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Human Brain Project

Hands-on: How to apply for computing and data resources

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ICEI Resources for HBP

- ICEI resources have already been made available to HBP and PRACE by CSCS
- There are currently 21 HBP projects with compute allocations at CSCS
 - More are in the approval stages
- More resources are available than are being consumed so HBP users are encouraged to apply for a compute allocation
 - Interested users can apply for resources in this session

Component	ICEI Service Type	ICEI Total Allocation (Raw Resource)	Allocatable Unit	ICEI (100%)	Quarterly Distribution		
					HBP (25%)	PRACE (15%)	National (60%)
OpenStack Cluster	VM	35 servers	Servers	35	8.75	5.25	21.00
Piz Daint Multicore	SCC	250 nodes	Node-Hours	465375	116,344	69,806	279,225
Piz Daint Hybrid	SCC + IAC	400 nodes	Node-Hours	744600	186,150	111,690	446,760
Store POSIX and Object	ARD	1000 TB	TB	1000	250	150	600
Tape library	ARD	3000 TB	TB	3000	750	450	1,800
Low latency storage tier*	NVM	80 TB	TB	80	20	12	48

* Early access technology. User workflows need to be adapted/augmented.

Resources currently available


Component	Site	Total ICEI	Minimum Request	Technical Details
Scalable Computing Services				
Piz Daint Multicore	CSCS (CH)	250 nodes	1 node	<ul style="list-style-type: none"> • Memory per node 64/128 GB • Compute nodes/processors: 1813 Cray XC40 nodes with Two Intel® Xeon® E5-2695 v4 @ 2.10GHz (2 x 18 cores) CPUs • Interconnect configuration: Cray Aries
Interactive Computing Services				
Piz Daint Hybrid	CSCS (CH)	400 nodes	1 node	<ul style="list-style-type: none"> • Memory per node: 64 GB • GPU memory: 16 GB CoWoS HBM2 • Compute nodes/processors: 5704 Cray XC50 nodes with Intel® Xeon® E5-2690 v3 @ 2.60GHz (12 cores) CPUs and NVIDIA® Tesla® P100 GPUs • Interconnect configuration: Cray Aries
VM Services				
Pollux OpenStack Cluster	CSCS (CH) *	35 servers	1 VM	<ul style="list-style-type: none"> • 2 types of compute node: <ul style="list-style-type: none"> • Type 1 - CPU: 2x Intel E5-2660 v4 14C/RAM: 512 GB • Type 2 - CPU: 2x Intel(R) Xeon(R) CPU E5-2667 v3 @ 3.20GHz 8C/RAM: 768 GB • VMs can be of various flavours and use up to 16 cores
Archival Data Repositories				
Store POSIX and Object, including backup on Tape library (2x)	CSCS (CH)	4000 TB	1 TB	
Active Data Repositories				
Low latency storage tier (DataWarp)	CSCS (CH)	80 TB	1 TB	<ul style="list-style-type: none"> • Non-volatile Memory

*Julich OpenStack Cluster currently in development

How do I use ICEI Resources?

- Firstly, you will need to have obtained an account via an ICEI request application
 - More info with request form can be found here:
<https://collab.humanbrainproject.eu/#/collab/28520/nav/203167>
 - Application form shown on next slide, lightweight document with only 5 short sections
 - In this session we will walk through an application for resources

Resource Application Form



Request for HBP Resources in ICEI

Project duration* (YYYY/MM-YYYY/MM)	
Project name	
Type of project (new or extension)	
Project ID (in case of extension)	
PI name (please name only one)	
PI Organisation	
PI Email	
Names, organisation and Email of other involved persons	
Date	

Note: The resource request form will be shared within the HBP Consortium and information on resource requests received will be included in ICEI deliverables with dissemination level "Confidential, only for members of the consortium (including the Commission Services)".

Summary

Please provide one paragraph summarizing the scientific question(s) that you intend to address using these resources. What is the scientific goal?


Contents

- Summary 1
- 1. Relation to HBP DoA and relevance to HBP call..... 2
- 2. Preliminary Work (in case of a project extension)..... 2
- 3. IT resources requested 2
 - 3.1 Resources..... 2
 - 3.2 Technical implementation plans 2
 - 3.3 Does this project involve processing of personal data as defined by GDPR? 2
- 4. Scientific methodology, goals and impact 2
 - 4.1 Scientific implementation plans 2
 - 4.2 Resource management and work plan 3
 - 4.3 Dissemination 3
- 5. References 3

* Start of the project may be adjusted by the Infrastructure Allocation Committee (IAC)

Application-Template_ICEI-resources_HBP_v06 1

Request for HBP Resources in ICEI



1. Relation to HBP DoA and relevance to HBP call

Please provide information on the related work packages, tasks, CDPs, etc. and explain how the project relates to the goals and objectives of HBP. How does the project relate to the published HBP call for resources in ICEI?

2. Preliminary Work (in case of a project extension)

Please provide a brief summary of project results obtained from your first resource allocation.

3. IT resources requested

3.1 Resources

Resource	Units	Quantity (required in total)
Piz Daint Multicore	nodeXhour	
Piz Daint Hybrid	nodeXhour	
OpenStack Cluster	servers	
Store POSIX and Object	TByte	
Tape library	TByte	
Low latency storage tier	TByteXday	

3.2 Technical implementation plans

Please explain why the requested resources are needed to achieve the scientific goal. What kind of jobs are planned (number and type of nodes, typical job duration)? How much storage needs to be available to execute the jobs? Which software, HBP platform tools and services are needed?

3.3 Does this project involve processing of personal data as defined by GDPR?

Please select "Yes" or "No", if you selected "Yes", please specify what kind of data is processed.

NO
 YES

4. Scientific methodology, goals and impact

4.1 Scientific implementation plans

Please explain the methodology that will be used to achieve the scientific goal of the project, highlighting scientific excellence, novelty and potential for high European and international impact of the project. What are possible transformative aspects and expected advances?

4.2 Resource management and work plan


Please describe how you intend to manage the requested resources.

4.3 Dissemination

Please describe planned channels and resources for dissemination and knowledge exchange. If the requested resources are used to provide EBRAINS services then describe plans for attracting users for these services.

Application-Template_ICEI-resources_HBP_v06 2

Request for HBP Resources in ICEI



5. References

Please provide recent/most important bibliographic references that are relevant to the project.

[<ref number>] <reference>

Application-Template_ICEI-resources_HBP_v06 3

Hands-on

- Open the following link:

<https://collab.humanbrainproject.eu/#/collab/28520/nav/203167>

- In the room there are 4 people from CSCS that can help you with this, feel free to ask us for assistance
- Once you have completed your application, send this to: icei-coord@fz-juelich.de

How to get Help or More Information

General Contact for HPAC Platform:

- HPAC Platform:
<https://collab.humanbrainproject.eu/#/collab/264/nav/2378>

How to apply for resources:

- Send your proposals to: icei-coord@fz-juelich.de

Getting help:

- Send emails to: hpac-support@humanbrainproject.eu



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Thank You

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