Special Analysis

The High Performance Software Foundation: Updates and Opportunities

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OVERVIEW

The High Performance Software Foundation (HPSF), launched in 2024 under the auspices of the Linux Foundation, continues to mature as a neutral, community-driven home for performance-critical, open-source software spanning high-performance computing (HPC) and AI. As discussed in our prior analysis last fall, HPSF was created to address a long-standing gap in the HPC ecosystem: the absence of a trusted, vendor-neutral forum focused specifically on the sustainability, portability, and long-term stewardship of high-performance software.

Since its announcement on May 13, 2024, and the initial Birds-of-a-Feather (BOF) session the same day at ISC24, HPSF has progressed beyond its formative phase. Membership has grown, the number of hosted projects has increased, and community activities have expanded in scope and visibility. These developments reinforce HPSF's role as connective tissue across vendors, users, and software projects at a time when architectural diversity and software complexity continue to accelerate.

Recent Growth

Over the past year, HPSF has seen measurable growth across multiple dimensions:

- **Membership expansion.** New organizations have joined across hardware vendors, cloud providers, software companies, and end-user institutions. Notably, Microsoft joined HPSF, signaling increasing interest from large cloud and platform providers in engaging directly with the HPC software community through open governance.
- **Product and project growth.** The number of HPSF-hosted software products has increased, spanning build and deployment tools, performance-portable programming models, solver frameworks, and performance analysis capabilities. This growth reflects both organic community interest and a clearer understanding of HPSF's project lifecycle model (i.e. Emerging, Established, Core).
- **Community infrastructure.** Working groups focused on continuous integration, benchmarking, and outreach have continued to mature, providing shared services and coordination that individual projects would struggle to sustain on their own.

Collectively, these trends point to a foundation that is no longer simply organizing itself but actively supporting a growing portfolio of software and stakeholders.

LOOKING AHEAD: WHAT TO EXPECT IN 2026

HPSF leadership has outlined several priorities for 2026:

- Continued onboarding of strategically important software projects, particularly those addressing portability, performance validation, and developer productivity.
- Deeper investment in shared CI/CD (Continuous Integration and Continuous Delivery/Deployment) and benchmarking infrastructure to help projects scale across increasingly heterogeneous platforms.
- Expanded community engagement through events, training, and collaboration opportunities that lower barriers for new participants.

These efforts are aimed less at rapid expansion for its own sake and more at ensuring that growth remains aligned with the foundation's core mission of sustainability and collaboration.

Why Microsoft Joined HPSF

In a recent blog reflecting on its first months as a member, Microsoft articulated its motivation for joining HPSF as follows:

> *"HPSF provides a neutral forum where vendors, users, and open-source projects can collaborate on the hard problems of performance, portability, and sustainability—problems that no single organization can solve alone."*

This perspective mirrors a broader industry recognition: as HPC and AI workloads increasingly intersect with cloud platforms and diverse accelerators, shared investment in open, community-governed software infrastructure becomes strategically important.

Opportunities to Engage: HPSF Events and Community Presence

HPSF hosts and participates in several key events in 2026:

- **HPSF Community Summit 2026** – February 25, 2026, Braunschweig, Germany: A focused forum for project teams, users, and members to discuss priorities, share experiences, and shape near-term activities.
- **HPSF Conference 2026** – March 16 – 20, 2026, Chicago, IL, USA: A multi-day event bringing together the broader HPC and AI software community for technical updates, cross-project collaboration, and strategic discussion.

In addition, HPSF members and project teams are expected to be active at major international conferences, including **ISC26** and **SC26**, where informal meetings, Birds-of-a-Feather sessions, and hallway discussions often provide some of the most valuable opportunities for engagement.

Benefits of HPSF Participation

Participation in HPSF can take several forms, each offering distinct value:

- **Members** have early visibility into software roadmaps, opportunities to align internal investments with community-maintained projects, and a forum to engage constructively with both users and developers.
- **Product contributors** benefit from neutral governance, shared infrastructure (CI, benchmarking, security processes), and increased exposure to a broad and diverse user base.
- **Organizations that play both roles** are often best positioned to close feedback loops between real-world requirements and upstream software development.

Importantly, HPSF does not replace existing project communities or vendor ecosystems. Instead, it complements them by providing coordination mechanisms that reduce duplication of effort and improve long-term sustainability.

TABLE 1

HPSF Growth

Metric	At ISC24 Launch	Current	Highlights
Number of Member Organizations	14 members	28 members	Membership doubled, including major cloud and research organizations such as Microsoft joining as a Premier member.
Number of Hosted Projects	6 projects	13 projects	HPSF has expanded its hosted project portfolio by more than 100%, adding three new projects in 2025 (OpenCHAMI, Chapel, Modules) and extending support across key HPC and software ecosystem areas.
Number of Events	Initial ISC24 BOF	5+ tracked events	Since launch, HPSF has established a program of community engagement including its inaugural HPSF Conference 2025, HPSF Community Summit 2026, the HPSF Conference 2026, plus participation at ISC26 and SC26.

Source: Hyperion Research, 2026

ANALYST COMMENT

The High Performance Software Foundation continues to fill a role that has long been missing in the HPC ecosystem. As hardware diversity expands across CPUs, GPUs, AI accelerators, and emerging architectures, the cost of fragmented vendor-specific software strategies grows. At the same time, no single vendor or funding agency can realistically sustain the full software stack required by modern scientific and AI workloads.

HPSF's value lies not in promoting a single technical solution but in providing a neutral, trusted forum where coordination can occur across organizational and national boundaries. Its emphasis on open governance, shared infrastructure, and community-led decision-making reflects a broader maturation of scientific software as critical infrastructure rather than disposable tooling.

Its robust growth in community members, projects, working groups, and outreach events indicate wide community recognition. One strong recognition of this growth is that HPSF won the 2025 HPCWire Best HPC Collaboration award in both the Readers' and Editors' category.

If current trends continue, HPSF is well positioned to become a durable anchor for performance-portable software collaboration—one that helps align incentives across vendors, users, and developers while preserving the openness that has historically driven innovation in high-performance computing.

About Hyperion Research, LLC

Hyperion Research provides data-driven research, analysis and recommendations for technologies, applications, and markets in high performance computing and emerging technology areas to help organizations worldwide make effective decisions and seize growth opportunities. Research includes market sizing and forecasting, share tracking, segmentation, technology, and related trend analysis, and both user & vendor analysis for multi-user technical server technology used for HPC and HPDA (high performance data analysis). Hyperion Research provides thought leadership and practical guidance for users, vendors, and other members of the HPC community by focusing on key market and technology trends across government, industry, commerce, and academia.

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