



JAIST Information Environment

For New Student, Apr. 2023

**Research Center for Advanced Computing Infrastructure,
Center for Innovative Distance Education and Research,
Japan Advanced Institute of Science and Technology**

Today's Agenda

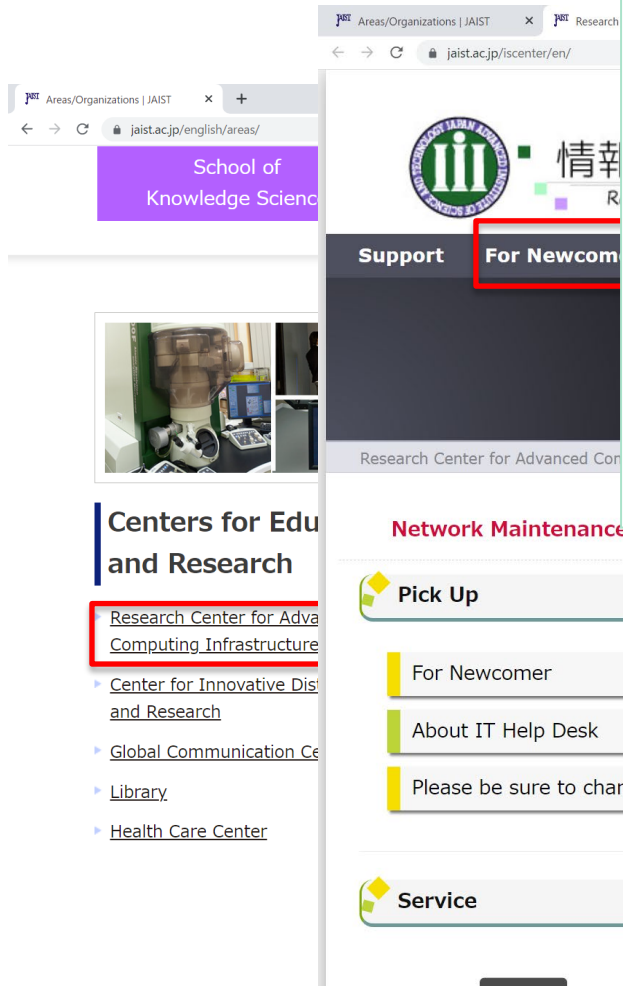
JAIST Information Environment = I-Env.

1. Overview of I-Env.
2. Specific Topics in I-Env.
3. How to use, the first step to use.
4. Security Introduction Seminar

Today's contents

<https://www.jaist.ac.jp/english/>

- ➔ Areas/Organizations
- ➔ Research Center for Advanced Computing Infrastructure
- ➔ For Newcomer
- ➔ Tips.3 Document for orientation



Research Center for Advanced Computing Infrastructure (RCACI)

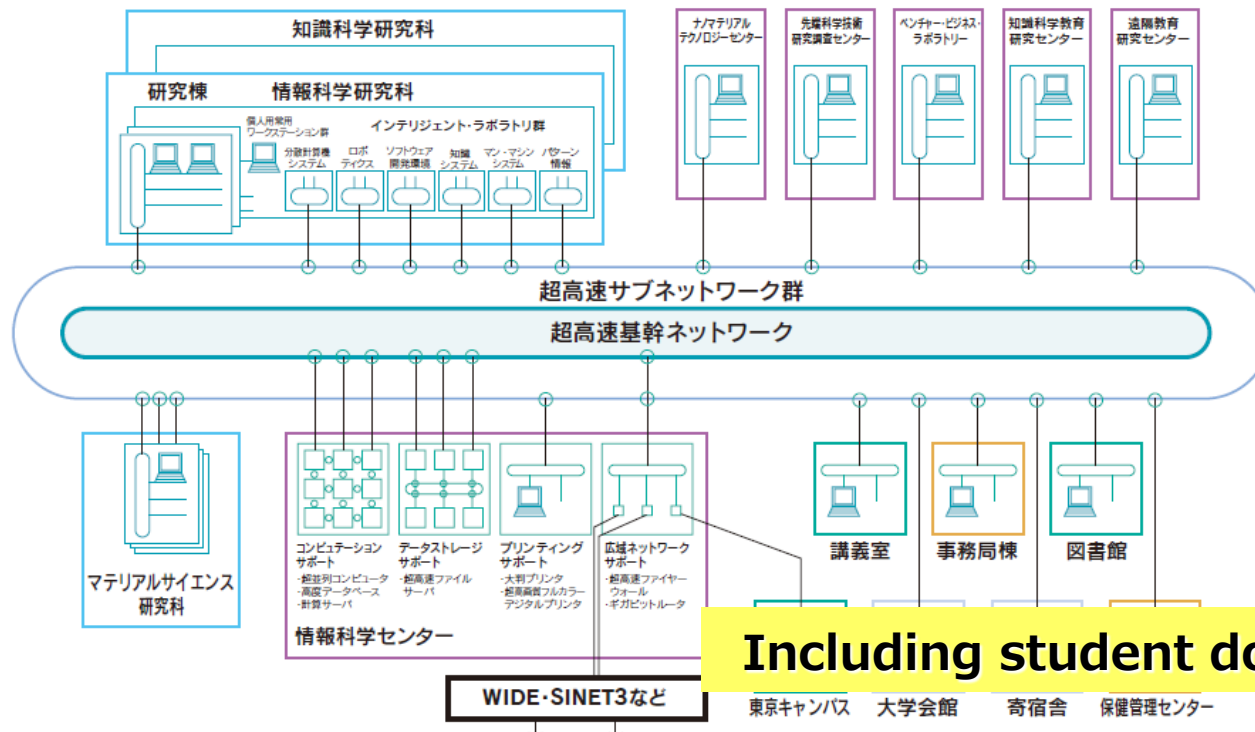
- **Information Environment (I-Env.)**
 - <http://www.jaist.ac.jp/iscenter/en/> (Web site)
 - isc-query@ml.jaist.ac.jp (Contact e-mail)
- **To support research and educational activities**
 - High-speed networks
 - Several cloud services (JAIST Cloud)
 - High-performance and robust data storage
 - Massively parallel computers
- **All services are centralized by RCACI**

What is JAIST I-Env.

- Consisting of network and information equipment.
- Supporting for research and education.

Centralized management

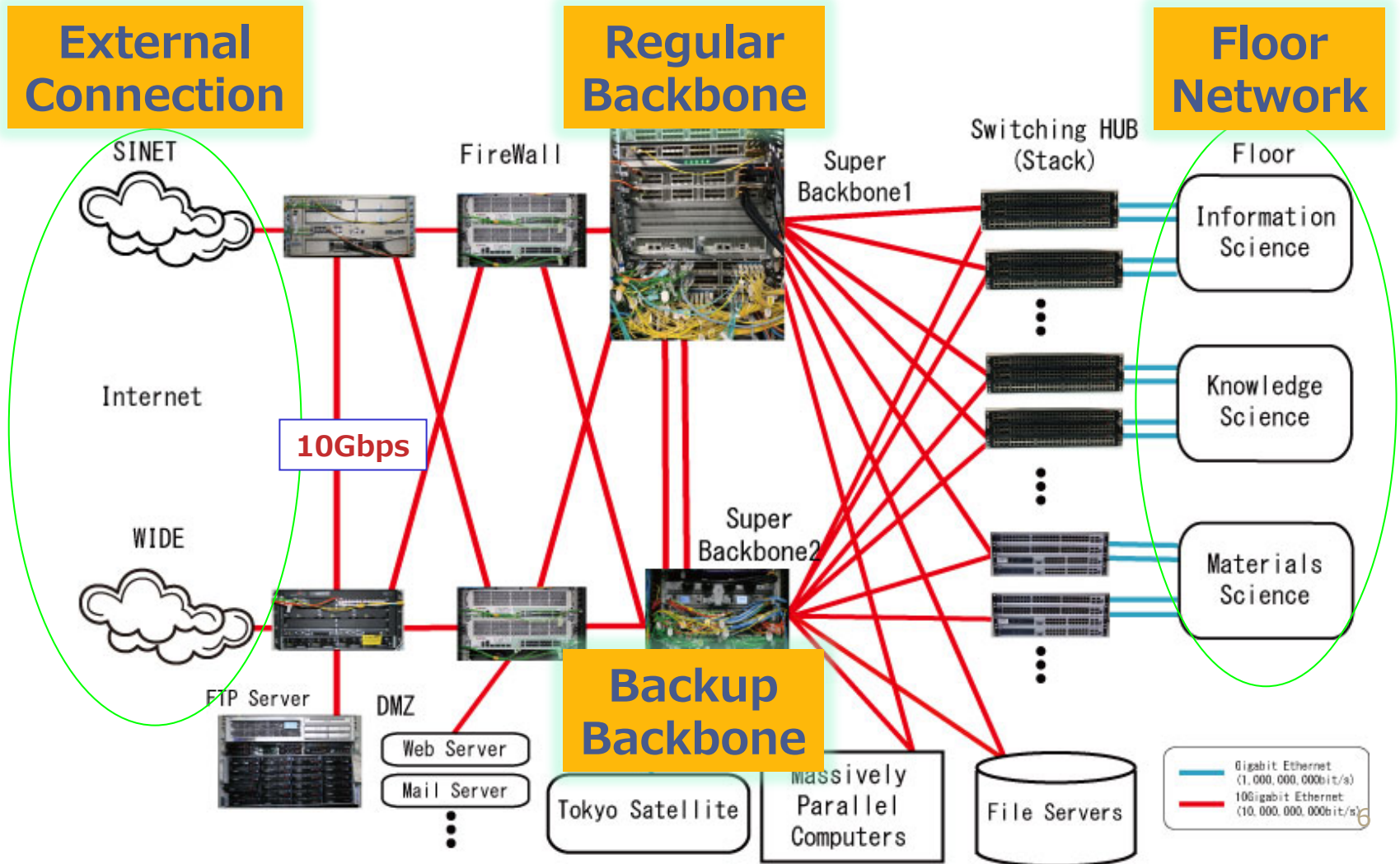
24/7 Service (Schedule blackout 1day/year)



Including student dormitory

From user devices to massive computational servers

Overview of FRONTNET



Key Features of **JAIST I-Env.**

■ **Centralized Management**

- **Client:** Laptop PCs are distributed to all students.
- **Server:** Supporting both Windows and Linux.
- **File:** Providing centralized data storage with backup.
- **Computation:** Massively parallel computers.
- **Network:** Giga-bit class connection at your booth.

■ **Uniform Services at High Level**

- Freely use of JAIST I-Env. anytime & anywhere.
- Uniform access by high-speed wired and wireless LAN.
- Centralized data management from our cloud services.
- Transparent access to massively parallel computers.
- Wide-bandwidth connection to internet/academic network.

Equipment of JAIST I-Env.

Massively Parallel Computers

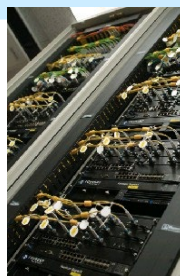


Kagayaki (2022)



LMPCC(2020)

JAIST Cloud Systems



10Gbit/s broad-band access(2006~)

File Servers



DDN SFA7990X (2021)



Dell EMC Isilon (2020)

User Terminals



SurfacePro

High-Speed Network

Press Articles on I-Env.

プレスリリース

北陸先端科学技術大学院大学、新しい超並列計算機システム「KAGAYAKI(かがやき)」を、デル・テクノロジーズのスーパーコンピュータシステムで本格運用開始 - 旧システムと比較し、約2.24倍の性能向上を実現 -



北陸先端科学技術大学院大学
デル・テクノロジーズ株式会社

かがやき
北陸先端科学技術大学院大学、新しい超並列計算機システム「KAGAYAKI」を、
デル・テクノロジーズのスーパーコンピュータシステムで本格運用開始
- 旧システムと比較し、約2.24倍の性能向上を実現 -

北陸先端科学技術大学院大学（学長：寺野 稔、石川県
表取締役社長：大塚 俊彦、本社：神奈川県川崎市。以下
「KAGAYAKI」に、「Dell EMC PowerEdge R6525」
PE R6525 SCS）を採用し、2021年3月からJAISTに

【システムの特長】

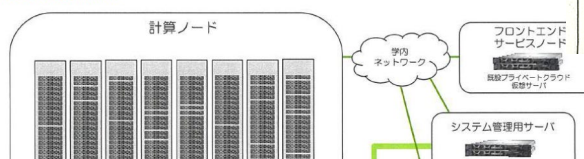
JAISTに導入された「Dell EMC PE R6525 SCS」は、
サーバ280台を、高速なインターコネクトネットワークで
ユータシステムです（【システム全体構成図】参照）。

旧システムと比較すると、理論演算性能は約2.24倍の
行）、CPUコア数は約1.8倍の35,840コア、総メモリ容
り、JAISTは、ナノテクノロジー、データマイニングなど
加速させることになります。また、コンテナ型仮想化に
身で複雑な計算機環境を構築する手間を省き、ユーザー

【スーパーコンピュータシステム外観】



【システム全体構成図】



<https://www.jaist.ac.jp/whatsnew/press/2021/04/07-1.html>

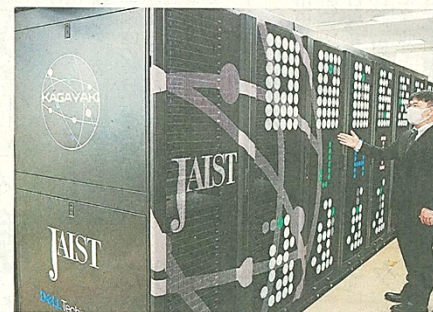
(第3種郵便物認可)

研究に強力な味方 最新スパコン

北陸先端大が導入

北陸先端科学技術大学院大（能美市）は、学内に三
台あるスーパーコンピュー
ターシステムのうち一台
を、最新のデル・テクノロ
ジーズ（川崎市）製に置き
換えた。旧システムと比べ
計算処理能力が二・二四
倍、一時的に蓄えられるメ
モリー容量が二倍に向上し
た。

計算時間
従来の半以下に



最新のスーパーコン
ピューター「KAG
AYAKI」を紹介
する本郷研太准教授
＝能美市の北陸先端
科学技術大学院大で

愛称を「KAGAYAKI」と名付けた。
ビッグデータや人工知
能（AI）などの研究にお
いて、膨大な計算を処理す
るスパコンは研究を支え
るインフラ的な存在。同大
は学生でも入学したその
日から自由にアクセスで
きるのが特徴で、「恵まれ
た環境に驚く学生や研究
者は少なくない」と同大情
報社会基盤研究センター
の本郷研太准教授（こほり
す）。

今回のシステム更新で、
扱えるデータ量が増え、計
算時間は従来の半以下に
減る。本郷准教授は「研究
者にとって、さまざまなシ
ミュレーションが可能にな
る。今まで見えなかった知
識が得られるようになるの
ではないかと成果に期待
する。」

【北陸中日新聞】
令和3年4月14日付 14面

- Available for all students and faculty members
- Workshop for users holds on June and Oct.

Summary of **JAIST I-Env.**

■ **JAIST Cloud**

- Uniformed and centralized management of data
- Providing uniform environment, anytime and anywhere
- Users can focus on their research activities.

■ **Advanced equipment in I-Env.**

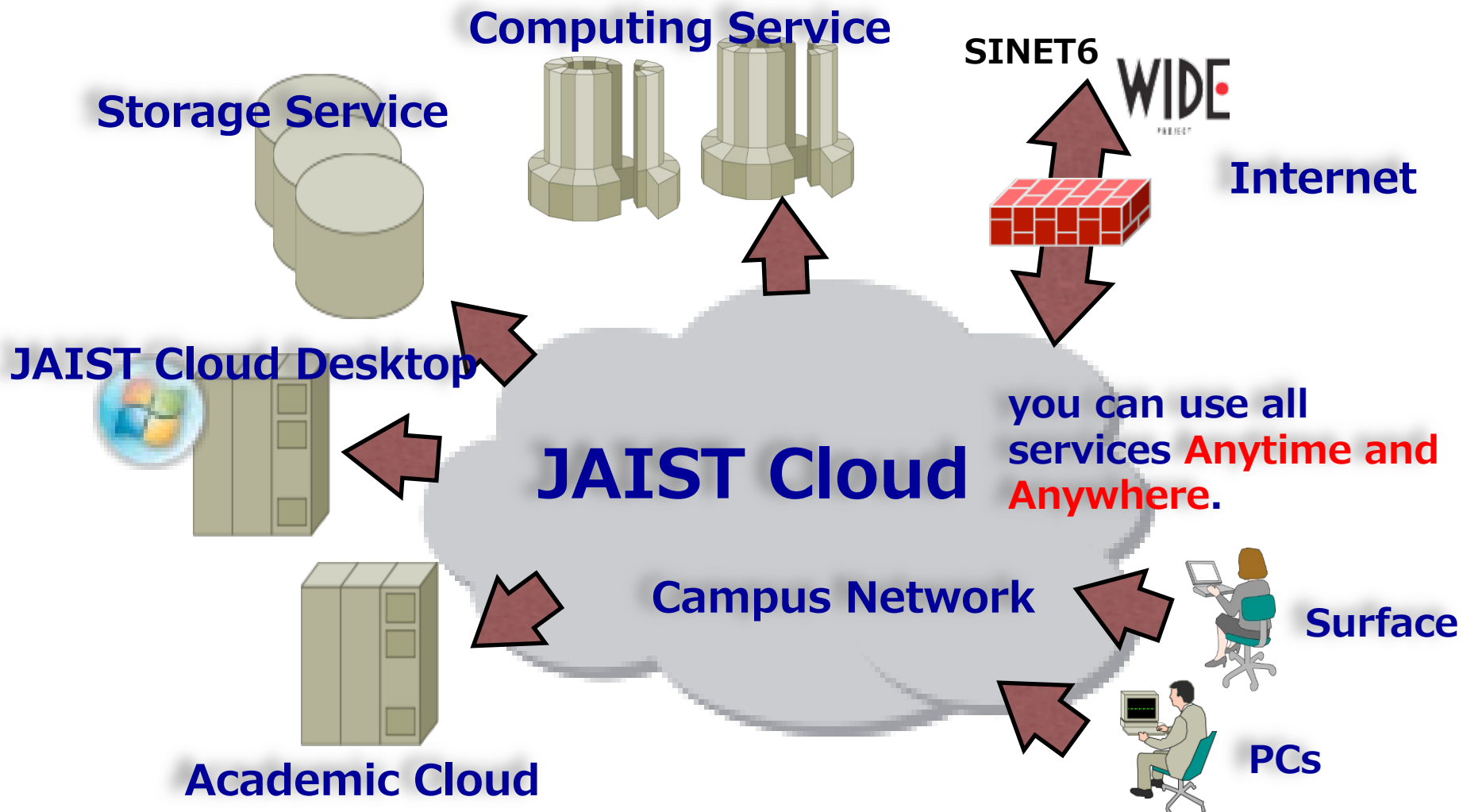
- **Operation by high technical center**
- **Contribution to society via technologies**

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Architecture of **JAIST I-Env.**



Surface Pro

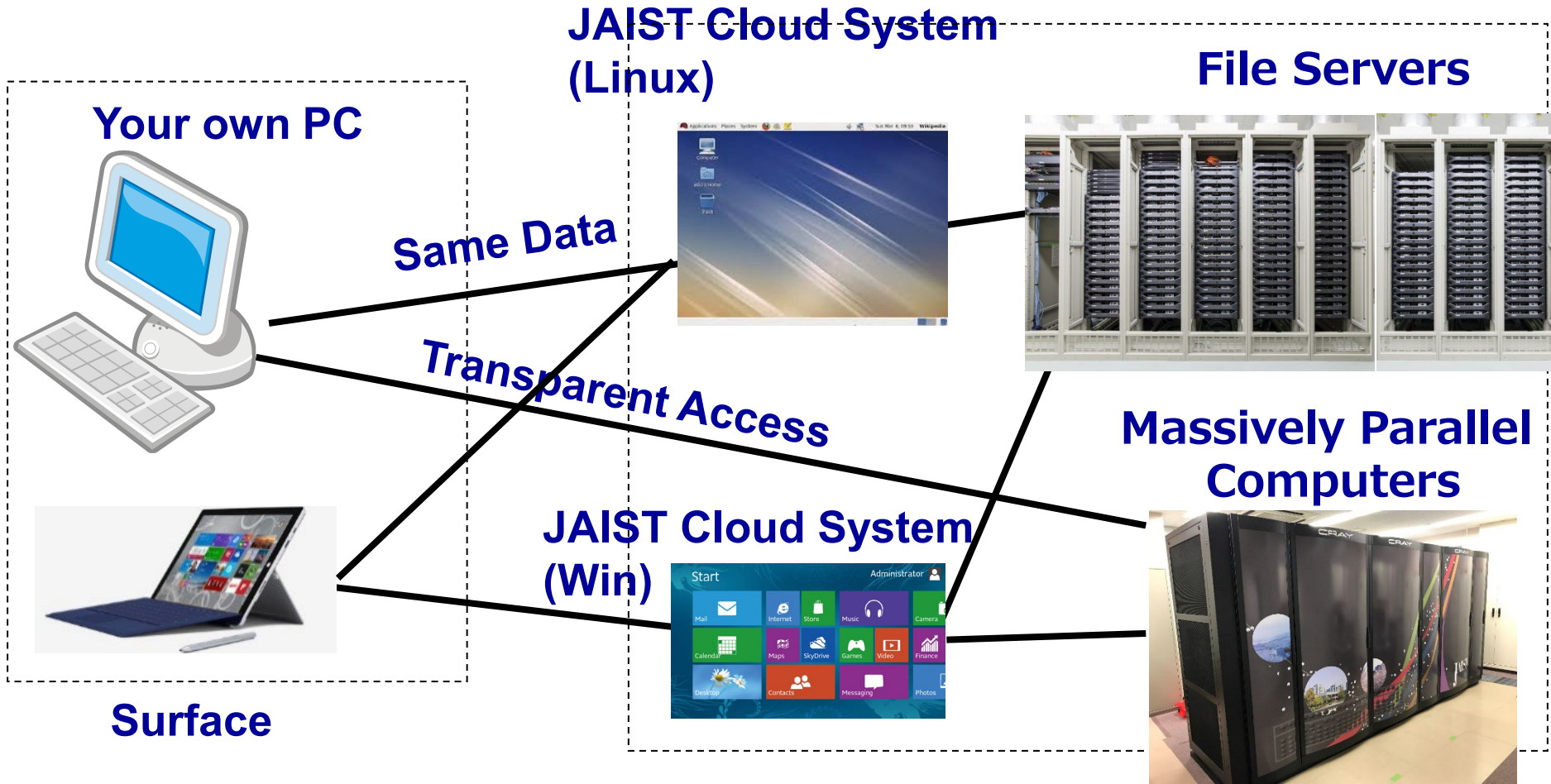
- **You can borrow a MS Surface Pro one by one.**
 - You must return it at the time of graduation.
 - It is your luck to get new or old because it is rental one.
 - If it will have hardware troubles, we will replace it.
 - Display/dock in your desk will be distributed by mid of Oct.
 - If needed, consult with your supervisor.



JAIST Cloud Desktop

- **Anyone can use same environment from any clients.**
 - Using VMware Horizon Client.
- **Different OS servers are available.**
 - For Research : Windows, Linux servers
- **All files can be stored and backed up at file servers.**
- **Available on JAIST Cloud Desktop (Windows/Linux)**
 - Microsoft Office
 - Computation/Visualization software:
 - Matlab, Mathematica, etc.
 - Others:
 - MobaXterm , Firefox, Thunderbird, etc.

JAIST Cloud Desktop



Computing Servers



Surface



LMPCC(2020)
Large memory:Large
Scale



Linux Server
General-Purpose



KAGAYAKI (2022)
Most powerful in JAIST

- Available 24/7 (except outage and maintenance)
- All students and faculty members can use them.
- Various libraries/software for scientific calculation are available.

Software lineup

■ Available Software on JAIST

- Microsoft umbrella agreement ※1
 - <http://www.jaist.ac.jp/iscenter/en/software/microsoft/>
- MATLAB umbrella agreement ※2
- ESET Endpoint Protection ※2
- ※1 Additionally, available on privately-owned devices (Office 365)
- ※2 Additionally, available on privately-owned devices
- Other Software
 - <https://www.jaist.ac.jp/iscenter/en/software/>

Printing・Bookbinding

- **JAIST Printing Service**
 - Color Multifunction Printer
 - **Printing in black/white recommend because of cost trimming.**
- **Large sized Printer (60-inch)**
 - For A0/A1 Poster
- **Combined printer**
 - Copy/Scanner/Bookbinder
- **Media Cutter**
- **Simple book binder**
- **Large size scanner**

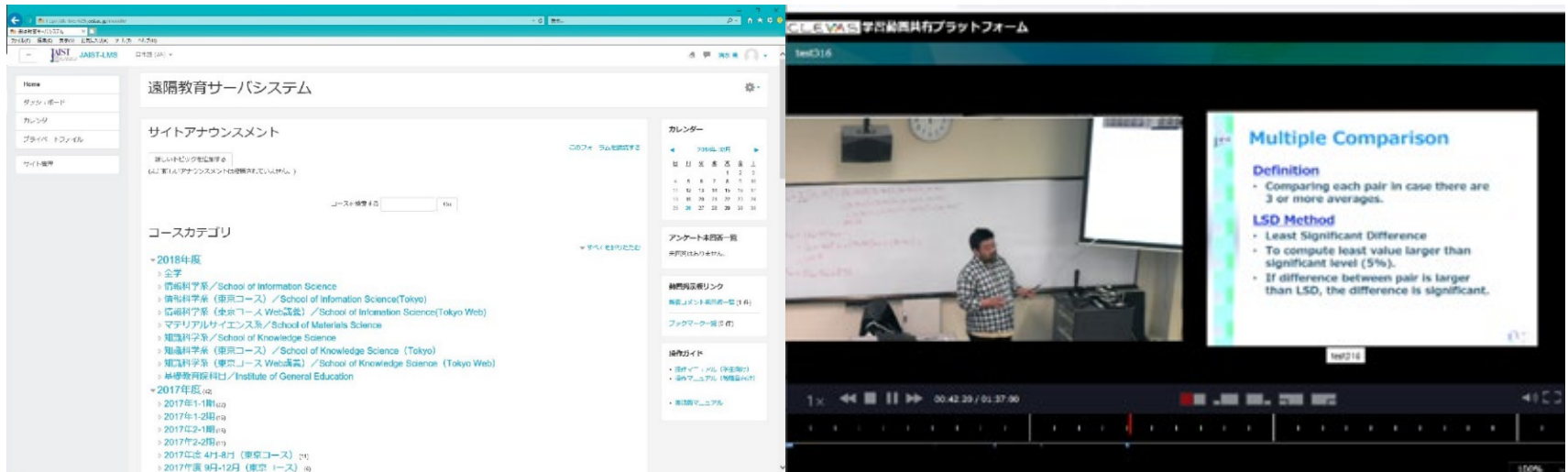


Center for Innovative Distance Education and Research (CIDER)

- **Support for Distance Education/Learning**
 - <http://dlc.jaist.ac.jp/dlc/> (Web site)
 - dlc@ml.jaist.ac.jp (Contact e-mail)
- **To support distance educational activities**
 - Learning management system
 - Lecture archive system
 - Video conferencing system
- **All services are centralized by CIDER**

Lecture Archive System

- Recording F2F lectures (based on syllabus)
 - <https://dlc-lms.jaist.ac.jp/>
 - You can access it from campus network
 - Authentication : JAIST-SSO
 - Environment : Web Browser (Firefox recommended)
- Learning management system: Moodle



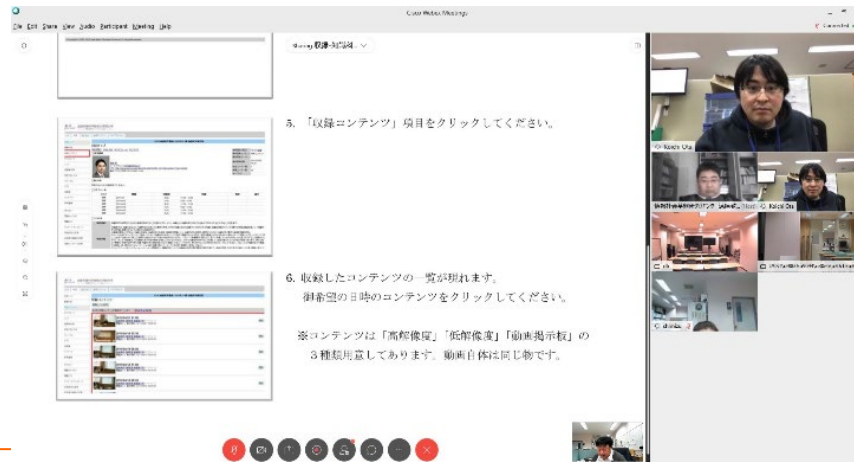
Video Conferencing System

■ Webex : PC Conferencing System

- <https://jaist.webex.com>
- JAIST users can reserve online meetings (anyone can join them)
- Screen and application sharing is available

■ Poly Video Conferencing System

- Installed at lecture rooms, collaboration rooms.
- High-quality video/audio by specific equipment.



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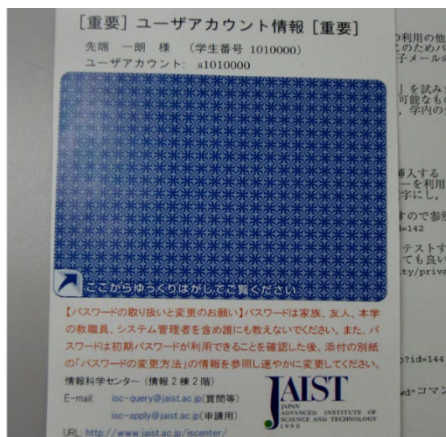
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How to Use **JAIST I-Env.**

- **User Account**
- **E-mail**
- **Network Access**
- **Digital Certificate**
- **Remote Access**

User Account

- **User account is used for identification of I-Env.**
 - Login to terminal (Windows, Linux) on I-Env.
 - Sending and receiving E-mail
 - Using remote access (SSL-VPN) service
 - Using campus Web services i.e. Academic affairs system, library system, lecture archive system
- **You will receive your user account, initial password, and e-mail address after this session.**



- **Student user account is like s2301234**

Change Initial Password

- Be sure to change your initial password!
 - <https://www.jaist.ac.jp/iscenter/useraccount/modifyattr/>
 - Be different from other sites
 - Register an e-mail for password reset
 - From the Change Attribute menu



JAIST-SSO

■ JAIST Single Sign-on System

- Centralized authentication for various systems
- It allows you to use other systems without authentication for a certain period.
- Do not bookmark the JAIST-SSO page.
- Multi-factor authentication from outside of JAIST
 - Multi-factor authentication must be configured in advance.

A screenshot of the JAIST-SSO login page. At the top, the text "JAIST-SSO" is displayed in blue, followed by a small green robot icon. Below this, a red warning message reads: "このページのURLは毎回変わるのでブックマークしないで下さい。 /Don't bookmark this page due to different URLs each time." In the center, there is a prompt "■■■■のパスワードを入力してください" (Please enter the password of ■■■■). Below the prompt is a text input field labeled "パスワード" (Password) and a blue "ログイン" (Login) button. At the bottom, there is a small link: "パスワードを忘れた場合はこちら" (Click here if you forgot your password).

**If the authentication fails,
check the following page.**

<https://www.jaist.ac.jp/iscenter/en/sso/sso-fail/>

E-mail

- **E-mail is a fundamental communication at JAIST.**
 - You can forward e-mail to another address.
(**You should consider whether external service is secure.**)
 - You can make mailing lists.
 - We have web mail service. (<https://web-mail.jaist.ac.jp>)
 - Access RCACI web page to set the configuration.
- **Initial e-mail address**
 - Students: made from their ID Ex.) s2312345@jaist.ac.jp
- **Students can change e-mail address all of the time.**
 - <https://www-rcaci.jaist.ac.jp/cgi-bin/regmailaddress/regmail-e.cgi>
 - **After changing, ID-based address is accepted only JAIST e-mails.**
 - **After changing, you need to re-apply your digital certificate.**

Network Connection

- **Wired LAN** <http://www.jaist.ac.jp/iscenter/en/network/wired-lan/>
 - If you want to connect your own equipment to JAIST network (including student dormitory), **you need to register from Web.**
 - You can connect it by DHCP using a cable at your desk.
 - 2 LAN cables (Max 1Gbps) per your laboratory desk.
 - If you need a static address (i.e. for server), apply to RCACI.
 - You can also connect wired LAN at student dormitory.
- **Wireless LAN** <https://www.jaist.ac.jp/iscenter/en/network/wireless/>
 - You can use wireless LAN almost everywhere at JAIST.
 - You need to install **your digital certificate** in your PC.
 - We support Eduroam (roaming service among educational/research institutes)

Remote Access from Outside of JAIST

- **Webmail** <https://web-mail.jaist.ac.jp>
 - E-mail through Web browser.
 - You **need 2-factor authentication** from outside of JAIST
- **SSL-VPN** <https://vpn.jaist.ac.jp>
 - SSL-VPN allows you to access campus LAN from outside.
 - You require **Digital Certificate** from campus LAN.
- **SSH** <https://fep.jaist.ac.jp>
 - After login to “fep” by SSH, you can access servers by SSH.
 - You require **pre-registration**.
- **Online Storage Service (J-Storage Box)**
<https://jstorage.app.box.com/>
 - You can send and receive large files using Web browser
 - You can share files with others.
 - The files can be synchronized with your local PC using software.

Multi-factor Authentication

Combination of multiple elements for security
Client Certificates

- **Digital Certificate**

- Next slide

- **One-time Password(OTP)**

- Generated by private key and time
- The encoded value must be secret

- **FIDO2**

- Passwordless with authentication devices
 - ▣ Windows Hello PC
 - ▣ FIDO2-enabled Yubikey devices
 - ▣ Google Titan devices

Digital Certificate

- **Electric ID in addition to your password.**
 - Identification for Web-services in JAIST
 - Identification for Wireless Network (Eduroam)
 - Password change
 - Encrypted or signed E-mail
 - SSL-VPN (Connection from outside of JAIST)
- **JAIST-UPKI** <http://www.jaist.ac.jp/iscenter/en/digital-certificate/>
 - Download and install your web browser by yourself.
<https://pki.jaist.ac.jp/jupki/> (Accessible only from inside JAIST)
 - **If you change e-mail, you must re-apply the certificate.**
 - **If you use the certification outside of JAIST, prepare it before your trip.**

Conclusion

■ Web site of RCACI

- <http://www.jaist.ac.jp/iscenter/en/>
- Please ask questions by following web form or e-mail.
 - <https://www.jaist.ac.jp/iscenter/en/support/form/>
 - E-mail: isc-query@ml.jaist.ac.jp
- Reception Desk
 - IS building-II 2F (I-24) 8:30 - 17:00

■ IT-helpdesk members

- JAIST [student members](#) for supporting your problems.
- <https://www.jaist.ac.jp/iscenter/en/support/helpdesk/>
- E-mail: it-helpdesk@ml.jaist.ac.jp

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4. **Security Introduction Seminar**

Security Introduction Seminar

- Understand today's seminar and pamphlet
- Complete I-Env. Usage consent procedure (online)
→ **Account will be suspended if not completed by 4/30**



member

JAIST 情報環境利用に関する同意について

JAIST の情報環境の利用開始にあたっては、オリエンテーションと情報セキュリティバレットで説明した項目について、趣旨や内容を十分に理解し、守ることに同意いただく必要があります。以下の手順に従って同意を行ってください。なお、期限までに同意が確認できない場合は、本学情報環境を利用するための要件を満たさないものとして、一部サービスの利用を制限しますのでご注意ください。

1. Web ページにアクセスする
 - ・ スマートフォン
右の QR コードを読み込んでください。
 - ・ PC
<https://www.jaist.ac.jp/iscenter/useraccount/agreement/member/>
にアクセスし、「キャンパスアプリでの同意方法」をお読みください。
2. JAIST の Microsoft アカウントでサインインする
 - i. "あなたのユーザー名@jaist.ac.jp"を入力し、「次へ」をクリック
 - ii. JAIST-SSO でサインインする
※学外ネットワークからは、ワンタイムパスワード等が必要です。
3. アクセス許可を求められる画面が表示される場合は「許可」をクリック
4. 氏名とユーザー名を確認し、「開始する」をクリックする
5. スクロールしながら全ての項目にチェックを入れ、「同意する」をクリック

6. 同意の控えメールを確認する
JAIST メールに「情報環境利用に関する同意」についてのメールを送信し、メールが届いたら、情報環境利用に関する同意の手続きは完了です。

【情報環境利用同意に関する Q&A】
<https://www.jaist.ac.jp/iscenter/useraccount/agreement/member/#c802>

お問い合わせ先 / Contact
情報社会基盤研究センター /
Research Center for Advanced Computing Infrastructure (RCACI)
E-Mail: isc-query@ml.jaist.ac.jp
情報社会基盤研究センター
E-mail: isc-query@ml.jaist.ac.jp

北陸先端科学技術大学院大学 情報環境利用に関する同意
Usage Agreement for JAIST Information Environment

JAISTの情報環境（ネットワーク、電子メール他、大学が提供するすべての情報資源）の利用開始にあたっては、オリエンテーションや配布物の趣旨・内容を十分に理解し、いくつかの項目に同意いただく必要があります。氏名とユーザー名を確認し、問題ない場合は「開始する」をクリックしてください。

氏名	ユーザー名	利用開始日	同意日

開始する

Here you are in JAPAN

- Japanese legal may be much strict!!
 - Cyber Security
 - Copyright
- You need pay attention on a risk to face prosecution
- There are **prohibited**:
 - Use of illegal software copy
 - Providing/downloading illegal contents

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App. Your Account, ID card, and Rental Surface

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Pick up your Surface!

You can borrow a Surface to use JAIST I-Env.

- If you get it, you should manage it by yourself.
- You must return it back when you graduate/leave from JAIST.
- It is your luck to get new or old because it is rental one.

Place/Time to pick-up :

- Today 14:00-17:00 @ Lecture Room I3・4
- Others: @ RCACI [IS building-II 2F (I-24)]

Necessary Document :

- Student ID card

