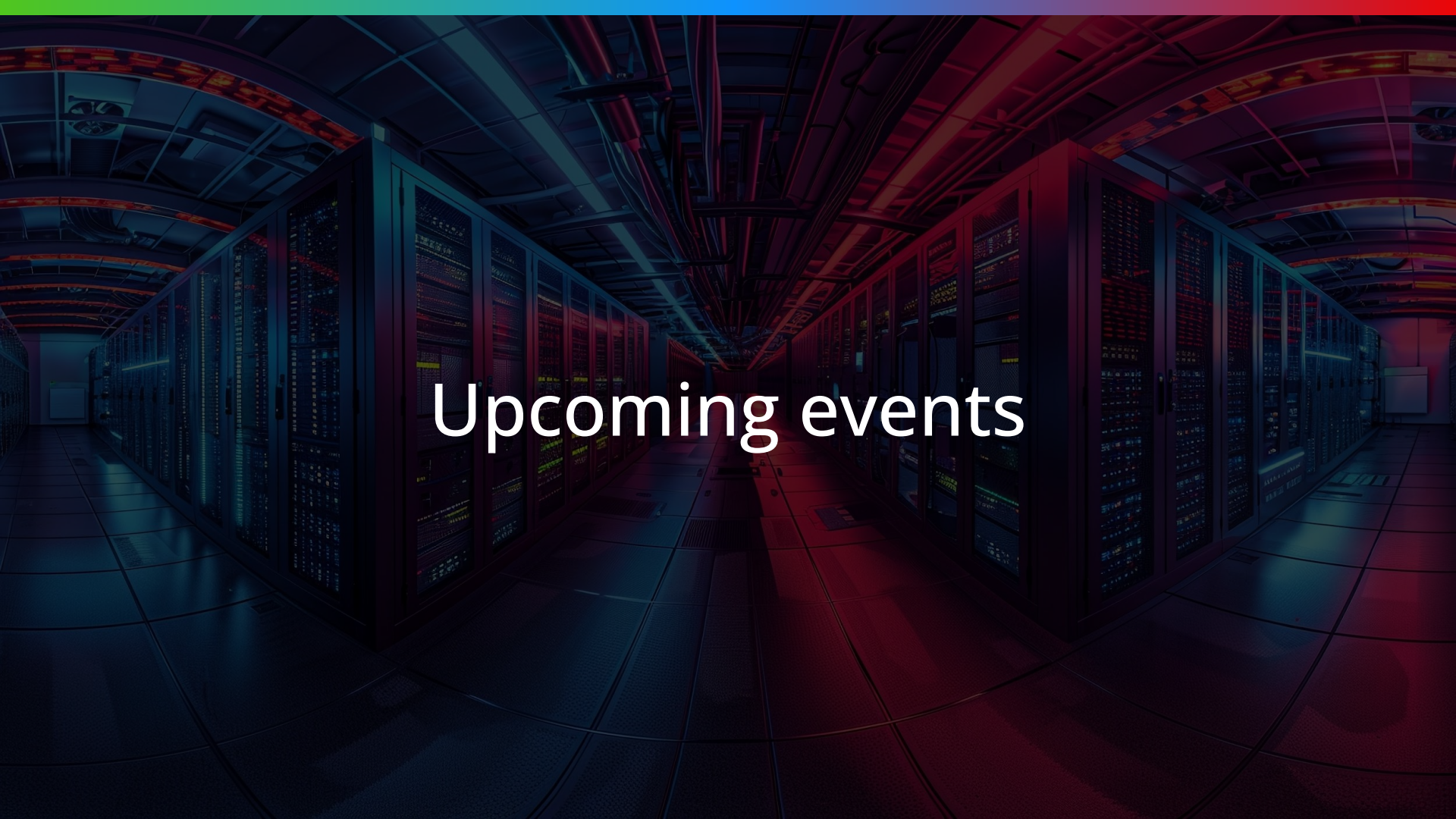
Binaries Working Group

- 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)


Upcoming events

Upcoming events: HPSF Community Summit ‘26

A European Workshop on high-performance software

Date: February 25 to 27

Location: Technical University of Braunschweig (“close” to Berlin), Germany

General sessions + kokkos, TRILINOS & WARPX (Euro-)user/developer meetings

- Register: https://events.academiccloud.de/event/143/registrations/152/
- Event website: https://events.academiccloud.de/event/143/overview
- Open call for paper ended on January 31
- Schedule to be announced soon

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CONFERENCE 2026

MARCH 16 - 20 | CHICAGO, IL

#HPSFcon

Upcoming events: HPSF Conference ‘26

Conference on Software Communities, for Users and Contributors

March 16 to 20

- HPSF, how to steer the foundation
- Project community meetings
- Schedule published
  https://hpsf2026.sched.com/

Registrations are now open!

HPSF Conference ‘26

Topics

- Building and Sustaining Communities
- User Experiences
- Contributor Experiences
- Project and Ecosystem Growth
- Productivity, Performance, and the HPC Pipeline
- Trust, Security, and Open Collaboration
- Emerging Technologies and the Future of HPC

Schedule at a glance

Monday+Tuesday+Wednesday morning:

- Keynotes, Breakout Sessions

Wednesday afternoon+Thursday+Friday:
project meetings

- AMRex
- Apptainer
- Chapel
- Charliecloud
- Environment Modules
- Flux Framework
- Kokkos
- OpenCHAMI User Summit
- Spack
- Trilinos User Group (TUG)

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hpsf.io

What have we done so far?

- Spun up governance (GB, TAC)
- Grew members and projects
- Established project lifecycle criteria
- Started Working Groups
- Supported Projects
  - Resources like Slack
  - Project websites, logos
  - Help with onboarding to HPSF
- Organized HPSFCon!

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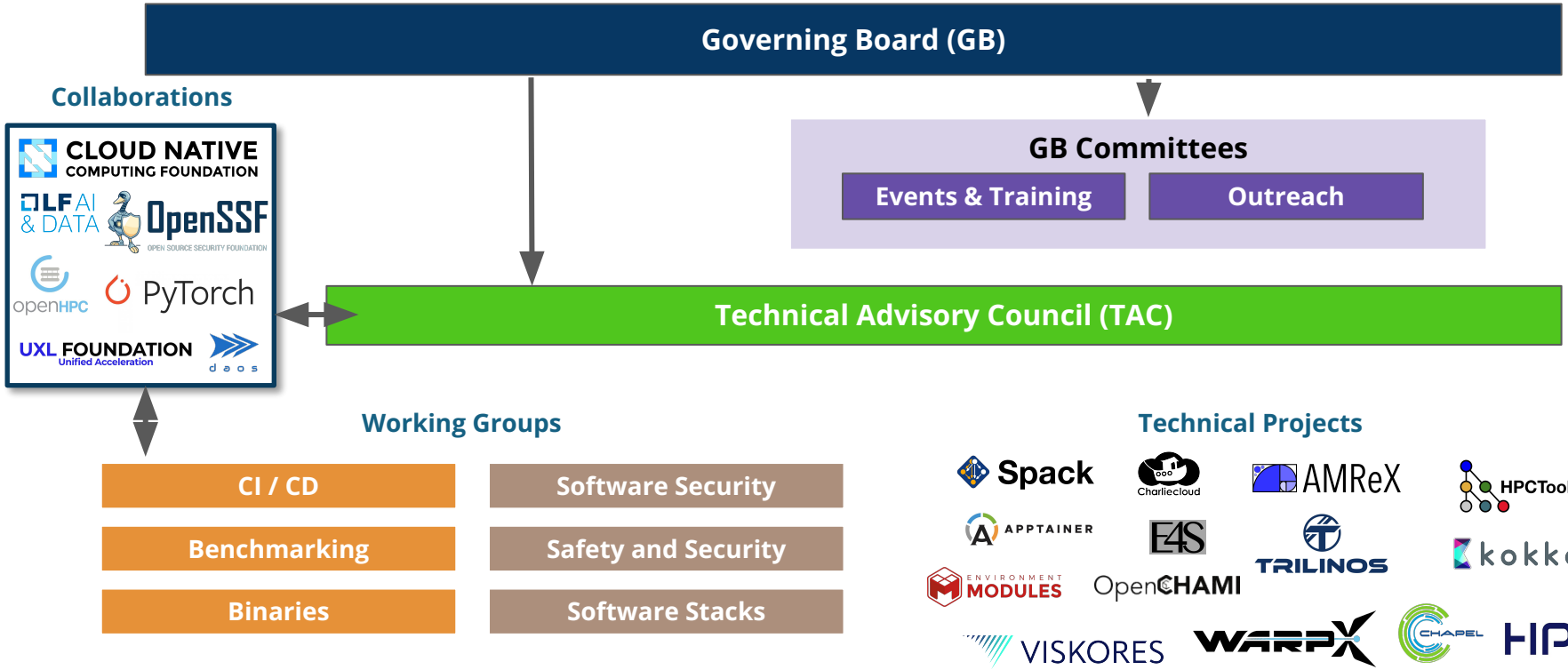
HPSF Governance is in Full Swing



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