

HOKKAIDO UNIVERSITY INFORMATION INITIATIVE CENTER
RULES FOR USING LARGE-SCALE COMPUTER SYSTEM

As of April 1, 2003
HU Doc. No. 15

(Intent)

Article 1

These *Rules* shall govern the use of large-scale computer system (hereinafter referred to as “Large-Scale Computer System”) that is managed and operated by Hokkaido University Information Initiative Center (hereinafter referred to as the “Center”).

(Purpose of Use)

Article 2

The Large-Scale Computer System may be used for academic research (limited to the research which may be published to demonstrate its achievement) or for research and development conducted by private sector or corporate bodies. However, if it is found appropriate by Director of Hokkaido University Information Initiative Center (hereinafter referred to as the “Director”), it may be used for educational purposes to the extent not interfering with the original purpose of use.

(Eligibility)

Article 3

- (1) Persons who fall under any of the following items are eligible to use the Large-Scale Computer System for academic research:
- (i) Academic staff of a university, junior college, college of technology or inter-university research institute or equivalent;
 - (ii) Persons who belong to an incorporated administrative agency and are engaged solely in research (except for those falling under the preceding item);
 - (iii) Persons who belong to a national government or local government agency and are engaged solely in research;
 - (iv) Persons who belong to an institution whose purpose is academic research (except for those described in the preceding item) and which is approved by the Director, and are engaged solely in research;
 - (v) Persons who are conducting academic research under Grants-in-Aid for Scientific Research (KAKENHI);
 - (vi) Persons who are participating in research as a co-investigator (*Kenkyu-buntan-sha*) under the agreement with the institution to whom the person set forth in each

- preceding item belong, and are engaged solely in research;
- (vii) Persons who are enrolled in a university, junior college or college of technology (referred to as “Students” in Appended Table 1); or
 - (viii) Persons specially approved by the Director.
- (2) Persons who belong to a private sector or corporate body which has passed the evaluation criteria specified separately and who have been approved by the Director are eligible to use the Large-Scale Computer System for research and development.

(Application for Use)

Article 4

Persons who intend to use the Large-Scale Computer System must file an application as specified to obtain approval from the Director.

(Approval for Use)

Article 5

- (1) In cases where the application has been received as described in Article 4 and when it is found appropriate, the Director shall approve the said application and allocate a user number.
- (2) The maximum validity period of the user number described in the preceding paragraph is one year and it may not carry over to the following fiscal year.

(Changing the Application Details)

Article 6

Persons who have been approved to use the Large-Scale Computer System (hereinafter referred to as “Users”) must report to the Director without delay when there is a change in the application details during the validity period.

(Cooperation from Users)

Article 7

The Director may ask for the Users’ cooperation in relation to the operation of the Large-Scale Computer System after obtaining their consent.

(Unauthorized Use of User Number)

Article 8

The Users must not use their user number for a purpose other than the original purpose described in the application, and must not give their number to a third party.

(Suspension of Use)

Article 9

When the Users have violated these *Rules* or caused serious damage to the operation of the Large-Scale Computer System, the Director may cancel the approval granted for the said User or prohibit the said User from using the Large-Scale Computer System for a specified period.

(Submission of Report)

Article 10

- (1) The Director may request the Users to submit a report on matters relating to the use of Large-Scale Computer System whenever necessary.
- (2) When publishing an article or paper concerning the achievement of research obtained by using the Large-Scale Computer System, the Users shall clearly indicate in the article or paper that they have used the Large-Scale Computer System, and donate a copy of such article or paper to the Director.

(Charges)

Article 11

- (1) The Users must pay a user charge as part of the expenses needed for the operation of the Large-Scale Computer System (hereinafter referred to as “Charge”). However, all or part of the Charge may be exempted when deemed necessary by the Director.
- (2) Persons who intend to use the Large-Scale Computer System must notify the Director of the name of the person who will pay the Charge or the person in charge of accounting in advance.
- (3) The amount of the Charge described in paragraph (1) shall be as specified in the following items in accordance with the cases set forth in those items.
 - (i) Cases where the Users who fall under each item of Article 3(1) use the system: The amount described in Appended Table 1
 - (ii) Cases where the Users fall under Article 3(2) and are going to publish the research achievement obtained by using the Large-Scale Computer System: The amount described in Appended Table 2
 - (iii) Cases where the Users fall under Article 3(2) and are not going to publish the research achievement obtained by using the Large-Scale Computer System: The amount described in Appended Table 3.

(Payment Methods)

Article 12

The Charge shall be paid as set forth in the following:

- (i) Internal Users shall make payment by transfer of cost within the University (except

for the case where the Charge is covered by the Grants-in-Aid for Scientific Research (KAKENHI)).

- (ii) Internal Users whose Charge is covered by the Grants-in-Aid for Scientific Research (KAKENHI) and the external Users shall make payment by transferring the specified amount to the bank account designated by the University by the designated date. In this case, the Charge which has been paid shall not be refunded.

(Miscellaneous Provisions)

Article 13

In addition to what is prescribed in these *Rules*, matters necessary for the use of the Large-Scale Computer System are stipulated by the Director.

Supplementary Provisions

- (1) These *Rules* come into force as of April 1, 2003.
- (2) *Rules Prescribing Temporary Measures for the Use of Hokkaido University Computing Center* (HU Doc. No. 44 of 1970) and *Rules Prescribing Temporary Measures for the Expenses Concerning Hokkaido University Large-Scale Computer Center* (HU Doc. No. 45 of 1970) are abolished.

Supplementary Provisions (HU Doc. No. 152 of April 1, 2004)

These *Rules* come into force as of April 1, 2004.

Supplementary Provisions (HU Doc. No. 105 of April 1, 2006)

These *Rules* come into force as of April 1, 2006.

Supplementary Provisions (HU Doc. No. 173 of April 1, 2007)

These *Rules* come into force as of April 1, 2007.

Supplementary Provisions (HU Doc. No. 9 of March 19, 2010)

These *Rules* come into force as of April 1, 2010.

Supplementary Provisions (HU Doc. No. 177 of October 1, 2011)

These *Rules* come into force as of November 1, 2011.

Supplementary Provisions (HU Doc. No. 33 of February 18, 2014)

These *Rules* come into force as of April 1, 2014.

Supplementary Provisions (HU Doc. No. 160 of April 1, 2015)

These *Rules* come into force as of April 1, 2015.

Supplementary Provisions (HU Doc. No. 158 of December 1, 2018)

These *Rules* come into force as of December 1, 2018.

Appended Table 1 (Re: Article 11)

Cour se	Category	Description	Charge (JPY)
Gene ral	Basic service	All persons who applied for using the Large-Scale Computer System except for Students (for each application)	12,960 per year
		Students who applied for using the Large-Scale Computer System (for each application)	2,160 per year
Additi onal servic e	Supercomputer system	Select the relevant usage of batch processing from among the following (limited to the use within a fiscal year)	
		1. Data processing by using shared nodes (multiple Users share the resources; the same applies hereinafter)	
		(1) Subsystem A (consisting of 1,004 nodes and each node has two multicore CPUs and 384 GB memory; hereinafter the same)	
		Operation Time up to 3,000,000 sec.	24,000
		Operation Time up to 15,000,000 sec.	81,000
		Operation Time up to 100,000,000 sec.	405,000
		Operation Time up to 250,000,000 sec.	810,000
		(2) Subsystem B (consisting of 288 nodes and each node has one many-core CPU and 96 GB memory; hereinafter the same)	
		Operation Time up to 3,000,000 sec.	19,500
		Operation Time up to 15,000,000 sec.	66,000
		Operation Time up to 100,000,000 sec.	330,000
		Operation Time up to 250,000,000 sec.	660,000
		2. Data processing by using fixed-rate exclusive nodes (a User and her/his permitted colleagues use one or more nodes fully dedicated for their use;	

		hereinafter the same) and the use of supercomputer storage	
		(1) Subsystem A	93,000
		For each node (including 3TB work area)	
		(2) Subsystem B	78,000
		For each node (including 3TB work area)	
		3. The use of supercomputer storage	
		(1) home area (per 1TB)	20,000
		(2) work area (per 3TB)	30,000
	Cloud system	Select the relevant cloud system from among the following (limited to the use within a fiscal year)	
		1. Cloud server	
		(1) Virtual server (per unit)	700 per month
		(minimum use of two units required.)	8,400 per year
		(2) Physical server (per server)	14,000 per month
			168,000 per year
		(3) Graphics Processing Unit (hereinafter referred to as “GPU”) server (per server)	20,000 per month
			240,000 per year
		(4) Additional storage (per 1TB)	500 per month
			6,000 per year
		2. Intercloud Package (virtual private cloud system deployed using physical servers installed at different sites nationwide; hereinafter the same)	
		(1) Three sites (per package)	42,000 per month
			504,000 per year
		(2) Four sites (per package)	56,000 per month
			672,000 per year
		3. Transfer server	
		(1) Hosting server	2,268 per month
			27,216 per year
		(2) S-Server (per server)	1,026 per month
			12,312 per year
		(3) M-Sever (per server)	4,104 per month
			49,248 per year
		(4) L-Server (per server)	10,260 per month
			123,120 per year
		(5) Additional storage to S, M and L Server (per 1TB)	1,890 per month
			22,680 per year

		4. Cloud storage (per 1TB)	500 per month 6,000 per year
	Output	The use of large format color printer	
		Plain paper	432 per paper
		Coated paper	1,188 per paper
		Cloth	3,996 per paper

Remarks

- (1) Out of the services available for the Large-Scale Computer System, persons who apply for the general course may use: supercomputer; application server; supercomputer storage; cloud server (virtual server, physical server, GPU server and transfer server); cloud storage; and large format printer.
- (2) The basic service includes the following:
 - (i) Supercomputer service
 - (a) The use of shared nodes for trial and debugging
 - (b) The use of application server
 - (c) Home area (supercomputer storage)
 - (ii) Cloud service
 - Cloud storage
- (3) When paying the Charge for the basic service, special fee for Students shall apply upon receiving a copy of applicant's student ID. Persons studying at the institution other than the university, junior college and college of technology may only be entitled to the special fee if specially approved by the Director.
- (4) In the service of using shared nodes, the operation time shall be calculated as the product of the number of used nodes and the elapsed time (in seconds).
- (5) Fixed-rate exclusive nodes shall be available from the date of approval to the end of the fiscal year, and the user charge shall be as set forth below in accordance with the date of approval.
 - (i) When the approval date falls between April and June: 100% of the user charge specified in the table
 - (ii) When the approval date falls between July and September: 75% of the user charge specified in the table
 - (iii) When the approval date falls between October and December: 50% of the user charge specified in the table
 - (iv) When the approval date falls between January and March: 25% of the user charge specified in the table
- (6) A research group may jointly use the supercomputer system (i.e., data processing by using shared nodes and by using fixed-rate exclusive nodes, and the use of supercomputer storage; hereinafter referred to as "Additional Service"). In this case,

members of the research group shall be appointed from among the Users by the applicant of the Additional Service.

- (7) Configurations of the server services available under the cloud server shall be as set forth in the following.
- (i) Virtual servers (per unit): 1 Core, 6GB Memory, 50GB Storage
 - (ii) Physical servers (per server): 40 Cores, 256GB Memory, 2TB Storage
 - (iii) GPU servers (per server): 40 Cores, 256GB Memory, 2TB Storage, 2 GPUs (Tesla V100)
- (8) Configurations of the server services available under the transfer server shall be as set forth in the following.
- (i) Hosting servers (per server): 1 Core (HA functionality), 3GB Memory, 100GB Storage
 - (ii) S-Server (per server): 1 Core, 3GB Memory, 100GB Storage
 - (iii) M-Server (per server): 4 Cores, 12GB Memory, 100GB Storage
 - (iv) L-Server (per server): 10 Cores, 30GB Memory, 100GB Storage
- (9) Intercloud Package may only be used by persons who are selected for the research project using the HPCI System offered by the Research Organization for Information Science and Technology (RIST) or for the joint-research project offered by the Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (JHPCN). However, if it is found appropriate by the Director, persons other than the aforementioned may use the Intercloud Package to the extent not interfering with their use.
- (10) Following are the locations and the number of physical servers available for the Intercloud Package.
- (i) Three locations: One physical server available at Hokkaido University, University of Tokyo and Osaka University respectively.
 - (ii) Four locations: One physical server available at Hokkaido University, University of Tokyo, Osaka University and Kyushu University respectively.

Appended Table 2 (Re: Article 11)

Course	Category	Description	Charge (JPY)
Private Sector	Basic service	All persons who applied for using the Large-Scale Computer System (for each application)	12,960 per year
	Additional service	Supercomputer system Select the relevant usage of batch processing from among the following (limited to the use within a fiscal year) 1. Data processing by using shared nodes (1) Subsystem A	

		Operation Time up to 3,000,000 sec.	36,000
		Operation Time up to 15,000,000 sec.	121,500
		Operation Time up to 100,000,000 sec.	607,500
		Operation Time up to 250,000,000 sec.	1,215,000
		(2) Subsystem B	
		Operation Time up to 3,000,000 sec.	29,250
		Operation Time up to 15,000,000 sec.	99,000
		Operation Time up to 100,000,000 sec.	495,000
		Operation Time up to 250,000,000 sec.	990,000
		2. Data processing by using fixed-rate exclusive nodes and the use of supercomputer storage	
		(1) Subsystem A	139,500
		For each node (including 3TB work area)	
		(2) Subsystem B	117,000
		For each node (including 3TB work area)	
		3. The use of supercomputer storage	
		(1) home area (per 1 TB)	30,000
		(2) work area (per 3 TB)	45,000
	Cloud system	Select the relevant cloud system from among the following (limited to the use within a fiscal year)	
		1. Cloud server	
		(1) Virtual server (per unit)	1,050 per month
		(minimum use of two units required)	12,600 per year
		(2) Physical server (per server)	21,000 per month
			252,000 per year
		(3) GPU server (per server)	30,000 per month
			360,000 per year
		(4) Additional storage (per 1TB)	750 per month
			9,000 per year
		2. Cloud storage (per 1TB)	750 per month
			9,000 per year

Remarks

- (1) Out of the services available for the Large-Scale Computer System, persons who apply for the private sectors course may use: supercomputer; supercomputer storage; cloud server (virtual server, physical server and GPU server); and cloud storage.
- (2) The basic service includes the following:

- (i) Supercomputer service
 - (a) Experimental use and the use of shared nodes for debugging
 - (b) Home area (supercomputer storage)
- (ii) Cloud service
 - Cloud storage
- (3) In the service of using shared nodes, the operation time shall be calculated as the product of the number of used nodes and the elapsed time (in seconds).
- (4) Fixed-rate exclusive nodes shall be available from the date of approval to the end of the fiscal year, and the user charge shall be as set forth below in accordance with the date of approval.
 - (i) When the approval date falls between April and June: 100% of the user charge specified in the table
 - (ii) When the approval date falls between July and September: 75% of the user charge specified in the table
 - (iii) When the approval date falls between October and December: 50% of the user charge specified in the table
 - (iv) When the approval date falls between January and March: 25% of the user charge specified in the table
- (5) A research group may jointly use the Additional Service. In this case, members of the research group shall be appointed from among the Users by the applicant of the Additional Service.
- (6) Configurations of the server services available under the cloud server shall be as set forth in the following.
 - (i) Virtual server (per unit): 1 Core, 6GB Memory, 50GB Storage
 - (ii) Physical server (per server): 40 Cores, 256GB Memory, 2TB Storage
 - (iii) GPU server (per server): 40 Cores, 256GB Memory, 2TB Storage, 2 GPUs (Tesla V100)

Appended Table 3 (Re: Article 11)

Cour se	Category		Description	Charge (JPY)
Priva te Sect ors	Basic service		All persons who applied for using the Large-Scale Computer System (for each application)	12,960 per year
	Additi onal servic e	Supercomputer system	Select the relevant usage of batch processing from among the following (limited to the use within a fiscal year) 1. Data processing by using shared nodes (1) Subsystem A Operation Time up to 3,000,000 sec.	48,000

		Operation Time up to 15,000,000 sec.	162,000
		Operation Time up to 100,000,000 sec.	810,000
		Operation Time up to 250,000,000 sec.	1,620,000
		(2) Subsystem B	
		Operation Time up to 3,000,000 sec.	39,000
		Operation Time up to 15,000,000 sec.	132,000
		Operation Time up to 100,000,000 sec.	660,000
		Operation Time up to 250,000,000 sec.	1,320,000
		2. Data processing by using fixed-rate exclusive nodes and the use of supercomputer storage	
		(1) Subsystem A	186,000
		For each node (including 3TB work area)	
		(2) Subsystem B	156,000
		For each node (including 3TB work area)	
		3. The use of supercomputer storage	
		(1) home area (per 1TB)	40,000
		(2) work area (per 3TB)	60,000
	Cloud system	Select the relevant cloud system from among the following (limited to the use within a fiscal year)	
		1. Cloud server	
		(1) Virtual server (per unit)	1,400 per month
		(minimum use of two units required)	16,800 per year
		(2) Physical server (per server)	28,000 per month
			336,000 per year
		(3) GPU server (per server)	40,000 per month
			480,000 per year
		(4) Additional storage (per 1TB)	1,000 per month
			12,000 per year
		2. Cloud storage (per 1TB)	1,000 per month
			12,000 per year

Remarks

- (1) Out of the services available for the Large-Scale Computer System, persons who apply for the private sectors course may use: supercomputer; supercomputer storage; cloud server (virtual server, physical server and GPU server); and cloud storage.
- (2) The basic service includes the following:
 - (i) Supercomputer service

- (a) The use of shared nodes for trial and debugging
 - (b) Home area (supercomputer storage)
- (ii) Cloud service
 - Cloud storage
- (3) In the service of using shared nodes, the operation time shall be calculated as the product of the number of used nodes and the elapsed time (in seconds). (4) Fixed-rate exclusive nodes shall be available from the date of approval to the end of the fiscal year, and the user charge shall be as set forth below in accordance with the date of approval.
 - (i) When the approval date falls between April and June: 100% of the user charge specified in the table
 - (ii) When the approval date falls between July and September: 75% of the user charge specified in the table
 - (iii) When the approval date falls between October and December: 50% of the user charge specified in the table
 - (iv) When the approval date falls between January and March: 25% of the user charge specified in the table
- (5) A research group may jointly use the Additional Service. In this case, members of the research group shall be appointed from among the Users by the applicant of the Additional Service.
- (6) Configurations of the server services available under the cloud server shall be as set forth in the following.
 - (i) Virtual server (per unit): 1 Core, 6GB Memory, 50GB Storage
 - (ii) Physical server (per server): 40 Cores, 256GB Memory, 2TB Storage
 - (iii) GPU server (per server): 40 Cores, 256GB Memory, 2TB Storage, 2 GPUs (Tesla V100)