

Joint Usage/Research Center for Interdisciplinary Large-scale
Information Infrastructures (JHPCN)
Call for Proposal of Joint Research Projects in Fiscal Year 2025

JHPCN office



Release note

December 19, 2024

Version 3: Details of resources provided by Nagoya University were updated in the Appendix

December 10, 2024

Version 2: Conversion formulas of resources into fees of Hokkaido and Kyoto Universities were updated

November 15, 2024

Version 1

Revision from the Last Call

The scale of the International Joint Research Project was expanded.

The number of projects which will be accepted as the International Joint Research Project has been increased. Projects with researchers of NHR in Germany as Deputy Representatives are encouraged. Refer to section 4 for more details.

The "private wallet" of mdx was abolished.

The applicants were required to choose one of the budget types, the shared or private, if they would use mdx in the previous proposals. From this year there is only the shared wallet for mdx.

The outline of proposed projects is required to be written in application form 2.

In the previous calls, the outline of proposed projects was to be written after they were accepted, but from this year it is required to be written in application form 2. The amount of the outline has to be about 200 letters in Japanese language or 100 words in English language. Refer to application form 2 for more details.

Appendix 2 was abolished.

Since the big-data/large-capacity network project is no longer available, Appendix 2, which describes the detail of the project related resources was abolished.

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Outline

The Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (hereafter as JHPCN) is the network-type joint usage and research center, certified by the Ministry of Education, Culture, Sports, Science and Technology, on the basis of the Ordinance for Enforcement of the School Education Act. The joint usage and research center aims to make the most use of the potential that universities have for the research to produce a system which offers chances of joint research for researchers. It is made up of institutions with large-scale computing system (hereafter called member institutions) affiliated with Hokkaido University, Tohoku University, University of Tokyo, Institute of Science Tokyo, Nagoya University, Kyoto University, Osaka University, and Kyushu University, and the center promotes joint usage by providing the computer resources of the member institutions and joint research by introducing researchers of each member institution to help the development of researches in many fields.

JHPCN calls for joint research projects for fiscal year 2025. The joint research has to have two or more research members and be managed by a researcher of organizations in Japan. You have to use at least one of the computer resources of the member institutions or have a researcher of the member institutions in the research group. Projects are welcome from any research area.

The researchers of accepted projects will be able to use the computer resources of the member institutions and the “mdx” for free in the scope of the rule. (See Appendixes for the details of available resources) The “mdx” is an information infrastructure created mainly to accumulate, utilize and apply knowledge related to data science, which is comanaged by nine universities and 2 research institutions, within which the member institutions are included. There are cases where the expenses for publishing research results are supported, for example, the travel expenses to join conferences abroad, the expenses to publish books on research results and to hold symposiums related to the research. Accepted research projects will also be a chance to make networks or develop your research/invention by joining or doing presentations in JHPCN symposiums.

Since the member institutions have enrolled leading researchers, acceleration of joint research projects is possible through collaboration with these researchers. You can get introductions to the researchers of the member institutions, if you hope to, please contact the JHPCN office in advance. If you have in mind a researcher with whom you want to conduct joint research, you can ask the member institution of the researcher in question.

These joint research projects for the fiscal year 2025 will be implemented from April 2025 to March 2026. The web application deadline is 5 PM (JST), 6 January, 2025. We expect and appreciate as many applications as possible.

1 Theme Areas

This Joint Research Project calls for joint research projects in the two theme areas: (1) Large-scale computational science area and (2) Data science/data usage area. We are expecting groups of researchers in different fields will propose interdisciplinary research. Applicants are required to choose an appropriate area from the two in accordance with the research theme they propose. Applicants can use any computer resource regardless of the theme they choose. The titles or reports of the projects in the previous calls can be found on the website of the JHPCN. Please note that if the proposed project and the proposed theme area are apparently unrelated, the theme area can be changed, and in that case the project will be judged based on the standards of the new area.

1. Theme Area (1): Large-scale computational science area

What this area expects is research on computing science. Large-scale research by interdisciplinary research teams of leading researchers in diverse fields is welcome. Please apply projects which aim at developing models of computing scientific simulation, with using real data to this area. (The projects for Data science/data usage area continued from the last call are included in this area.)

2. Theme Area (2): Data science/data usage area

What this area expects is diverse research on data science/data usage and its application. Research themes on a wide range of areas from the fundamentals to their application and with different methods are welcome, such as development of leading methods in data science, collection and analysis of data of humanity and social science, biological science, science and engineering, data sharing or development of platforms in research communities. Note that those projects which aim at developing models of computing scientific simulation, with using real data must be applied to Theme Area (1).

2 Available Computer Resources

The JHPCN member institutions are planning to provide computer resources below for the joint research. Please note that the application procedure differs depending on whether you are applying to use HPCI resources or not.

2.1 HPCI system resources

In the JHPCN projects, researchers can use some of the computing resources provided by HPCI (the Innovative High Performance Computing Infrastructure) (<https://www.hpci-office.en/>) in their joint research.

HPCI is a shared computing environment infrastructure, in which computing systems and storages in universities and research institutions in Japan are connected using a high-speed network. Available resources are listed in the Appendix 1(1). These resources are called HPCI system resources (or HPCI

resources).

2.2 Non-HPCI system resources

The computer resources that are not provided by HPCI and are operated independently by each member institution are called non-HPCI resources. They include, Platform for the Data-Driven Future, known as mdxmdx(<https://mdx.jp/mdx1/p/about/mdx>) and others. The available resources are listed in Appendix 1(2).

3 Merits for the awarded projects

3.1 Free use of computer resources

In the range which is approved on the screening of the project, the resources can be used for free.

3.2 Advance of the research by constructing an interdisciplinary joint research system

Construction of broad research systems is supported by giving opportunities to get acquainted with researchers in symposiums or introducing suitable or necessary researchers for your research.

3.3 Subsidies

The following subsidies are provided. For the latest information or application formats of the subsidies, see User's Page on the JHPCN website (<https://jhpcn-kyoten.itc.u-tokyo.ac.jp/en/user>).

- Expenses for peer-reviewed presentations at international conferences (only for young or female researchers) since FY2025 projects
- Paper publication fee
- Facility fees for research meetings, workshops and so on.

4 Types of Joint Research Projects

Please choose one of the three types below in accordance with the organization and type of your project when you apply.

1. General Joint Research Project
2. International Joint Research Project

The international joint research project is interdisciplinary joint research conducted in conjunction with researchers outside Japan to address challenging issues that may not be possible to resolve or clarify only with the help of researchers within Japan. For application requirements, see section 5. Note that application form has to be written in English.

For research projects of this type, subsidy is provided for travel expenses necessary for holding

meetings with foreign joint researchers and so on. For the latest information or application formats of the subsidies, see User's Page (<https://jhpcn-kyoten.itc.u-tokyo.ac.jp/en/user>) on the JHPCN website.

JHPCN concluded MoU with NHR(Nationales Hochleistungs Rechnen), (<https://www.nhr-verein.de/en>), Germany, in 2024 so as to accelerate International Joint Research Projects. Because of this, the number of projects accepted as International Joint Research Project has been increased and projects with researchers of NHR, as Deputy Representatives are encouraged. Note that there is a possibility that research proposals submitted as (2) International Joint Research Project would be accepted as 1. General Joint Research Project as a result of screening.

3. Industrial Joint Research Project

The industrial joint research project is joint research focuses on industrial applications. For application requirements see section 5 . Note that there is a possibility that research proposals submitted as (3) Industrial Joint Research Project would be accepted as (1) General Joint Research Project as a result of screening.

5 Application Requirements

1. Conditions for all projects.

- The research group must have one Project Representative and one or more Deputy Representatives, and any joint researchers can be included.
- The Project Representative must belong to an institution in Japan (university, national institute, private enterprise, and so on.)
- Students can participate in the project as joint researchers if they belong to the higher education institutions certificated by National Institution for Academic Degrees and Quality Enhancement of Higher Education as their educational standards being equivalent to the graduate schools, universities, junior colleges or technical colleges. However, graduate students cannot participate as Project Representative or Deputy Representative.
- If a non-resident member or a resident of "specific category", defined by the Foreign Exchange and Foreign Trade Act (See page 4 or later of "Clarification of deemed export control" by METI, (See page 4 or later of "Clarification of deemed export control" by METI), intends to use computers provided by JHPCN, at least one researcher of the member institutions where the computer is operated (any member institution is acceptable for the use of mdx) must participate in the research group as a joint researcher.

2. Additional conditions for the International Joint Research Projects.

- At least one researcher belonging to a research institution outside Japan has to be in charge of Deputy Representative. In application of proposals where researchers of NHR are applied as a Deputy Representative, "International Joint Research Project (NHR)" has to be chosen at the section of research type in application form 2.
- A researcher of the member institutions must participate in the research group as a joint

researcher.

- The application has to be made using the English application form.

3. Additional conditions for the Industrial joint research projects

- The Project Representative must belong to a private enterprise.
- At least one researcher of the member institutions must be in charge of a Deputy Project Representative.

6 Joint Research Period

April 1, 2025 to March 31, 2026.

Depending on the conditions for preparing computer accounts, the commencement of computer use may be delayed.

7 Points to Note for Writing Application Forms, Points of Evaluation and Available Resources

7.1 Points to note for writing application forms

Research project proposals will be reviewed comprehensively, taking into consideration scientific and technological relevance, feasibility of usage and development, necessity of their facility/equipment requirements, consistency with the research topics and themes area, and their interdisciplinary nature. In addition, relevance of use of resources at the member institutions which conduct the projects together and cooperation and collaboration with the institutions are considered. Moreover, for projects continuing from the previous fiscal year and projects determined to have continuity in their essence, the previous year's interim report and the previous usage of computer resources may be considered during the screening process.

When making the application form, please note the points below.

- The format of the application form has been changed from the one used in the last call, thus please make sure to use the latest version.
- Please explain in a way that is easy to understand for those Screening Committee members who may be unfamiliar with your research topic.

7.2 Research Projects to be appreciated

We will appreciate research projects that have the following features. Please clearly show in the application forms if the project has any of the features.

1. Points that are emphasized regardless of theme areas
 - Interdisciplinary organization: JHPCN promotes interdisciplinary joint research projects on

many kinds of themes that are done by researchers who specialize in the area of informatics, which include computer science and data science, and of its application. For this purpose, those projects are valued highly which have an interdisciplinary research team.

- Promotion of usage of the software and data: We appreciate highly those projects that aim to make the software developed or the database constructed as a result of the projects more accessible for as many people as possible. The research teams are required not just to open those software and databases to the public, but also to make them recognizable to be actively used.
- Development of IT infrastructure technology: We appreciate highly those projects that lead to infrastructural studies of IT, such as architecture, system software, and security. The projects can also be implemented in collaboration with researchers of the member institutions specializing in IT infrastructure technology.
- Cooperation with multiple JHPCN member institutions: We appreciate highly those projects that use research resources and/or employ researchers from multiple member institutions. For example, research topics include, but are not limited to, large-scale and geographically distributed information systems and implementations of multi-platform for applications using research resources provided by multiple member institutions.
- Usage of large-scale data and large-capacity networks: We appreciate highly those projects that have massive data transfer, using a very wide-bandwidth network, between the researcher's research site and the resources provided by the member institution, or between the researcher's site and the member institutions. Available research resources include those that can be directly connected to a very wide-bandwidth network provided by SINET5, including L2VPN, in cooperation with the National Institute of Informatics. Therefore, research that depends upon a very wide-bandwidth network can be conducted.

2. Points appreciated in Theme Area (1) “Large-scale computational science area”

- Proposals which mainly aim to perform research activities will be accepted. In other words, proposals that just attempt to use the provided computer resources, so called “product run projects”, will not be awarded.

3. Points appreciated in Theme Area (2) “Data science/data usage area”

- Impacts on the real world: Proposals that will lead to solutions of significant but hard to solve problems in the real world are valued highly, including realization of Society 5.0 or accomplishment of the SDGs, by applying data.
- Promotion of data usage: Proposals which attempt to promote data usage in research field where the circulation and utilization of data are insufficient are highly valued. In addition, proposals that make use of different research data, including books and articles, to integrate them and give it sophisticated analysis in order to bring about new discoveries are highly valued.
- Security and personal data protection: Those proposals are valued highly which create brand new worth making use of socially significant data, such as those on medical and health matters, education, and economy, or which promote development and popularization of techniques on

secure use of those data, like techniques on personal data protection. Please consult with the member institutions which provide the resources you plan to use and confirm if the resources meet the requirements of your project. If you are going to use medical information, whether or not your project follows the Act on the Protection of Personal Information and/or the three guidelines set by Ministry of Health, Labour and Welfare, Ministry of Public Management, Home Affairs, and Ministry of Economy, Trade and Industry has to be made sure of in addition to the function and capacity of the available hardware and software.

7.3 The amount of computer resources

7.3.1 The maximum amount of resources for each project

The maximum amount of resources for a project is defined as below. The amount of proposed resources that is applied for must be reasonable in light of the research plan.

We provide a wide range of computer resources, including computers and others, so we define the maximum amount that can be applied for based on the fee. Please estimate the amount of resources you apply for by calculating their fees. The maximum amounts that can be applied for are as follows. "mdx" is regarded as a single institution.

1. When applying to use only the resources provided by one institution: Up to 3 MJPY
2. When applying to use resources provided by multiple institutions: Up to 3.6 MJPY

When filling in application form 2, the amount of the fees will be automatically calculated based on conversion formulas of resources into fees (see Appendix 1). Please note that the usage fee rates used in the formulas may differ from the rates for general use, etc. of the resources at each institution.

The amount of HPCI resources that will actually be provided may be adjusted or reduced from the proposed amount according to the overall budget, screening results, and resource usage. In addition, for proposals that have been continued from the previous fiscal year or proposals that have been determined to have substantial continuity, if the resources from the previous fiscal year are underutilized or unutilized, the amount of HPCI resources that will be provided may be reduced after adjustments are made.

7.3.2 Cumulative basis of necessary resources

See below for the "cumulative basis of necessary resources" required in the application form 1. The purpose of usage has to be written although the cumulative basis of necessary resources is not required.

1. Proposals for Theme Area (1): Large-scale computational science area

The cumulative basis of the amount of all resources (both HPCI resources and non-HPCI resources) has to be written clearly, because it is an important evaluation point in screening. If the description of this point is not enough, the evaluation of the whole project can be lower. Due to the system of application form, 1MJPY is distributed to the section of the applied resource amount of mdx by default. This amount needs to be changed in accordance with the actual plan.

However, the cumulative basis is not necessary for any resources, only if the proposals are new,

and the total amount of applied resources is lower than 1 MJPY.

2. Proposals for Theme Area (2): Data science/data usage area

(a) Application including the use of HPCI resources

The cumulative basis of the necessary amount of HPCI resources has to be written clearly, because it is an important evaluation point in screening. If the description of this point is not enough, the evaluation of the whole project can be lower. Even if non-HPCI resources will also be used, the cumulative basis of them is not necessary.

In case the proposals are new, and the total amount of resources is lower than 1 MJPY, the cumulative basis is not necessary for HPCI resources.

(b) Application without HPCI resources

The cumulative basis is not necessary.

7.3.3 High priority resource setting (Please input only when necessary)

As mentioned in 7.3.1, the amount of all HPCI resources can be reduced from the amount that is applied for in principle. However, in case that the project cannot be carried out because of the reduction in the amount of some resource, the resource can be given priority ("High Priority Resource"). When there are resources given priority, the reduction will be applied to resources which are not put priority first. The total amount of reduction (the specific amount is decided based on the fee) is the same whether there are resources with priority or not, which means when the reduction from the amount of resources without priority doesn't reach the specified amount, the amount of resources with priority will also be reduced.

- Please set the priority only when the resource is indispensable. To give priority or not doesn't affect the total amount of distribution (or that of reduction).
- Projects which use only one resource cannot give priority to the resource.
- In principle, the amount of resources that can be set priority to is less than 50 % of the total amount of proposed resources. Priority can be set to more than 50 % of the total amount of proposed resources, but it will receive caution on the application form, and there is more possibility of extremely unbalanced distribution of resources.
- Additional screening is required to change the distribution of resources after the proposal gets accepted, regardless of whether to have been given priority or not.
- Priority can be set only to HPCI resources.
- Any detailed conditions for the reduction of the amount of resources are not possible, except for setting priority to the resources.

7.4 Selection of the review section

When filling in the application form 2, “desired review section” is required to be selected in the way showed below, which will be referred to when distributing Screening Committee members who screens proposed projects.

Please be careful to give lucid explanation, for the screening is carried out from points of view of informatics and research areas where informatics is applied.

- The category is selected using Kakenhi review section and keyword.
- Keywords can be selected up to 5 from Informatics (Medium-sized Section 60, 61) and up to 2 from applied areas of basic sections. It is necessary to select at least 1 keyword from Informatics.

8 Application Process

Outline and matters to be attended

Please note that you have to take one of the two kinds of application procedures depending on whether your proposal uses HPCI resources or not.

1. Category A projects: Projects that only use HPCI resources, or that use both HPCI and non-HPCI resources.
2. Category B projects: Projects that only use non-HPCI resources, or that do not use computational resources.

Note that the application must be made in either Category A or B. Applying for both categories is not allowed. For application of international joint research projects, the English application forms have to be used.

8.1 Application procedure for Category A: Research projects with the use of HPCI resources

Application procedure of “Research projects with the use of HPCI resources” (including projects with the use of non- HPCI resources at the same time) For the detailed procedure, refer to the Beginner’ s Guide on the JHPCN website. *Only in Japanese.

8.1.1 Procedures necessary before application

1. Creation of an HPCI-ID

Apply for the ID on (HPCI website (<https://www.hpci-office.jp/entry/login/index?lang=en>))

All researchers who will use the HPCI resources have to get their HPCI-IDs, unless they already have one. More specifically, those listed below fall into the category.

- (a) Research Project Representative
- (b) At least 1 Deputy Representative (All the Deputy Representatives who will submit the pro-

posal or be in charge of the face-to-face identity vetting have to get IDs)

(c) Deputy Representatives and joint researchers who will use the HPCI resources

2. Explanation to the institutional head

Because we need to confirm the information submitted, please explain the proposal to and get permission on the project from the institutional head in advance. Institutional heads include heads of department, such as Deans or Directors of institutions for applicants who belong to universities, and their equivalents for applicants who belong to National institutes or private companies.

8.1.2 Necessary documents for application

1. JHPCN application form 1 and 2

Download them on the JHPCN website, and upload completed form onto the HPCI website when applied.

2. HPCI application form

Fill it out on the HPCI website.

The E-mail address of the institutional head should be the one provided to the post of your institutional head in principle, but in case an administrative office has to be in charge of contact, an E-mail address of the office is also permitted. If any address is not provided to the post of your institutional head, submit the address of an administrative officer or a secretary in addition to the personal address of the institutional head.

8.1.3 Procedures necessary after application

An E-mail is sent to your institutional head to confirm the information submitted. Make sure that he/she checks it.

8.1.4 Procedures necessary after the proposal is awarded

When the proposal is accepted, follow the guidelines for procedures after acceptance of HPCI. In particular, the Project Representative or the Deputy Representative has to take responsibility to complete the HPCI face-to-face identity vetting. In this process, there could be a case where the copies of ID cards with photos of all the joint researchers who use the resources are required. If the HPCI face-to-face identity vetting is necessary, please consult with HPCI after making sure that the center you are going to go is in charge of it. The centers are listed at section 12.

8.2 Application procedure for Category B: Research projects without the use of HPCI resources

8.2.1 Necessary documents for application

1. JHPCN application form 1 and 2

Download them on the JHPCN website, and upload completed form onto the JHPCN website when applied.

9 Points to remember when filling out the research project proposal application forms

- Research resources must be only used for the purpose of the accepted research project.
- The proposal must be for peaceful purposes.
- Human rights and profit must be protected. Please consult with the member institutions which provide the resources you plan to use and confirm if the resources meet the requirements of your project. If you are going to use medical information, whether or not your project follows the Act on the Protection of Personal Information and/or the three guidelines set by Ministry of Health, Labour and Welfare, Ministry of Public Management, Home Affairs, and Ministry of Economy, Trade and Industry has to be made sure of in addition to the function and capacity of the available hardware and software.
- If ethical guidelines are prepared in the research fields of the proposal, please follow it. In particular, the proposals that need a research ethics review must get ethical approval for conducting them at reviews of the organizations to which the researchers belong.
- Projects seemingly identical with other proposed projects does not get accepted, for example, projects, the organizations or themes of which are substantially same, and projects that just the research objects are different.

10 Important Dates

- Application
 1. Online briefing session for Research Project Representatives on how to apply: 1:30PM(JST), 29 November 2024
 2. Starting date of application: 12 December 2024
 3. Deadline: 5 PM (JST), 6 January 2025
- Project
 1. Screening result announcement: The JHPCN is planning to announce the result until mid-March 2025
 2. 2025年4月1日(火) Joint research commencement: 1 April 2025
 3. 17th JHPCN symposium (Introduction of research): Early July 2025
 4. Progress report deadline: Mid-October 2025
 5. End of the research period: 31 March 2026
 6. Final report deadline: Mid-May 2026
 7. 18th JHPCN symposium (Report of research results): Early July 2026

11 Other Important Notices After the Proposal Gets Accepted

- Submission of a written oath

Research groups whose research projects are accepted will be expected to submit a written oath pledging adherence to the contents of the above-mentioned “Points to remember when filling out the Research Project Proposal Application Form” of Section 8 “Application Process” under the name of their institutional heads. The specific process of submission will be provided if your project gets accepted. A sample of the process is provided on the website so please check it out in advance.

- Regulations for the use of facilities

While using the facilities, you are expected to follow the regulations for use pertaining to the research resources stipulated by the JHPCN member institutions with which you will work.

- Submission of reports and presentation at the JHPCN symposiums

A project representative must submit research reports and present in the JHPCN symposium as follows.

- Reports:

Both progress and final reports must be submitted in the middle and after the end of the research period, respectively. The final report will be published on the JHPCN website in principle. If these reports are not submitted, then the Project Representative may be prohibited from applying to and participating in new projects. The report of international projects must be written in English.

- Symposiums:

The JHPCN holds JHPCN symposiums in July every year, so that we can create research communities which aim at development of interdisciplinary research on computational science, data science, and computer science. We ask each research team of this Joint Research Project to present a poster on the research plan when the research is in progress and to make an oral presentation on the result after the research is completed (If the project has been going on from the previous year, it is allowed to present the content of the poster at the oral presentation). The presentations have to be given by the Project Representatives or the Deputy Representatives in principle, but in case either of them cannot join the symposium, one of the joint researchers can instead. The presentations on the research projects in the previous year can be used when evaluating the projects. The travel expense will be borne by the JHPCN office. All the pdf files of poster presentations are required to be submitted before the symposium and are published on the JHPCN website.

- Disclaimer:

Each JHPCN member institution assumes no responsibility for any inconveniences that affect applicants as consequence of joint research projects.

- Intellectual property rights

In principle, every intellectual property that arises as results of a research project will belong to

the research groups involved. However, it is presumed that recognition will be provided to the inventors in accordance with each institution's policy concerning intellectual property rights. Please contact each JHPCN member institution for details and handling of other exceptional matters.

- Responsible Conduct of Research(RCR) training

Every joint researcher, including the Project Representative and the Deputy Representatives of an accepted project (excluding students), must be confirmed to have completed a program pertaining to RCR or its equivalent (for example, eligibility for the Japanese Grant-in-Aid for Scientific Research that is accepted by the Ministry of Education, Culture, Sports, Science and Technology, or the Japan Society for the Promotion of Science or proof of acquisition of a research fund which qualifies only those who have finished RCR training).

Those who have not completed such program need to take an e-Learning or a workshop which their institutes carry out, including the e-Learning program of The Association for the Promotion of Research Integrity. Those who have acquired a research fund which qualifies only those who have finished RCR training will be considered as qualified by presenting the proof. In case there are not any workshop taking place at your institution, please consult with the JHPCN office.

If confirmation is not possible within three months of the start of the joint research period, the joint researchers must be deleted from the list.

- Abuse of research ethics

If the institute of participating research member(s) admits that the member(s) have violated research ethics in any research activity, including projects other than that of JHPCN, the JHPCN may take the following actions: removal of the member from the project, ending of the offending project, and disqualification for application of new projects.

- Acknowledgements in presentations and publications

Upon publication of results of an accepted project, the author(s) should indicate in the Acknowledgements that the project was supported by JHPCN (see the JHPCN website for an example sentence).

- Others

- The personal information provided in the proposal shall only be used for screening research projects and providing system access.
- After the acceptance of a research project, however, the project name and the name and affiliation of the Project Representative will be disclosed.
- After the acceptance of a research project, changes of the JHPCN member institutions and computers are not available.
- If you wish to discuss your application, please contact us at the E-mail address listed in Section 12. (Please note in advance that we are not able to respond to telephone-based inquiries.)

12 Contact information (for inquiries about application, etc.)

12.1 Inquiries about application

Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures Office E-mail address: `jhpcn.adm@gs.mail.u-tokyo.ac.jp`

12.2 Inquiries about computer resources

For available resources, how to use resources, details of eligibility, faculty members who can participate in joint research projects, and the handling of intellectual property of each institution, please feel free to directly contact the following.

- Information Initiative Center, Hokkaido University
`kyodo@oicte.hokudai.ac.jp`
- Cyberscience Center, Tohoku University
`joint_research@cc.tohoku.ac.jp`
- Information Technology Center, The University of Tokyo
<https://www.cc.u-tokyo.ac.jp/support/reference.html>
- Center for Information Infrastructure, Institute of Science Tokyo
<https://www.t4.gsic.titech.ac.jp/contact-t4>
- Information Technology Center, Nagoya University
`kyodo@itc.nagoya-u.ac.jp`
- Academic Center for Computing and Media Studies, Kyoto University
`kyoten-8gm@media.kyoto-u.ac.jp`
- D3 Center, Osaka University
`system@cmc.osaka-u.ac.jp`
- Research Institute for Information Technology, Kyushu University
`request@iii.kyushu-u.ac.jp`
- mdx (Comanagement in which all the member institutions participate)
`mdx-help@mdx.jp`

Appendix 1(1): List of the HPCI resources available
at the JHPCN member institutions for the Joint Research Project
(The resources provided as “HPCI-JHPCN system”)

For a description of the resources, please refer to the website of the respective institutions.

JHPCN Institution	Computational Resources, Type of Use (<u>The underline parts are resource names</u>)
Information Initiative Center, Hokkaido University	<p>1. (tentative) <u>New Supercomputer</u> (From July 2025, planned)</p> <p>[Hardware resources]</p> <p>1) CPU nodes</p> <ul style="list-style-type: none"> - Node Info: Intel Xeon Gold 6548Y+ (Emerald Rapids, 32cores, 2.5GHz)×2, 512GiB memory - 480 nodes (theoretical peak performance: 2.457 PFLOPS), Shared with general users, Acceptable Job: up to 64 nodes (planned) - Maximum computing resources per 1 project: 42,000 CPU-Hours <p>2) GPU nodes</p> <ul style="list-style-type: none"> - Node Info: Intel Xeon Gold 6548Y+ (Emerald Rapids, 32cores, 2.5GHz)×2, 512GiB memory, NVIDIA H100×4 - 24 nodes (theoretical peak performance: 6.55 PFLOPS), Shared with general users, Acceptable Job: up to 6 nodes (planned) - Maximum computing resources per 1 project: 13,000 GPU-Hours <p>3) Storage system (common to CPU nodes and GPU nodes)</p> <ul style="list-style-type: none"> - Lustre 16.95PB (All-flash) - In units of 4TB, Maximum resources per 1 project: 40TB <p>[Resource usage fee calculation formula]</p> <ul style="list-style-type: none"> - CPU-Hours: Wall time in hours multiplied by the number of CPU sockets used. - GPU-Hours: Wall time in hours multiplied by the number of GPU cards used. - For details, please see Application Form 2. <p>[Software resources]</p> <p>Compilers: Intel oneAPI (Fortran/C/C++), GNU Compiler, NVIDIA HPC SDK, NVIDIA CUDA Toolkit, Java, Python</p> <p>Libraries: ARPACK, EigenExa, FFTW, HDF5, Intel oneMKL, Intel MPI, NetCDF, OpenCV, PETSc, PLASMA, SALS, SLEPc, SuperLU, PARPACK, Trilinos, z-Pares</p> <p>Application software : ABINIT-MP, BLAST, FrontFlow/blue,</p>

	<p>FrontFlow/red, FrontISTR, GAMESS, Gaussian, GENESIS, Gfarm, Ghostscript, GIMP, Globus Toolkit, Gnuplot, GROMACS, HΦ, Meep, MODYLAS, NAMD, NTChem, OpenFOAM, OpenMX, ParaView, PHASE, PHASE/0, R, SALMON, SMASH, TensorFlow, VisIT, WRF, Xcrypt, V-FaSTAR, MyPresto, Quantum ESPRESSO, Keras, PyTorch, MXNet, mVMC, AkaiKKR, ALAMODE, Phonopy, FFX, FFVHC-ACE</p> <p>2. <u>Research Cloud</u> (From July 2025, planned)</p> <p>[Hardware resources] (planned)</p> <p>1) Shared Kubernetes Cluster (Up to 200 virtual CPU cores (with 400GB memory), 1 physical GPU, and 20TB of persistent volumes can be allocated for each project.) The total resources available across all JHPCN projects are limited to 800 virtual CPU cores, 2 physical GPUs, 80TB of persistent volumes. This cluster is shared among JHPCN projects and other non-JHPCN users.</p> <p>2) Dedicated Kubernetes Cluster (Up to 1 dedicated cluster, consisting of 3 physical nodes, and 20TB of persistent volumes can be allocated for each project.) The maximum number of dedicated clusters across all projects is limited to 1. The 3 nodes are exclusively reserved for this cluster.</p> <p>[Resource usage fee calculation formula] For details, please see Application Form 2.</p> <p>[Software resources] Applications, such as MariaDB, Apache Spark, and Istio, are provided through Rancher offering application catalogs. Installation of other applications is negotiable (At least, availability of reliable and/or official Helm repository is required).</p> <p>[Usage] SINET L2VPN to mdx I is negotiable (dedicated cluster only).</p>
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Cyberscience Center, Tohoku University	<p>[Remarks] Storage : 20TB / project (per 1TB possible to add), common to Subsystem AOBA-A, AOBA-B(Maximum storage capacity : negotiable), AOBA-S are separate</p> <p style="text-align: center;"><u>1. Supercomputer AOBA Subsystem AOBA-S(504nodes)</u></p> <p>[Hardware resources] About 21.05PFLOPS(DP), Main memory 504TB, Maximum number of nodes 256, Shared use</p> <p>[Resource usage fee] CPU:1NH = 100 JPY Strage:1TB · year = 3,000 JPY</p> <p>[Software resources] Compilers : Fortran Compiler, C/C++ Compiler Libraries : NEC MPI, NEC Numeric Library Collection(including BLAS, FFTW, LAPACK, ScaLAPACK) , Ftrace Viewer, PROGINF/FTRACE Application software : Quantum ESPRESSO, FPSEID²¹, ABINIT-MP, PHASE/0 Container virtualization: Singularity(Docker image supported)</p> <p style="text-align: center;"><u>2. Supercomputer AOBA Subsystem AOBA-A(72nodes)</u></p> <p>[Hardware resources] About 1.48PFLOPS(DP), Main memory 45TB, Maximum number of nodes 32, Shared use</p> <p>[Resource usage fee calculation formula] CPU:1NH = 75 JPY Strage:1TB · year = 3,000 JPY</p> <p>[Software resources] Compilers : Fortran Compiler, C/C++ Compiler Libraries : NEC MPI, NEC Numeric Library Collection(including BLAS, FFTW, LAPACK, ScaLAPACK) , Ftrace Viewer, PROGINF/FTRACE Application software : Quantum ESPRESSO, ABINIT-MP, PHASE/0, HΦ, FrontFlow/blue, FrontISTR</p> <p style="text-align: center;"><u>3. Supercomputer AOBA Subsystem AOBA-B(68nodes)</u></p> <p>[Hardware resources] About 278.5TFLOPS(DP), Main memory 17TB, Maximum number of nodes 16, Shared use</p> <p>[Resource usage fee] CPU:1NH = 22 JPY Strage:1TB · year = 3,000 JPY</p> <p>[Software resources] Compilers : AOCC (AMD Optimizing C/C++ Compiler), GNU Compiler Collection(Fortran, C/C++), Intel Compiler(Fortran, C, C++) Libraries : AMD uProf, AMD Optimizing CPU Libraries, Open MPI Application software : Gaussian16, GRRM17, MATLAB, Quantum ESPRESSO, OpenFOAM, GROMACS, LAMMPS, ABINIT-MP, PHASE/0, GENESIS, MODYLAS, NTChem, SALMON, HΦ, OpenMX, SMASH, mVMC, ALAMODE, Phonopy, AkaiKKR, FrontFlow/blue, FrontISTR, FFX, FFVHC-ACE Container virtualization: Singularity(Docker image supported)</p>
Information Technology Center, the University of Tokyo	<p><u>Wisteria/BDEC-01(Odyssey): Supercomputer System for Integration of “Simulation+Data+Learning”, Simulation Nodes, 7,680 nodes of Fujitsu A64FX</u></p> <p>[Hardware resources]</p>

	<p>Maximum tokens for each project: 276,480 Node-Hour's, Storage 64TB (<u>2TB/(8,640 Node-Hour's)</u>), Additional Storage Space on "Ipomoea-01" (0.300TB/(8,640 Node-Hour's)), Acceptable Job: up to 2,304 nodes</p> <p>[Conversion formulas of resources into fees] 1 Node-Hour = 10.41 JPY</p> <p>[Software resources] Compilers: Fortran, C, C++ Libraries: MPI, BLAS, LAPACK/ScaLAPACK, FFTW, PETSc, METIS/ParMETIS Application software: OpenFOAM, ABINIT-MP, PHASE, FrontFlow/Blue, FrontISTR, REVOCAP, ppOpen-HPC Container: singularity (docker image possible)</p> <p>2. <u>Wisteria/BDEC-01(Aquarius: Shared Use): Supercomputer System for Integration of "Simulation+Data+Learning", Data/Learning Nodes, 45 nodes of (Intel Xeon Platinum 8360Y + NVIDIA A100) (8 GPU's/node, Total 360 GPU's)</u></p> <p>[Hardware resources] Maximum tokens for each project: 95,040 GPU-Hour's, Storage 66TB (<u>6TB/(8,640 GPU-Hour's)</u>), Additional Storage Space on "Ipomoea-01" (0.900TB/(8,640 GPU-Hour's)), Acceptable Job: up to 8 nodes (64 GPU's)</p> <p>[Conversion formulas of resources into fees] 1GPU-Hour = 31.25 JPY</p> <p>[Software resources] Compilers: Fortran, C, C++ Libraries: MPI, BLAS, LAPACK/ScaLAPACK, FFTW, PETSc, METIS/ParMETIS Application software: OpenFOAM, ABINIT-MP, PHASE, FrontFlow/Blue, FrontISTR, REVOCAP, ppOpen-HPC (Some of them don't work on GPU), MATLAB (*) (*) Available for academic users only Container: singularity (docker image possible)</p> <p>3. <u>Wisteria/BDEC-01(Aquarius: Occupied Use): Supercomputer System for Integration of "Simulation+Data+Learning", Data/Learning Nodes, 45 nodes of (Intel Xeon Platinum 8360Y + NVIDIA A100) (8 GPU's/node, Total 360 GPU's)</u></p> <p>[Hardware resources] Maximum tokens for each project: 69.120 GPU-Hour's, Storage 48 TB (<u>6TB/(8,640 GPU-Hour's)</u>), Additional Storage Space on "Ipomoea-01" (0.900TB/(8,640 GPU-Hour's)), <u>Options for occupying "1, 2, 4 or 8" GPU's are available Please specify number of GPU's which you want to "occupy" in the application. Moreover, please make sure the total GPU-Hour's to be 1x, 2x, 4x or 8x of 8,640. If occupation for 8 GPU's is accepted, you can bring customized login node. Please contact uketsuke@cc.u-tokyo.ac.jp if you plan to apply to "Aquarius: Occupied</u></p>
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	<p>Use”.</p> <p>[Conversion formulas of resources into fees] 1GPU-Hour = 42.19 JPY</p> <p>[Software resources] Compilers: Fortran, C, C++ Libraries: MPI, BLAS, LAPACK/ScaLAPACK, FFTW, PETSc, METIS/ParMETIS Application software: OpenFOAM, ABINIT-MP, PHASE, FrontFlow/Blue, FrontISTR, REVOCAP, ppOpen-HPC (Some of them don't work on GPU), MATLAB (*) (*) Available for academic users only Container: singularity (docker image possible)</p> <p><u>Attention!! If you want to use both of “Odyssey” and “Aquarius”, please apply for 1 and 2 or 3. You can apply for all of 1, 2 and 3. Please feel free to contact uketsuke@cc.u-tokyo.ac.jp if you have any questions.</u></p> <p>4. <u>Wisteria/BDEC-01(Additional Storage):</u> [Hardware resources] Maximum additional space for each project: 100 TB [Conversion formulas of resources into fees] 1 TB/Year= 6,480 JPY</p> <p>5. <u>Miyabi-G: Supercomputer System of JCAHPC/Node Group with Accelerators. 1,120 nodes of NVIDIA GH200 (Grace Hopper Superchip) ((1CPU+1GPU)/node, Total: 1,120 CPUs + 1,120 GPUs)</u> [Hardware resources] Maximum tokens for each project: 86,400 GPU-Hour's, Storage 50TB (5TB/(8,640 Node-Hour's)), Additional Storage Space on “Ipomoea-01” (0.750TB/(8,640 GPU-Hour's)), Acceptable Job: up to 256 nodes (256CPUs+256GPUs), By using MIG (Multi-Instance GPU), it is possible to use the computer resources equivalent to 1/4 node.</p> <p>[Conversion formulas of resources into fees] 1GPU-Hour = 34.72 JPY</p> <p>[Software resources] Compilers: Fortran, C, C++ Libraries: MPI, BLAS, LAPACK/ScaLAPACK, FFTW, PETSc, METIS/ParMETIS Application software: OpenFOAM, ABINIT-MP, PHASE, FrontFlow/Blue, FrontISTR, REVOCAP, ppOpen-HPC (Some of them don't work on GPU), Container: singularity (docker image possible)</p> <p>6. <u>Miyabi-C: Supercomputer System of JCAHPC/Node Group with only CPUs. 190 nodes of Intel Xeon Max 9480 with only HBM. Total: 380 CPUs)</u> [Hardware resources] Maximum tokens for each project: 103,680 GPU-Hour's, Storage 48TB</p>
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	<p>(4TB/(8,640 Node-Hour's)), Additional Storage Space on "Ipomoea-01" (0.600TB/(8,640 GPU-Hour's)), Acceptable Job: up to 64 nodes (128 CPUs).</p> <p>[Conversion formulas of resources into fees] 1GPU-Hour = 27.78 JPY</p> <p>[Software resources] Compilers: Fortran, C, C++ Libraries: MPI, BLAS, LAPACK/ScaLAPACK, FFTW, PETSc, METIS/ParMETIS Application software: OpenFOAM, ABINIT-MP, PHASE, FrontFlow/Blue, FrontISTR, REVOCAP, ppOpen-HPC (Some of them don't work on GPU), MATLAB (*) (*) Available for academic users only Container: singularity (docker image possible)</p> <p>7. Miyabi-G/Miyabi-C (Additional Storage): [Hardware resources] Maximum additional space for each project: 50 TB [Conversion formulas of resources into fees] 1 TB/Year= 6,480 JPY</p>
Center for Information Infrastructure, Institute of Science Tokyo	<p>1. TSUBAME4.0 [Hardware resources] TSUBAME4.0 system includes 240 compute nodes, which provides 66.84PF performance (CPU 46,080 cores + GPU 960 slots) in total. (Shared use)</p> <p>[Conversion formulas of resources into fees] Please apply <i>quarterly</i> for computing resources. For storage, also please apply for each capacity of HDD (in units of 1TB) and SSD (in units of 100GB) at the beginning of fiscal year. Computing resources and storage are rounded up after totaling in Unit. The rounded up portion is provided as additional computing resources. "Unit" is a unit for resource management at TSUBAME4.0. *For details on the amount per unit, please refer to application form (2).</p> <p>Computing resources: 400NH = 1 Unit * Maximum computing resources per 1 project in 4th quarter: 1,600NH Storage: HDD 1 TB-year = 6 NH = 0.015 Unit SSD 100 GB-year = 2.4 NH = 0.006 Unit * Maximum storage per 1 project: HDD 100TB (= 1.5 Unit) SSD 3 TB (= 0.18 Unit)</p> <p>[Software resources] OS: Red Hat Enterprise Linux Language Compiler: Intel oneAPI, NVIDIA HPC SDK, Arm Forge, CUDA, GNU compiler Collection, g++, Python, ruby, perl, PHP Libraries: Gaussian, Gauss View, AMBER (only for academic user), VASP (compiled binaries are available only to licensed academic users), GAMESS, QUANTUM ESPRESSO, Tinker, GROMACS, LAMMPS, NAMD, CP2K, OpenFOAM, Alphafold, PyTorch,</p>

	<p>TensorFlow, POV-Ray, ParaView, VisIt, vmd, VESTA, Hadoop, gimp, gnuplot, R</p> <p>Linux container: Apptainer</p>
Information Technology Center, Nagoya University	<p><u>1. Supercomputer "Flow" Type I subsystem FX1000</u></p> <p>[Hardware resources] 7.782 PFLOPS (2,304 nodes, 110,592 cores (+4,800 assistant cores), 72TiB memory)</p> <p>[Conversion formulas of resources into fees] CPU: 1NH = 25 JPY Hot Storage: TB x year= 3,900 JPY</p> <p>[Software resources] OS: Red Hat Enterprise Linux 8 Development Environment: Fujitsu Technical Computing Suite Libraries: BLAS, LAPACK, ScaLAPACK, FFTW, SuperLU, SuperLU M, SuperLU DIST, METIS, MT-METIS, ParMETIS, Scotch, PT-Scotch, PETSc, MUMPUS, Xabclib, ppOpen-APPL, ppOpen-AT, ppOpen-MATH, LINSYS_V, DHPMM_F Application software: NetCDF, Parallel netCDF, HDF5, JHPCN-DF, OpenCV, Geant4, Caffe, Chainer, Keras, PyTorch, TensorFlow, Theano, Mxnet, ONNX, conda, Numpy, Scipy, scikit-image, pillow, matplotlib, jupyterlab, OpenFOAM, FrontISTR, AMBER, Gaussian, Gromacs, LAMMPS, NAMD, Modylas</p> <p><u>2. Supercomputer "Flow" Type II subsystem CX2570</u></p> <p>[Hardware resources] 7.489 PFLOPS (221 nodes, 8,840 CPU cores+2,263,040 FP64 GPU cores)</p> <p>[Conversion formulas of resources into fees] CPU: 1NH = 126 JPY Hot Storage: TB x year= 3,900 JPY</p> <p>[Software resources] OS: CentOS 7.7 Development Environment, Libraries: Intel Compiler, PGI Compiler, Arm Forge Professional, NVIDIA CUDA SDK, Singularity, FFTW, SuperLU, SuperLU MT, SuperLU DIST, METIS, MT-METIS, ParMETIS, Scotch, PT-Scotch, PETSc, MUMPUS, Xabclib, ppOpen-APPL, ppOpen-AT, ppOpen-MATH, LINSYS_V, DHPMM_F Application software: NetCDF, Parallel netCDF, HDF5, JHPCN-DF, OpenCV, Geant4, Caffe, Chainer, Keras, PyTorch, TensorFlow, AlphaFold, Theano, Mxnet, ONNX, Conda, Numpy, Scipy, scikit-image, pillow, matplotlib, jupyterlab, OpenFOAM, LS-Dyna, FrontISTR, AMBER, Gaussian, Gamess, Gromacs, LAMMPS, NAMD, Modylas, HyperWorks</p> <ul style="list-style-type: none"> ● Maximum resource allocation amount per issue <ul style="list-style-type: none"> ➤ Type I : 120,000 NH ➤ Type II: 23,800 NH ➤ Hot Storage: 600 TB x year ➤ Login node Occupied: 1 unit x use Month ➤ Type II Subsystem node Occupied 2 unit x use Month ➤ Visualization System: 1 set x year <p>All resources are shared with general users.</p>
Academic	1. Camphor3 (Intel Xeon)

Center for Computing and Media Studies, Kyoto University	<p>[Hardware resources]</p> <p>① Year-round use 96 nodes, 10,752 cores, 652.8 TFLOPS x 12 months (From 1st, April, 2025 to the end of March 2026, maximum 32 nodes per project x 12 months)</p> <p>② Intensive use 96 nodes, 10,752 cores, 652.8 TFLOPS x 8 weeks (maximum 96 nodes per project x 4 weeks, Weekly)</p> <p>③ Storage Provides a minimum of 10 TB per one project. Storage capacity is increased according to the node hours used for the full term (approximately 1 TB per 720 node hours). Only storage capacity can be added in 10TB increments (maximum storage capacity is negotiable).</p> <p>[Conversion formulas of resources into fees]</p> <p>1 1NH = 20.8 JPY 2 1NH = 53.5 JPY 3 10 TB = 10,000 JPY</p> <p>[Software resources] OS: Red Hat Enterprise Linux 8 Compilers: Intel oneAPI (Fortran, C/C++, OpenMP) Libraries: Intel oneAPI MKL (BLAS, LAPACK, ScaLAPACK) Application Software: Gaussian16, GaussView</p> <p>For more information on resources, please refer to the following URL: https://www.iimc.kyoto-u.ac.jp/en/services/comp/supercomputer/system/specification.html</p>
D3 Center, Osaka University	<p><u>SQUID(https://www.hpc.cmc.osaka-u.ac.jp/en/squid/)</u></p> <p>[Hardware resources]</p> <p>- Resource per project: General purpose CPU nodes: up to 13.01 node years (Shared Use) up to 1.97 node years (Dedicated Use) GPU nodes: up to 2.05 node years Vector nodes: up to 3.42 node years Storages: up to HDD 500 TB, SSD 10TB</p> <p>- Computational node: General purpose CPU nodes: 1,520 nodes (380 TB memory) will be provided up to 304 node years in shared use and dedicated use. GPU nodes: 42 nodes (21 TB memory, 8 NVIDIA A100 per 1 node) will be provided up to 6 node years in shared use. Vector nodes: 36 nodes (4.5 TB memory, 8 SX-Aurora TSUBASA Type 20A per 1 node) will be provided up to 5 node years in shared use. Storages: Lustre 20.0 PB (HDD) + 1.2 PB (NVMe). In the case of SSD, specify it in the application form.</p> <p>[Conversion formulas of resources into fees]</p> <p>General purpose CPU nodes [Shared Use]: 1 node hour = 28.1 JPY</p> <p>General purpose CPU nodes [Dedicated Use]: 1 node month = 126,500 JPY</p> <p>GPU nodes [Shared Use]: 1 node hour = 171.6 JPY Vector nodes [Shared Use]: 1 node hour = 105.8 JPY HDD: If up to 5 TB, 0 JPY. If over 5TB, 1 TB/year = 2,200 JPY SSD: 1 TB/year = 5,500 JPY</p>

	<p>[Software resources] [Development environment] Intel Compiler(FORTRAN, C, C++), NEC SDK for VE(FORTRAN, C, C++), GNU Compiler(FORTRAN, C, C++), NVIDIA HPC SDK, OpenJDK, Intel OneAPI, NEC Parallel Debugger, Arm Forge, Python, R, Julia, Octave, CUDA, Jupyter notebook [MPI Library] Intel MPI, OpenMPI, NEC MPI [Library] NEC Numeric Library Collection(BLAS, LAPACK, ScaLAPACK, FFT etc), Intel Math Kernel Library, GNU Scientific Library, NetCDF, Parallel netcdf, HDF5, FFTW [Application software] TensorFlow, Keras, PyTorch, pbdR, Gaussian, IDL, Paraview, Gnuplot, ImageMagick, NcView, AVS/Express, GROMACS, OpenFOAM, LAMMPS, GAMESS, ABINIT-MP, Relion, ADIOS, VisIt, HΦ, MODYLAS, NTChem, OpenMX, SALMON, SMASH, FFX, PHASE/0, FrontISTR, GENESIS, mVMC, FrontFlow/blue, FFVHC-ACE, Phonopy, ALAMODE, AkaiKKR, GENESIS, PHASE/0, FrontISTR</p>
Research Institute for Information Technology, Kyushu University	<p><u>1. NodeGroup A</u> [Hardware Resources] 1.1 (Fixed-node) The maximum resources allocated for 1 project are 8 nodes for 12 months. Most of resources are dedicated to the project. 1.2 (Shared-use) 16,000 node-hours (approx. value). It is shared with general users. [Node Info] CPU: Xeon Platinum 8490H 1.9GHz / 60C x 2 MEM: 512GB [Conversion formulas of resources into fees] 1.1 8 nodes month = 144,000 JPY 1.2 16,000 node-hours = 480,000 JPY</p> <p>[Software Resources] Please see the WEB page. https://www.cc.kyushu-u.ac.jp/scp/system/Genkai/software/</p> <p><u>2. NodeGroup B</u> [Hardware Resources] (Shared-node) 4,000 node-hours (approx.. value). It is shared with general users. [Node Info] CPU: Xeon Platinum 8490H 1.9 GHz / 60C x2 GPU: NVIDIA H100(SXM5) x4 MEM : 1,024GB GPU mem : 94GB/GPU [Conversion formulas of resources into fees] 4,000 nodes-hours = 480,000 JPY</p> <p>[Software Resources] Please see the WEB page. https://www.cc.kyushu-u.ac.jp/scp/system/Genkai/software/</p>

	<p><u>3.</u> Large storage 1TB of large storage is provided per issue. Additional storage can be added in increments of 10TB if desired. (Up to a maximum of 100TB) [Conversion formulas of resources into fees] 10TB month = 1,300 JPY</p> <p><u>4.</u> Fast storage Fast storage can be added in 1TB increments up to a maximum of 10TB per issue. [Conversion formulas of resources into fees] 1TB month = 420 JPY</p> <p>If you intend to use multiple resource, please contact us before applying, because the resource limit of one project may be reached <u>If you wish to use multiple resources, please use a common usage period.</u></p> <p>If you require more storage capacity than the maximum, please contact us.</p>
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Appendix 1(2): List of the non-HPCI resources available
at the JHPCN member institutions for the Joint Research Project

mdx is managed by multiple institutions including the member institutions, and it is treated here as an independent institution.

JHPCN Institution	Computational Resources, Type of Use (<u>The underline parts are resource names</u>)
mdx	<p><<Hardware resources as a whole of the mdx system>></p> <ul style="list-style-type: none"> ● General-purpose (CPU) node: PRIMERGY CX2550 M6 : Intel Xeon Platinum 8368 (IceLake 38 cores, 2.4GHz x 2 sockets) x 368 nodes ● GPU node: PRIMERGY GX2570 M6 : (Intel Xeon Platinum 8368 (IceLake 38 cores, 2.4GHz x 2 sockets) + NVIDIA A100 GPU x 8) x 40 nodes ● Storage for virtual disk: Approx. 444 GB ● High-speed internal storage: Approx. 9.3 PB, Lustre file system ● High-capacity storage: approx. 15.6 PB: Approx. 15.6 PB, Lustre file system ● AWS S3 compatible object storage: Approx. 9.4 PB ● External connection: 400 Gb/s (SINET6 connection), L2VPN available (on request) ● Internal network: Overlay network with Virtual eXtensible LAN (VXLAN), project-specific VLANs assigned (multiple assignments possible) ● Please check out https://mdx.jp/en/mdx1 for more information on mdx, including an overview of mdx, the virtual machine services available through mdx, the concept of resource allocation, and usage fees <p><<How to use mdx resources>></p> <p>The mdx's resources are provided by the 'shared wallet'. When using mdx, purchase mdx points (1 point = 1 yen) from these wallets to apply for resources such as VMs. The validity period for points granted by JHPCN is until March 31. Additionally, it is possible to purchase additional points with self-funding in case of insufficient points from JHPCN (in such cases, the validity period for mdx points is either six months from the date of grant or until the end of the</p>

	<p>fiscal year, whichever is earlier).</p> <ul style="list-style-type: none"> ➤ Select 'Use' on Form 2 of the mdx's sheet. ➤ On the application form, the budget will be the lower of '1 million yen' and '3.6 million yen - the estimated amount at other locations,' it does not require a detailed estimate. ➤ The total of the above budgets for all projects using mdx becomes the shared wallet (to be precise, the amount excluding the 100,000 yen mentioned below becomes the shared wallet), which is available for shared use in all projects. ➤ Even if the shared wallet is depleted, each project can use 100,000 yen. <p><<Resource Allocation Application>></p> <ul style="list-style-type: none"> ● The range of resources available in the entire mdx. ● Project users apply for the amount of resources they need within the range of available resources in the entire mdx, and when they are no longer needed, they are released. ● However, the application may be rejected after taking into account the amount of available resources for the entire mdx and the shared budget, and the amount of resources allocated to each project may be reduced during use if the overall amount of resources is tight. In this case, users will be notified in advance by e-mail or other means. ● The reserved VM should be requested through the user portal. ● The spot VM needs no request (the project member specifies it when using spot VM). ● In JHPCN projects, the reserved VM for the GPU pack is not recommended. However, if it is necessary for the project's execution, please describe the reason in Form 1. <p><<Allocatable resources for each project>></p> <p>The following computing resources are applied for each project and allocated to the activated VMs.</p> <ul style="list-style-type: none"> ● <u>General-purpose (CPU) node</u>: 1 CPU pack (1 core (vCPU). Approximately 1.5 GB per core) ● <u>Compute-accelerated (GPU) node</u>: 1 GPU pack (1 GPU + 18 cores (vCPU), approx. 57 GB memory) ● <u>Storage for virtual disk, high-speed internal storage, mass storage.</u>
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	<p><u>object storage</u>: Apply in 1 GB increments</p> <ul style="list-style-type: none"> • <u>Global IP address</u>: Apply in units of 1 IP <p><<Software resources>></p> <ul style="list-style-type: none"> • Virtual machines will run on virtualization software: VMware vSphere (vCenter, ESXi). The software (including OS) necessary for the project will be installed on the virtual machine by each project. In addition, a template of a virtual machine with OS and software packages pre-installed will be provided. • Users can allocate and use the necessary computing resources and networks from the resources allocated to the project to the VMs through the portal. • If you need to consider linking with resources other than mdx, such as L2VPN, please contact the support desk (mdx-help@mdx.jp) in advance.
Information Initiative Center, Hokkaido University	<p>1. <u>Large-format printer</u> [Hardware resources] Large-format printer [Software resources]</p>
Cyberscience Center, Tohoku University	<p>1. <u>Large-format printer</u> [Hardware resources] Large-format printer [Software resources] [Usage]</p>
Information Technology Center, The University of Tokyo	N/A
Center for Information Infrastructure, Institute of Science Tokyo	N/A
Information Technology Center, Nagoya University	<p>1. <u>Login node Occupied</u> [Hardware Resources] A login node dedicated to Type I subsystems or Type II subsystems. It can be connected from off-campus via L2VPN and can be used exclusively. Individual connection and settings are required for use, so please contact us in advance. https://icts.nagoya-u.ac.jp/ja/sc/overview.html#login [Usage] L2VPN Ready</p>

	<p>[Conversion formulas of resources into fees] Login node Occupied: unit x use Month= 45,000 JPY</p> <p><u>2. Type II Subsystem node Occupied</u> [Hardware Resources] Node-occupied use of Type II subsystems. You can connect with L2VPN from out of campus and use it for occupancy. Since equipment, consumables, connections, and settings are required for your use, please contact us before submitting your project. https://icts.nagoya-u.ac.jp/ja/sc/overview.html#type2</p> <p>[Usage] L2VPN Ready</p> <p>[Conversion formulas of resources into fees] Type II subsystem node Occupied: unit x use Month= 45,000 JPY</p> <p><u>3. Visualization system</u> [Hardware Resources] 185-inch 8K tiled display, 180-inch 3D visualization system, Domed display system, Image Processing client and Onsite client of Supercomputer "Flow" (Remote visualization using NICE DCV is available.) https://www.icts.nagoya-u.ac.jp/en/sc/</p> <p>[Usage]</p> <p>[Conversion formulas of resources into fees] Visualization System: set x year= 20,000 JPY</p>
Academic Center for Computing and Media Studies, Kyoto University	<p><u>1. Virtual Server Hosting</u> [Hardware resources] Standard configuration: CPU 2 cores, memory 4GB, disk 100GB Resource increase: CPU is up to 8 cores in 2 cores units. Memory is up to 64GB in 4GB units. Disks is up to 1TB in 100GB units. Total resources provided: CPU 32 cores, memory 256GB, disk 8TB</p> <p>[Conversion formulas of resources into fees] Standard configuration: 1VM = 38,400 JPY Resource increase:</p> <p>① CPU 2 cores = 3,600 JPY ② Memory 4GB = 3,600 JPY ③ Disk 100GB = 7,200 JPY</p> <p>[Software resources] Hypervisor: VMware OS: AlmaLinux8</p> <p>[Usage] SINET L2VPN is available</p> <p>For more information on resources, please refer to the following URL: https://www.iimc.kyoto-u.ac.jp/en/services/comp/vm/</p>
D3 Center, Osaka University	<p><u>1. ONION (object storage)</u> <u>Object storage that can be linked with large-scale computer systems, cloud storage, etc. via S3 API.</u></p> <p>[Hardware resources] <u>Cloudian HyperStore</u> up to HDD 80TB per project</p> <p>[Conversion formulas of resources into fees]</p>

	1 TB/year = 13,200 JPY
Research Institute for Information Technology, Kyushu University	N/A