EuroHyPerCon

High-Performance
Computing Center
Stuttgart

EuroHyPerCon

2nd Workshop Introduction of Questionnaires

Questionnaires

- We will have at least three questionnaires in total addressed to individual stakeholder groups
  - HPC Providers
  - HPC Users
  - Network Providers
  - …

Structure of Questionnaires

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- Each questionnaire has several sections, e.g., asking about
  - contact details, users, HPC ecosystem and so on

Contact Details

Full Name	
E-Mail	
Affiliation	
HPC Tier Level	Tier-0 | Tier-1 | Other, please specify
Role	
Are you representing a HPC-related project? If yes, please provide a list of current projects.	

Questionnaire for HPC Providers

Questionnaire for HPC Providers

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  - contact details, users, HPC ecosystem and so on

Contact Details

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HPC Tier Level	Tier-0 | Tier-1 | Other, please specify
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Are you representing a HPC-related project? If yes, please provide a list of current projects.	

Questionnaire for HPC Providers (cont'd)

Users

1. Approximately, how many **HPC users** do you have over the course of the year?

2. Do you have **industrial/commercial users** in your supercomputing centre?

3. Could you approximate how many industrial HPC users you have over a year?

4. How do you deal with **data protection and compliance** with the relevant regulations when working with external partners or users?

Questionnaire for HPC Providers (cont'd)

User Journeys / Scenarios

5. In your opinion, which of the following **HPC usage scenarios** do most of your users follow?

6. Can you approximate how many users must comply with **security** when transferring data? For example, they need to upload personal health data and, therefore, need to comply with certain data sharing rules. Please indicate a percentage.

7. Could you please name some additional requirements that called for a change in your connectivity strategy (VPNs/secure tunnels, etc.)?

Questionnaire for HPC Providers (cont'd)

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HPC Connectivity

8. Please provide the **internal (LAN) capacity** of your HPC centre. For example, 2 x 100 Gbps, 2 x 200 Gbps, 2 x 400 Gbps.

9. Please provide the access **connectivity of your HPC centre** (to your upstream provider within your country, e.g. HLRS to DFN in Germany). For example, 2 x 100 Gbps, 2 x 200 Gbps, 2 x 400 Gbps.

10. Which is your **backbone/upstream provider** (e.g., DFN in Germany)?

11. Are you connected through other network providers to Public Internet e.g: Tier X providers/Internet eXchange Points etc?

12. Are you aware of any ongoing **pilot actions** regarding HPC connectivity (e.g., the German Terabit Test Network)?

Questionnaire for HPC Providers (cont'd)

HPC Ecosystem

13. Do you have any existing **collaborations or partnerships with other HPC providers** or research institutions to facilitate data and resource sharing?

14. Are there any **challenges or bottlenecks** you have encountered when interconnecting with other HPC facilities or research networks? For example, concerning storage I/O limitations influencing network performance perception.

15. If you are not a **EuroHPC JU** Hosting Entity, how are you **interconnected to** one of these systems?

16. How do you envision your organisation's role in developing the EuroHPC ecosystem's hyper-connectivity?

Questionnaire for HPC Users

Questionnaire for HPC Users

HPC Usage

1. Which kind of **HPC resources** are you currently using?

2. Can you please name the **HPC Centers** you are currently using?

3. Which kind of HPC resources will you likely **use by 2030** and beyond?

4. How frequently do you use HPC resources?

5. How much compute resources (either CPU or GPU nodes) do you use?

6. Can you approximately say how much compute resources you will need **by 2025, 2028, 2032 and beyond**?

Questionnaire for HPC Users (cont'd)

HPC Workflow

7. Which of the following HPC usage **scenarios** fits best?

8. Does your scenario require taking account of **security**?

9. Please provide **more details about your scenario**, e.g., specify what type of sensitive data you need to transfer (based on GDPR or other national/EU regulations).

10. Are there any other types of **requirements in terms of security**? If yes, please specify.

11. When do you **transfer most data** during your described scenario?

12. What is currently the **biggest time challenge**: data preparation, data transfer to the HPC center, running the application at runtime, downloading or analysing the results data?

13. Have you encountered any **challenges or bottlenecks** related to data transfer to or from HPC centres?

Questionnaire for HPC Users (cont'd)

Data Size

14. How much data (on average) do you need to **transfer each time** you execute your workflow on an HPC system?

15. Could you please estimate how much **percentage of data** for your entire workflow is transferred during the uploading phase, during loop updates (optional) and download phase?

16. Do you expect that the **data size** will change over time? How much data would you need to transfer in 2025, 2028, 2032 and beyond?

17. How long does the **current data transfer** approximately take?

18. Are you satisfied with the current **data transfer time**?

Questionnaire for HPC Users (cont'd)

Data Locality

19. Please provide more information about the **workflows/jobs** you execute on HPC.

20. From where to where are you transferring data?

Workflow Name	Execution Frequency	User Scenarios type	Data to be Transferred	Data Transfer recurring window
Example: Foo	3/month	1 (static) / 2 (streaming)	15TB	20h

Network Service

21. Which is your **current network provider** for accessing HPC centres?

22. Are you using the same provider for accessing the Internet?

23. If you are using the same provider for Internet and HPC services access, are you using some **Virtual Private Network** technology for accessing HPC services?

Your Questions, Our Answers

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- Please feel free to ask any questions you have, and our team is here to provide the answers

Thank you!