# HPC SYSPROS Member Survey 2023

THIS FORM IS ONLY OPEN FOR REFERENCE! WE ARE NOT TAKING ANY MORE SUBMISSIONS!

If you are a HPC Systems Professional, then this survey is for you! We would love anyone in our community - compute, storage, network, and facilities staff all are welcome to fill out this survey. Thank you for taking the time to help us understand who our community is and how we can best tailor our efforts to best serve you!

No question is required. We understand the need for some people to remain anonymous. Thank you in advance for answer what you can. If a question doesn't apply to you, feel free to skip it.

1. First/Last Name

_____

2. Email Address

_____

3. Institution

_____

4. What type of institution do you work for?

   *Mark only one oval.*

   ( ) Academic

   ( ) Government

   ( ) Industy

   ( ) Other: _____

5. How is your HPC infrastructure funded (select all that apply)?

*Check all that apply.*

- ☐ Charge backs
- ☐ Direct grants
- ☐ User grants
- ☐ Organizational overheads
- ☐ Wealthy individuals
- ☐ Other: _____

6. What are your roles at your institution (select all that apply)?

*Check all that apply.*

- ☐ Systems Architect
- ☐ Compute System Administrator/Engineer
- ☐ Storage System Administrator/Engineer
- ☐ Networking Administrator/Engineer
- ☐ Facilities
- ☐ Operations Staff
- ☐ Team Leader
- ☐ Group Manager
- ☐ Division Manager
- ☐ CIO/Director
- ☐ Other: _____

7. What is your highest level of education?

*Mark only one oval.*

○ High School Diploma

○ Trade School/Technical Certificiation

○ Some College Classes

○ Bachelor's Degree

○ Masters Degree

○ PhD

○ Other: _____

8. How many years of systems (both HPC, non-HPC, managerial) experience do you have?

*Mark only one oval.*

○ 0

○ 1-2

○ 3-5

○ 5-10

○ 10+

9. How many years of HPC systems (managerial as well) experience do you have?

*Mark only one oval.*

○ 0

○ 1-2

○ 3-5

○ 5-10

○ 10+

10. How many years of managerial experience do you have?

*Mark only one oval.*

- ◯ 0
- ◯ 1-2
- ◯ 3-5
- ◯ 5-10
- ◯ 10+

11. Do you work from home, at the office, or a hybrid?

*Mark only one oval.*

- ◯ I work from home/remotely most of the time
- ◯ I work at the office most of the time
- ◯ I work a combination of remotely and at the office
- ◯ Other: _____

12. I am a paying member of the ACM SIGHPC SYSPROS Chapter

*Mark only one oval.*

- ◯ Yes
- ◯ No
- ◯ Unsure

13. I am a member of the SIGHPC SYSPROS Slack Team

*Mark only one oval.*

◯ Yes

◯ No

◯ Unsure

Staffing

14. How many systems staff do you have at your site?

_____

15. How many user facing/applications staff do you have at your site?

_____

16. What is the size of your user base?

_____

17. How easy is it to find staff to hire?

Very Easy

1 ⬭

2 ⬭

3 ⬭

4 ⬭

5 ⬭

Very Difficult

18. How easy is it to find places to get HPC Systems training?

*Mark only one oval.*

Very Easy

1 ⬭

2 ⬭

3 ⬭

4 ⬭

5 ⬭

Very Difficult

## HPC Compute Systems

Answer the following questions about the HPC compute systems at your site.

19. What are the sizes in nodes of the top four on-premise compute clusters at your institution?

*Mark only one oval per row.*

|  | 32 nodes or less | 32-512 | 512-1024 | 1024-4096 | 4096+ |
|---|---|---|---|---|---|
| **Cluster 1** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 2** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 3** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 4** | ◯ | ◯ | ◯ | ◯ | ◯ |

20. What percentage of the CORES are CPU vs GPU in the top four on-premise computer clusters at your institution?

*Mark only one oval per row.*

|  | 10% or less CPU/90% or more GPU | 10% to 25% CPU/75% to 90% GPU | 25% to 50% CPU/50% to 75% GPU | 50% to 75% CPU/25% to 50% GPU | 75% to 90% CPU/10% to 25% GPU | 90% or more CPU/10% or less GPU | 100% CPU/0% GPU |
|---|---|---|---|---|---|---|---|
| **Cluster 1** | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 2** | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 3** | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Cluster 4** | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |

21. What networking technologies does your site use on the top four on-premise computer clusters (select all that apply)?

*Check all that apply.*

|  | Infiniband | Ethernet | Slingshot | Aries | Omnipath | Other |
|---|---|---|---|---|---|---|
| **Cluster 1** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Cluster 2** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Cluster 3** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| **Cluster 4** | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

22. What operating systems do you run at your site on your compute nodes (select all that apply)?

*Check all that apply.*

☐ RHEL
☐ CentOS Linux
☐ CentOS Stream
☐ SLES
☐ OpenSUSE
☐ Debian
☐ AlmaLinux
☐ Rocky Linux

☐ Other: _____

23. Have you recently decided to run an operating system on an HPC compute system when you haven't run that operating system on an HPC compute system in the recent past?

*Mark only one oval.*

◯ Yes

◯ No

◯ Other: _____

24. What operating systems are you considering running on your HPC compute systems (select all that apply)?

*Check all that apply.*

☐ RHEL
☐ CentOS Linux
☐ CentOS Stream
☐ SLES
☐ OpenSUSE
☐ Debian
☐ AlmaLinux
☐ Rocky Linux

☐ Other: _____

25. How much does hardware support impact your choice of operating systems?

*Mark only one oval.*

Not very much

1 ⬭

2 ⬭

3 ⬭

4 ⬭

5 ⬭

A lot

26. What workload managers/job schedulers/resource managers do you run at your site (select all that apply)?

*Check all that apply.*

☐ SLURM
☐ IBM Spectrum LSF
☐ PBSPro
☐ OpenPBS
☐ TORQUE
☐ Moab
☐ Maui
☐ HTCondor
☐ Kubernetes
☐ Oracle Grid Engine
☐ SGE
☐ Other: _____

27. How many applications does your site support?

*Mark only one oval.*

○ Our staff supports a select few applications (less than 10)

○ We have several staff supported applications (10 to 50)

○ We have lots of staff supported applications (over 50)

○ Our staff supports whatever users ask us to support

○ Other: _____

28. What applications does your site allow on the compute clusters?

*Mark only one oval.*

○ We allow only a few applications and tightly control what is run.

○ We have a number of applications all centered around a particular field of study (medical, climate, etc.).

○ We have a number of applications from a wide variety of fields of study.

○ We allow users to run whatever they like and do not control what is run (outside of security or abuse concerns).

○ Other: _____

29. Does your site track the energy used by HPC workloads?

*Mark only one oval.*

○ Yes

○ No

○ Unsure

30. What is your site doing to reduce the energy consumption of HPC workloads?

_____

_____

_____

_____

_____

31. Has your site implemented water cooling for compute resources or is planning to do so in the near future (5 years)?

*Mark only one oval.*

◯ No

◯ Yes

◯ Other: _____

32. How has the recent rise of AI models, particularly large language models such as ChatGPT, impacted your hardware procurement decisions?

*Mark only one oval.*

Not very much

1 ⬭

2 ⬭

3 ⬭

4 ⬭

5 ⬭

A lot

## HPC in the Cloud

33. What clouds services do you use for HPC workloads (select all that apply)?

*Check all that apply.*

- ☐ Amazon - AWS (including third-party resellers)
- ☐ Microsoft - Azure (including third-party resellers)
- ☐ Oracle
- ☐ IBM
- ☐ Google
- ☐ Other: _____

34. What percentage of the HPC workloads at your institution are run in the cloud vs. on-premise?

*Mark only one oval.*

- ◯ 10% or less cloud/90% or more on-premise
- ◯ 10% to 25% cloud/75% to 90% on-premise
- ◯ 25% to 50% cloud/50% to 75% on-premise
- ◯ 50% to 75% cloud/25% to 50% on-premise
- ◯ 75% to 90% cloud/10% to 25% on-premise
- ◯ 90% or more cloud/10% or less on-premise

35. What is driving your institution to run workloads in the cloud (select all that apply)?

*Check all that apply.*

- ☐ Curiosity
- ☐ Lack of on-site resources
- ☐ Management mandate
- ☐ Ease of accessing data
- ☐ On-site resources are busy
- ☐ Critical workloads that must be run when local resources are unavailable
- ☐ Other: _____

36. Does your site "burst" HPC workloads to the cloud?

*Mark only one oval.*

- ◯ Yes
- ◯ Our site would like to, but haven't implemented anything
- ◯ Our site tried to implement something, but has not been successful
- ◯ Our site tried to implement something, but has given up
- ◯ No
- ◯ Other: _____

37. What clustered file systems do you have at your institution (select all that apply)?

*Check all that apply.*

- [ ] Spectrum Scale
- [ ] Lustre
- [ ] BeeGFS
- [ ] Weka.io
- [ ] Vast
- [ ] Panasas
- [ ] Other: _____

38. What are the sizes (in PetaBytes) of the four largest on-premise clustered storage systems at your institution?

*Mark only one oval per row.*

|  | Less than 1PB | 1PB-10PB | 10PB-100PB | 100PB-1000PB | over 1000PB |
|---|---|---|---|---|---|
| **Clustered FS 1** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Clustered FS 2** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Clustered FS 3** | ◯ | ◯ | ◯ | ◯ | ◯ |
| **Clustered FS 4** | ◯ | ◯ | ◯ | ◯ | ◯ |

39. Do you support management of data on filesystems managed at your site with any of the following software?

*Check all that apply.*

- ☐ Starfish
- ☐ Robinhood
- ☐ GUFI
- ☐ StrongLink
- ☐ Other: _____

40. Is there anything else you'd like to tell us?

_____

_____

_____

_____

_____