A message from the director

Information infrastructure is an essential part of the engine behind research and education at any leading university. Keeping ahead of the global standard in this regard is key to the development of internationally competitive research and well-rounded education.

The Information Initiative Center was inaugurated in FY 2010 as a constituent of the Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (JHPCN), which is a network-type joint usage/research base, and was recertified for its second term in FY 2016. In its role as one of the eight JHPCN members, the Center engages in highly challenging interdisciplinary research using cutting-edge supercomputers and high-capacity network facilities to promote the creation of new knowledge via the cross-coupling of computational and computer science. It also contributes to the development of Japan’s academic information structure as a resource-providing organization supporting the formation of innovative high-performance computing infrastructure (HPCI) centered on the next-generation K supercomputer.

The Information Initiative Center also collaborates closely with the ICT Promotion Office, which is under the direct management of the President of Hokkaido University, and works to efficiently promote the development of information infrastructure at the university based on an action plan designed to materialize the university’s mid-term goals and plans with a focus on total system optimization, security and sustainability. In addition to the establishment and updating of the safe and secure, ultra-high-speed HINES campus network, an organization consisting of six research divisions was reformulated to further promote R&D related to high-performance intercloud systems (a feature of the Center), and the Cyber Security Center, which plays a central role in the university’s CSIRT activities, was established in October 2015.

In December 2018, based on the results of the R&D of the high-performance intercloud systems led by the Center, a large-scale interdisciplinary computer system that includes the academic cloud, which has been provided by the Center ahead of other institutions in Japan, will be updated and a new nationwide distributed cloud system service will be launched. The new system will achieve overall computing performance of 4-PFLOPS and will contribute to Japan’s HPCI as an advanced high-performance system.

The new system will provide infrastructure functions for open sciences, in addition to serving as a platform to promote competitive research in a wide range of areas, including large-scale simulations in natural sciences/engineering, as well as data science, big data analysis and machine learning/AI applications.

The Center remains committed to the realization of smart, green information infrastructure fitting of a leading university.

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**History**

### Large-scale computing infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 1982</td>
<td>Hokkaido University Computation Center established (for joint use by Hokkaido University, other national universities and technical colleges in Hokkaido) (HPC3, Hitachi; NEC8C205, NEC; storage capacity: 10 K words)</td>
</tr>
<tr>
<td>Apr. 1970</td>
<td>Hokkaido University Large-scale Computer Center established (for domestic joint use) (RA1OM200, Hitachi; 180 K words)</td>
</tr>
<tr>
<td>Nov. 1977</td>
<td>Terminal connection service involving the use of switched lines launched</td>
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<tr>
<td>Oct. 1978</td>
<td>Hitachi system introduced (HITAC M-180 (8 MB))</td>
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<td>Aug. 1986</td>
<td>Supercomputer introduced (S-810/10, Hitachi (128 MB))</td>
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</table>

### Educational information infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr. 1979</td>
<td>Center for Information Processing Education established (for on-campus joint use) (HITAC M-170, Hitachi)</td>
</tr>
<tr>
<td>Oct. 1991</td>
<td>Internet service (e-mail, web) launched</td>
</tr>
<tr>
<td>Mar. 1999</td>
<td>Center for Information Processing Education reorganized into Center for Information and Multimedia Studies</td>
</tr>
<tr>
<td>Apr. 1999</td>
<td>Large-scale general-purpose computer system replaced with WS- and PC-based server-client system</td>
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### Network infrastructure

<table>
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<tr>
<th>Year</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Mar. 1992</td>
<td>Hokkaido University Information Network System (HINES) established (FDOS)</td>
</tr>
<tr>
<td>Jan. 1995</td>
<td>Super information highway (ATM) operation launched</td>
</tr>
<tr>
<td>Mar. 1999</td>
<td>Operation of ultra-high-speed campus network extension system launched</td>
</tr>
</tbody>
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### Foundation of the Information Initiative Center

<table>
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<tr>
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<tbody>
<tr>
<td>Apr. 2003</td>
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<td>Nov. 2005</td>
<td>Center opening ceremony held</td>
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<td>Mar. 2005</td>
<td>Large-scale computer system updated (interdisciplinary computer systems (e.g., supercomputer, cloud) introduced)</td>
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<tr>
<td>Aug. 2009</td>
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<tr>
<td>Jul. 2009</td>
<td>Academic exchange agreement concluded with the Graduate School of Education at Korea University College of Education (Republic of Korea)</td>
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### Educational information system

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<td>Apr. 2014</td>
<td>Petabyte-class integrated data science cloud storage service launched</td>
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<tr>
<td>Mar. 2015</td>
<td>Campus network system updated</td>
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<td>Research agreement on large-scale demonstration experiment for a next-generation green supercomputer concluded with the National Institute of Informatics and Tokyo Institute of Technology</td>
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**HISTORY**

**1960s**

- **Aug. 1962** | Supercomputer introduced (S-810/10, Hitachi (128 MB))
- **Mar. 2010** | Educational information system updated

**1970s**

- **Apr. 1970** | Hokkaido University Large-scale Computer Center established (for domestic joint use) (RA1OM200, Hitachi; 180 K words)
- **Nov. 1977** | Terminal connection service involving the use of switched lines launched
- **Oct. 1978** | Hitachi system introduced (HITAC M-180 (8 MB))

**1980s**

- **Oct. 1981** | Large-scale Computer Center’s NT network service launched
- **Aug. 1986** | Supercomputer introduced (S-810/10, Hitachi (128 MB))
- **Apr. 1999** | Center for Information Processing Education reorganized into Center for Information and Multimedia Studies

**1990s**

- **Oct. 1993** | Large-scale general-purpose computer system replaced with WS- and PC-based server-client system
- **Mar. 1999** | Operation of ultra-high-speed campus network extension system launched

**2000s**

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- **Apr. 2014** | Petabyte-class integrated data science cloud storage service launched
- **Mar. 2015** | Campus network system updated
- **Oct. 2015** | Education information system updated
- **Jan. 2016** | Certification as a network-type Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures renewed (for the period from Apr. 2016 to Mar. 2022)
Interdisciplinary large-scale computer system

Hokkaido University High-Performance Intercloud

The Information Initiative center will replace the interdisciplinary large-scale computer system consisting of the supercomputer and cloud systems, and start the services of the new system at the beginning of December 2018. The overall peak performance of the new system is 4 PFLOPS, which is a significant increase from that of the previous system. The Information Initiative center will realize the Hokkaido University High-performance Intercloud system, which is an advanced computer system connecting a nation-wide scale distributed cloud system.

The Information Initiative center expects that the new system will be used for R&D related to computational science and computer science in Hokkaido University. The Information Initiative center will provide the computational resources of the system to open-type joint researches such as the Interdisciplinary Large-scale Computing System (JHPCN) projects, which will support researchers in both academia and industry all over Japan. The Information Initiative center will also promote education and human resource development related to computational science and computer science by use of the system, which will contribute to various fields. With the installation of the new system, the Information Initiative center further contributes to society.

Supercomputer system

The supercomputer system consists of Subsystem A, Subsystem B and the storage system. Both subsystems have Intel CPU and Linux OS, which is close to computational environments where users usually run their programs in laboratories and so on. The computational resources of both subsystems will be provided as “shared nodes” with “fixed-rate exclusive nodes” to enable usage suited to user needs.

Hardware
- Subsystem A (FUJITSU Server PRIMERGY CX400/CX2550 M4)
- Subsystem B (FUJITSU Server PRIMERGY CX600/CX1640 M1)

The system consists of 1,004 nodes, and each node has two Intel multicore CPUs (Xeon Gold 6148, 20-core, Skylake) and 384 GB memory. Computation nodes are linked with each other via the Intel Omni-path network.

Storage system (DDN ES1410X)

The storage system has a physical capacity of 16 PB in total and employs a Lustre-based parallel file system (EXAScaler).

Software

The Intel Compiler (Fortran, C, C+), numerical libraries (MLI) and MPI also employ the software on Subsystems A and B. Java and Python are also available. As application software programs, Gaussian and V-FASTAR are available (only on Subsystem A). In addition, there are free software programs, such as OpenFOAM for computational science and Chainer for machine learning.

Services

The following services are provided on Subsystems A and B. In both service types, computational resources that a user applied can be shared among other users who belong to the applicant’s research package. There are two kinds of packages with 3 or 4 bases, and each base has 20 computational resources of both subsystems.

- Use of shared nodes
- Use of fixed-rate exclusive nodes

Overview of the Interdisciplinary large-scale computing system

<table>
<thead>
<tr>
<th>Supercomputer System</th>
<th>Intercloud System (Private cloud system)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subsystem A</strong> (Grand Charlot)</td>
<td>Virtual machines: 500+VM (16 nodes)</td>
</tr>
<tr>
<td>FUJITSU Server PRIMERGY CX400/CX2550 M4</td>
<td>FUJITSU Server PRIMERGY CX400/CX2550 M4</td>
</tr>
<tr>
<td>(Node architecture)</td>
<td>(Node architecture)</td>
</tr>
<tr>
<td>C P U : Intel Xeon (Gold 6148/20-core) x 2</td>
<td>C P U : Intel Xeon (Gold 6148/20-core) x 2</td>
</tr>
<tr>
<td>Memory : 384GB</td>
<td>Memory : 256GB</td>
</tr>
<tr>
<td>Baremetal servers 44 nodes</td>
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</tr>
<tr>
<td>FUJITSU Server PRIMERGY CX400/CX2550 M4</td>
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</tr>
<tr>
<td>Memory : 256GB</td>
<td>Memory : 384GB</td>
</tr>
<tr>
<td>GPU servers 4 nodes</td>
<td>GPU servers 4 nodes</td>
</tr>
<tr>
<td>FUJITSU Server PRIMERGY RX2540 M4</td>
<td>FUJITSU Server PRIMERGY RX2540 M4</td>
</tr>
<tr>
<td>C P U : Intel Xeon (Gold 6138/20-core) x 2</td>
<td>C P U : Intel Xeon (Gold 6138/20-core) x 2</td>
</tr>
<tr>
<td>Memory : 256GB</td>
<td>Memory : 256GB</td>
</tr>
<tr>
<td>P F U : NVIDIA Tesla V100(PCIe) x 2</td>
<td>P F U : NVIDIA Tesla V100(PCIe) x 2</td>
</tr>
<tr>
<td>Storage : 3.84TB SSD x2 (RAID1)</td>
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</tr>
</tbody>
</table>

*The content is based on the information at the time of the production of the pamphlet and is subject to change.*
Hokkaido University's campus network, known as HINES (the Hokkaido university Information NetWork System), is an important information base for research, education and support activity. The Sapporo Campus has two core node routers and five departmental node routers, which are also connected with the departmental node router of the Hakodate Campus. The structure of the core network features multi-protocol label switching (MPLS), and links a large number of machines from node routers to HINES via connecting devices (L2SW). Hokkaido University is further interconnected with the Science Information Network (SINET), enabling high-speed domestic and international connections.

Under HINES implementation, comprehensive security measures are taken in principle to block external communication. Related security systems also improve the safety and reliability of the entire campus network in areas including protection against illegal external access/attacks and checking for viruses and spam in all incoming and outgoing e-mails. VPN connection is also used to allow the safe use of HINES from facilities in remote areas.

- **Intrusion prevention system**
  - A defense system protects the network from unauthorized access, intrusion and malicious attacks from inside and outside. P2P programs are also monitored to prevent information leakage.

- **Vulnerability detection system**
  - A system is in place to detect possible security holes and vulnerabilities in HINES-linked devices.

- **Anti-virus program/spam e-mail filtering**
  - Incoming and outgoing e-mails are filtered constantly for viruses, and any infected correspondence is eliminated. Spam e-mail from within and outside the university is also filtered out using a proprietary HINES method.

- **Network user/terminal connection security**
  - Users of terminals in shared spaces on campus are required to undergo online authentication. A system to prevent the connection of unauthorized terminals to the network is in place.

In response to the establishment of the Basic Act on Cybersecurity and social developments, the Cyber Security Center (CSC) was established in the Information Initiative Center in October 2015. The Cyber Security Research Division, established at the same time, plays the central role. CSC works in close cooperation with the Information Security Measures Office of the ICT Promotion Office (an on-campus computer security incident response team; CSIRT) for activities on cyber security in the university which used to be conducted collaboratively with the involvement of multiple organizations (e.g., the Information Security Committee, ICT Promotion Office and Information Initiative Center), and provides a wide range of services, including training and education related to cyber security.

**HINES security**

HINES provides the following network services:

- **HINES e-mail**
  - Users are provided with e-mail addresses on request, and a mailing list service is also available. With sender authentication and encryption settings, HINES e-mail can be used safely even from outside the campus.

- **Wireless LAN**
  - Wireless LAN connection is provided via a system of around 600 wireless APs in class/self-study locations (e.g., Institute for the Advancement of Higher Education, Information Technology Education building, university library) and shared spaces on campus used for academic meetings and conferences. The system also supports the International Academic Wireless Roaming Network (aduaram) service.

- **IPS**
  - Intrusion prevention system (IPS)

- **FW**
  - Firewall

- **FW-P**
  - Internet router (outside frame)

- **FW-P**
  - VPN router for internet facilities

- **FW-P**
  - FWF-IP (Forestry/Farming/Marine stations)

- **FW**
  - Departmental node router (Creative Research Institution (CRIS))

- **FW**
  - Departmental node router (Faculty of Medicine, Graduate School of Health Science, Hokkaido University Hospital, Graduate School of Health Science)

- **FW**
  - Faculty of Engineering

- **FW**
  - Graduate School of Health Science, Hokkaido University Hospital, Graduate School of Health Science

- **FW**
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**Technical measures for the maintenance of security**

The NIVARA-R network traffic visualization system, originally developed by the National Institute of Information and Communications Technology (NICT), was introduced at the end of FY 2015. It displays real-time inbound and outbound network traffic at the Information Initiative Center entrances during opening hours.

*Display may be suspended due to maintenance or other reasons.

**Cyber drills**

To prevent security incidents, the Center plans, designs and implements cyber drills, including simulated virus mail and virtual incident responses, in cooperation with the ICT Promotion Office.

**On-campus CSIRT activities**

In case of a security incident on campus, the Center plays a central role in information collection, identification of the cause, analysis of the incident and development of recurrence prevention measures, in collaboration with the Information Security Measures Office of the ICT Promotion Office, which is an on-campus computer security incident response team (CSIRT).

**Enlightenment activity**

The Center’s enlightenment activities include presentations on cyber security and personal information protection for various training courses of national universities held in Hokkaido University, as well as faculty development (FD).

**Collaboration with related organizations**

The Center participates in various events and activities in collaboration with related government ministries/agencies and cyber security-related organizations in Hokkaido.

https://www.csc.hokudai.ac.jp/
Diverse research and development

Supercomputing Research Division

Development and support for the use of Jet FDTD

The Jet FDTD large-scale electromagnetic field analysis system for supercomputer systems is currently under development. Featuring high capacity and high-speed processing, this application program supports device design in frequency bands of more than several hundred MHz and the evaluation/analysis of indoor radio wave propagation. Using Jet FDTD in conjunction with the Center's supercomputer enables high-precision, expedited simulation.

The figures on the right show the results of the visualization of Received Signal Strength Indication (RSSI) in indoor and outdoor environments for a wireless LAN access point in a frequency band of 2.442 MHz. One entire floor of an office building was used as the analysis target. Assuming a spatial resolution of 5 mm, analysis for a model consisting of 23 billion grids or more can be completed. Numerical analysis of such a large target is possible using Hokkaido University's supercomputer. By using 40 theoretical calculation nodes, analysis results can be obtained within 20 hours.

The above-mentioned Jet FDTD application is provided to the users of Hokkaido University's supercomputer to support their research, and functions are added continuously. The organization of workshops for users, preparation of numerical models and visualization of analysis results are also conducted by request.

High-performance computing researches for supporting simulation

We conduct researches on high-performance computing for supporting various kinds of simulation on modern computer systems. Since recent supercomputers become larger and more complicated, in addition to mathematical approaches, HPC technologies such as parallelization techniques are vital for fully exploiting the potential of supercomputers. Focusing on important problems and their solution methods in the field of computational science, we have investigated related HPC technologies and developed software frameworks and libraries that support simulation. For example, we have investigated time-space tiling techniques for iterative stencil computations and iterative methods for solving large-scale linear systems appearing in FEM-based simulation.

Information Network Research Division

Information network visualization

Research is being conducted on visualization systems that support communication via messages tied to objects based on connections between networks and augmented reality (AR). An example of this is the AR book retrieval system, which allows books to be located by simply pointing a smartphone camera linked to a cloud-hosted database at shelves in libraries and other places. The system also allows messages to be attached to books, supporting expectations for new forms of social networking based on encounters with such publications. The division’s R&D efforts include work on a system for the visualization of behavior on social network sites in virtual-reality urban spaces via the mapping of complex follow relationships on Twitter and other major social networks.

Big data analysis

In today’s increasingly computerized society, which is associated with the popularization of the Internet, enormous amounts of information are constantly generated. These are collectively known as big data, and accurate extraction of useful content from them is a major challenge. Against this background, there is a need for approaches that transcend conventional methods in statistics and informatics. In this context, symbolic data analysis is now viewed as a paradigm by which data are treated as diverse complexes (e.g., aggregates and distributions) rather than simple numeric values. Areas of research include the extension/application of existing data analysis technologies and the development of analysis methods applicable to big data, such as approaches applicable to data consisting of aggregated multiple distributions (as shown in the figure).

This technology is also applied to real data in the fields of information networking, commercial management and medical science.

Support for education in hospital schools and R&D using information media and networks

At hospital schools, in-patient minors suffering from conditions of varying severity are provided with tailored treatment. Such children tend to be isolated both spatially and mentally. To establish an open and advanced educational environment, consistent research is conducted with a focus on informatization and educational support for hospital schools. Such efforts include research on tools that help hospitalized children interact with the outside world.

Research and practice in open education

Activities encompass research and practice in open education, including the use of OpenCourseWare. Flipped teaching will be introduced and implemented in information education for all students.

Digital Contents Research Division

Shifting the boundary between academism and creativity

Increasing amounts of academic information can today be made public thanks to the progress of digital technology, but such content is often not consumed efficiently due to inappropriate presentation and methods of utilization. Accordingly, research is conducted to develop methods for the automatic conversion of such information into teaching materials, the promotion of autonomous study using such materials, the introduction of creative approaches to academism, and the integration of creator education with university education.

Overview of time-space tiling for iterative stencil computation

Results of the visualization of RSSI distribution

Media Education Research Division

Development of information education/informatics education

R&D is conducted on learning methods, course content and other aspects of information education compulsory for all students at Hokkaido University. In information ethics education, effective teaching methods for domestic and international students are explored using videos and comics. A method involving the use of single-frame comics is also being examined to identify associated issues and raise related awareness among students.

Evaluation and support for learning using ICT

Research is conducted on the formation of teaching content using ICT and learning assessment in large-group education with a special focus on collaborative education using multistage peer assessment among large numbers of students.

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Cyber Security Research Division

The division handles a wide range of research fields related to cyber security. Specifically, research is conducted to contribute to the protection against and prevention of cyber-attacks. Research subjects include advanced data science techniques to find regularity and useful knowledge from an enormous amount of unstructured access data, as well as the establishment and efficient implementation of techniques to identify suspicious devices and software programs operating in them from the traffic logs of DNS data, which is a basic technology for Internet operations.

The professors use research results in both technological and practical aspects and contribute to educational activities on cyber security as members of the Cyber Security Center (CSC). They have also been cooperating and working together with other universities concerning cyber security education since FY 2016, as professors in charge of specialized subjects provided as a collaborating university in the security field of the Ministry of Education, Culture, Sports, Science and Technology’s Education Network for Practical Information Technologies (enPiT).

System Design Research Division

Establishment of an academic inter-cloud system and resource optimization

Research is promoted toward the establishment of a high-performance inter-cloud system in today’s era of big data. The aim is to create a simple, flexible inter-cloud environment based on a cloud of clouds concept by connecting private-sector public cloud systems and private cloud systems run by universities and research institutes nationwide. Research is also conducted to support capacity for advanced numerical calculation and data analysis based on networking of super-computers and cloud systems.

Under this project, which is promoted in conjunction with researchers nationwide, Hokkaido University performs a resource optimization role based on the inter-cloud system. Its research targets include multi-object optimization to enable high-speed searching of multiple optimal solution candidates based on certain parameters, as well as the selection of optimal configurations based on inferential reasoning using formal methods. The project also involves researchers in fields including genome sequence analysis, fluid acoustic analysis, cloud middleware, and infrastructure.

Research on various applications using OS containers is also promoted. Areas of focus include the optimization of resource volumes and related costs based on the simulation of public clouds in big data analysis using Hadoop and Spark, and the improvement of middleware layer robustness based on intentional causation of failure and performance deterioration.

Cyber Security Research Division

Symbolic data analysis for ICMP Echo Reply data

Research on various applications using OS containers is also promoted. Areas of focus include the optimization of resource volumes and related costs based on the simulation of public clouds in big data analysis using Hadoop and Spark, and the improvement of middleware layer robustness based on intentional causation of failure and performance deterioration.

Joint Usage/Research Center

The Center serves as a joint-usage facility for the eight universities constituting the network-type Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (JHPCN); a network organization established in line with the School Education Law’s Enforcement Regulations).

Facilities of the network-type Joint Usage/Research Center

Information Initiative Center, Hokkaido University
Cyber Science Center, Tohoku University
Information Technology Center, University of Tokyo (core base)
Global Scientific Information and Computing Center, Tokyo Institute of Technology
Information Technology Center, Nagoya University
Academic Center for Computing and Media Studies, Kyoto University
Cybermedia Center, Osaka University
Research Institute for Information Technology, Kyushu University

Effective designation period: April 1, 2016 – March 31, 2022

Center mission

The network-type Center’s mission is to contribute to the further advancement and ongoing development of Japanese academic and research facilities through interdisciplinary joint usage/research relating to grand challenges (i.e., particularly difficult issues) using super-scale computers, super-high-capacity storage/network resources and other types of information infrastructure. Its work covers information processing in general, including the global environment, energy, substances/materials, genome information, web data, academic information, time-series data from sensor networks, image data and program analysis.

Center operation

JHPCN is operated by the Steering Committee and Joint Research Project Screening Committee under The University of Tokyo Information Technology Center, which is its core base.

Promotion of open-type joint research

Research type A: Type to utilize computational resources
Research type B: Type to support the organization of research meetings

The Joint Usage/Research Center invites research projects in the areas of super-large-scale numerical calculation system applications, super-large-scale data processing system applications, super-large capacity network technologies, as well as the area of super-large-scale information system-related research that integrates the above-mentioned areas.

In FY 2018, 55 cases (of which three are related to the base) are being conducted, including the general purpose of promoting such research by dividing projects into the following research types as semial joint research.

- Research type A: Type to utilize computational resources
- Research type B: Type to support the organization of research meetings

In conjunction with the November 2011 establishment of the Hokkaido University Academic Cloud (one of Japan’s largest resources of its kind), annual symposiums for discussion on cloud research and related development among related researchers from Japan and elsewhere have been held since FY 2012.

The three-day FY 2017 symposium, which hosted over 300 attendees, contributed to the development of research technology with leaders in various fields of cloud-related technology involved in presentations and exchanges of information.

Promotion of seminal joint research

To fulfill the purpose of the network-type Joint Usage/Research Center for Interdisciplinary Large-scale Information Infrastructures (JHPCN), the Information Initiative Center has conducted its own open-type joint research since FY 2009 in addition to the joint research it conducts as a JHPCN base.

In FY 2018, the Information Initiative Center is playing a central role in the implementation of grand challenge-type research using information infrastructure and interdisciplinary joint research projects to promote such research by dividing projects into the following research types as seminal joint research. Eight joint research projects are being conducted with teachers and researchers of domestic research institutions, of which three have been adopted as JHPCN’s seminal joint research projects (as of July 2018).

Innovative high-performance computing infrastructure (HPCI)

HPCI operation was commenced in September 2012 with the establishment of an innovative computing base for joint use to meet diverse user needs. This was established via the high-speed network (SINET5) connection of RIKEN’s next-generation “K” supercomputer with other supercomputers at universities and research institutions nationwide.

The Research Organization for Information Science & Technology (RIST) handles project selection, management of common data receipt and other utilization promotion services.

The Center plays a role in system configuration and provides related computation resources. In FY 2018, two research projects were adopted.

Organizations providing their computational resources as the HPCI system

- RIKEN Center for Computational Science
- Information Initiative Center, Hokkaido University
- Cyber Science Center, Tohoku University
- Center for Computational Science, Tsukuba University
- Information Technology Center, University of Tokyo
- Global Scientific Information and Computing Center, Tokyo Institute of Technology
- Information Technology Center, Nagoya University
- Academic Center for Computing and Media Studies, Kyoto University
- Cybermedia Center, Osaka University
- Research Institute for Information Technology, Kyushu University
- Center for Earth Information Science and Technology, Japan Agency for Marine-Earth Science and Technology

Collaboration with related organizations on cyber security

The Center promotes cyber-security activities with partner organizations for related administration/management in Hokkaido, as well as participating in security mini-camps and other nationwide events.