



JAIST Information Environment

For New Student, Oct. 2023

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

Today's Agenda

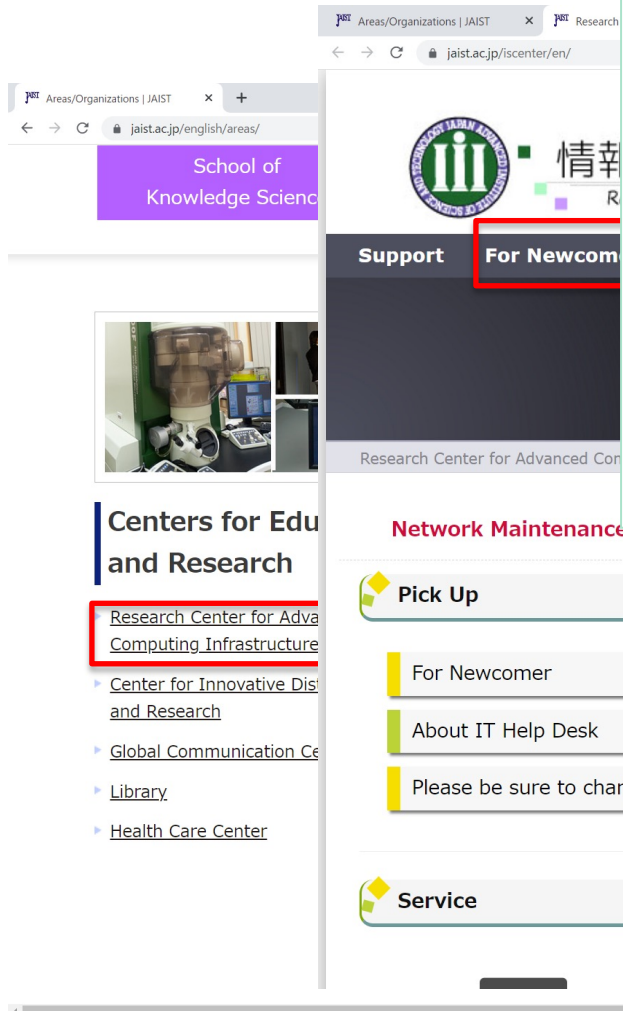
JAIST Information Environment = I-Env.

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)

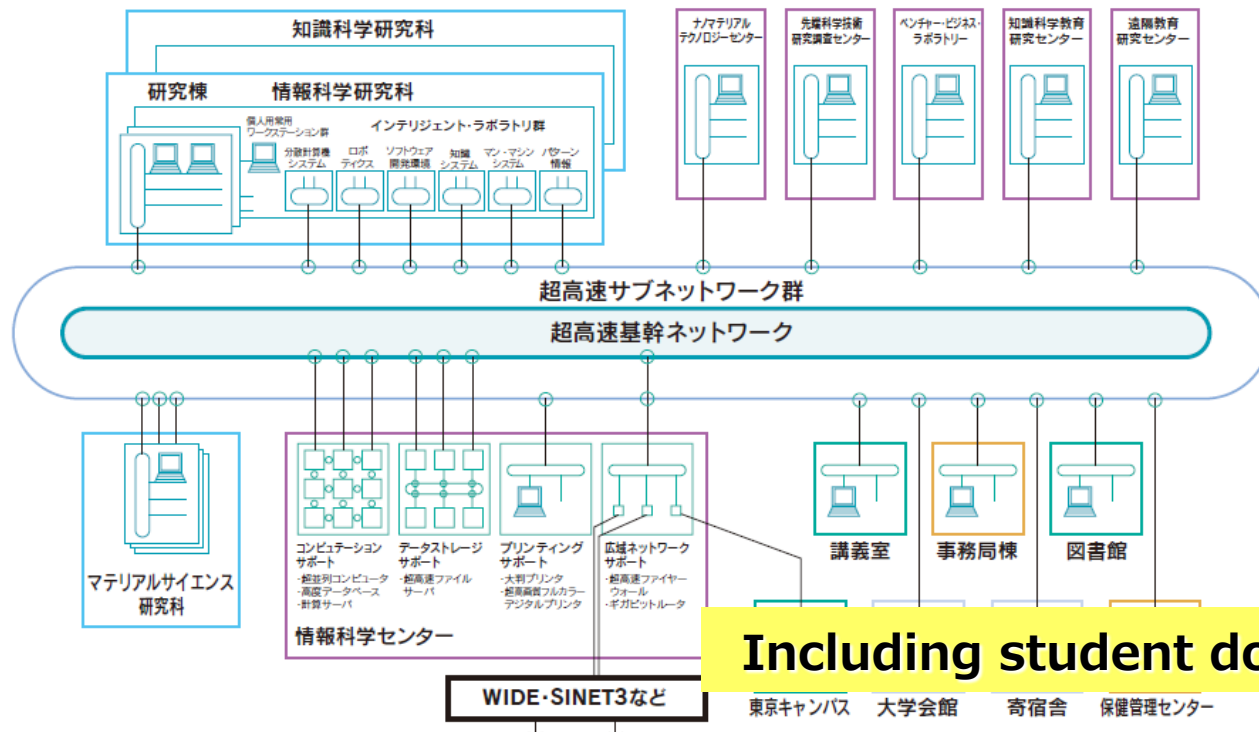
- **Information Environment (I-Env.)**
 - <http://www.jaist.ac.jp/iscenter/en/> (Web site)
 - isc-query@ml.jaist.ac.jp (Contact e-mail)
- **To support research and educational activities**
 - High-speed networks
 - Several cloud services (JAIST Cloud)
 - High-performance and robust data storage
 - Massively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

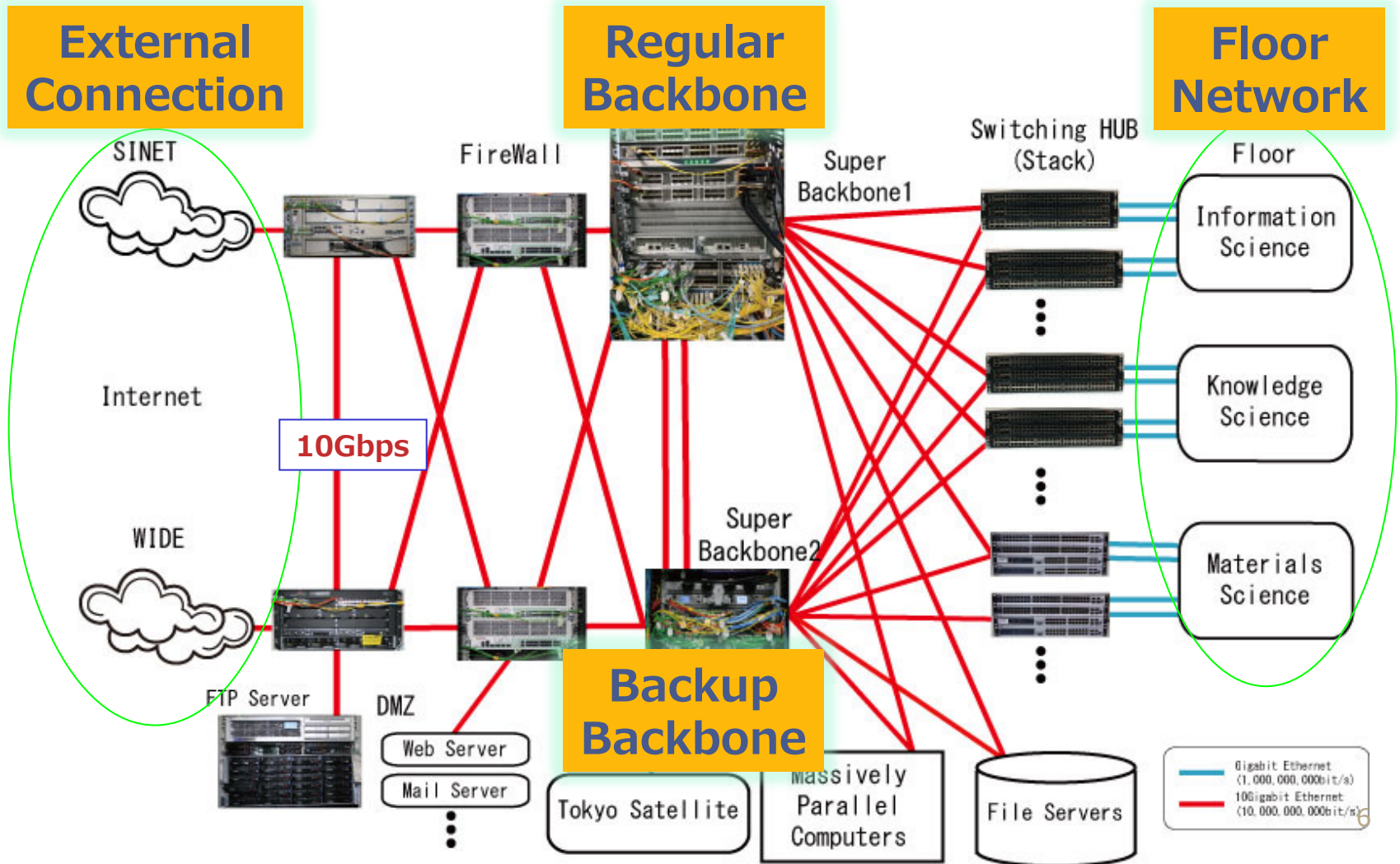
24/7 Service (Schedule blackout 1day/year)



Including student dormitory

From user devices to massive computational servers

Overview of FRONTNET



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

■ **Centralized Management**

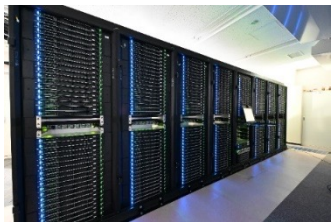
- **Client:** Laptop PCs are distributed to all students.
- **Server:** Supporting both Windows and Linux.
- **File:** Providing centralized data storage with backup.
- **Computation:** Massively parallel computers.
- **Network:** Giga-bit class connection at your booth.

■ **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

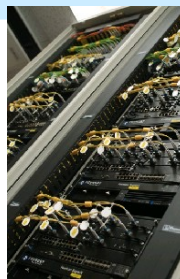


Kagayaki (2022)



LMPCC(2020)

JAIST Cloud Systems



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

File Servers



DDN SFA7990X (2021)

User Terminals



SurfacePro

High-Speed Network



Dell EMC Isilon (2020)

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】

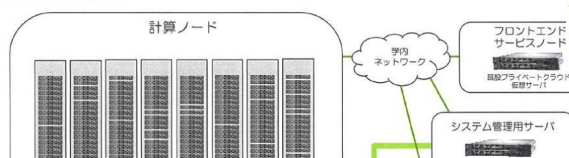
JAISTに導入された「Dell EMC PE R6525 SCS」は、
サーバ280台を、高速なインターコネクトネットワークで
ユーザシステムです（【システム全体構成図】参照）。

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>

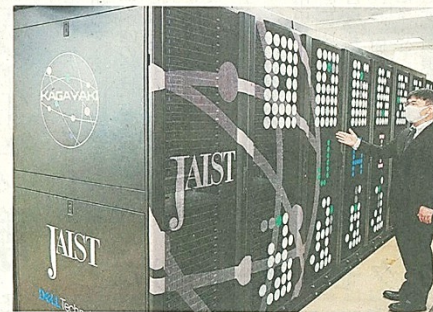
(第3種郵便物認可)

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
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
モリー容量が一倍に向上し
た。

同大には自前のスパコン
が三台あり、性能は日進月
歩で進化するため、四年ご
とにシステムを更新してい
る。三台は理論演算性能
やメモリー容量によって
ランク分けされ、今回更
新したのは最高度の研究



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
算時間は従来の半分以下に
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。

（平井剛）

【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.**

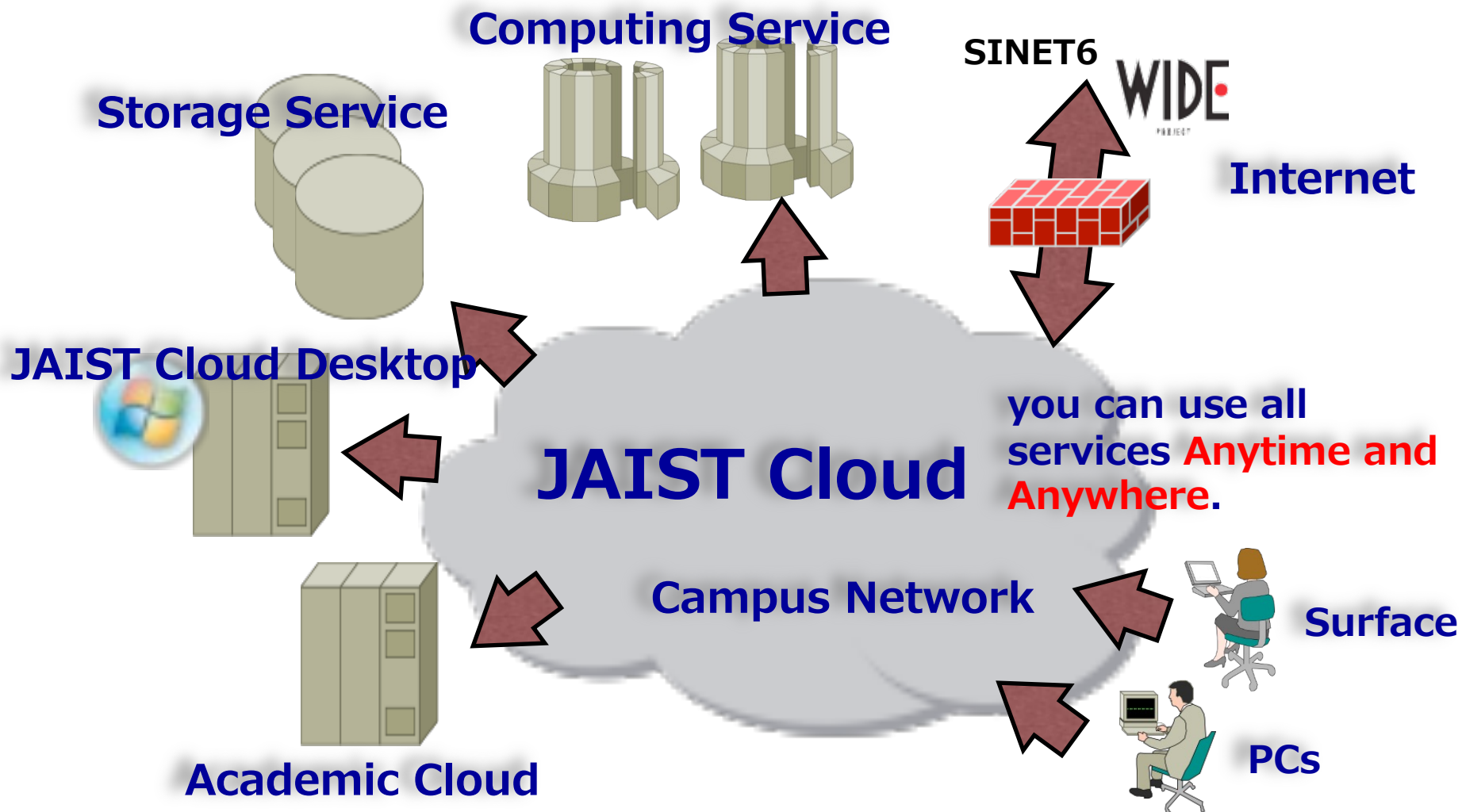
- **Operation by high technical center**
- **Contribution to society via technologies**

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

Architecture of **JAIST I-Env.**



Surface Pro

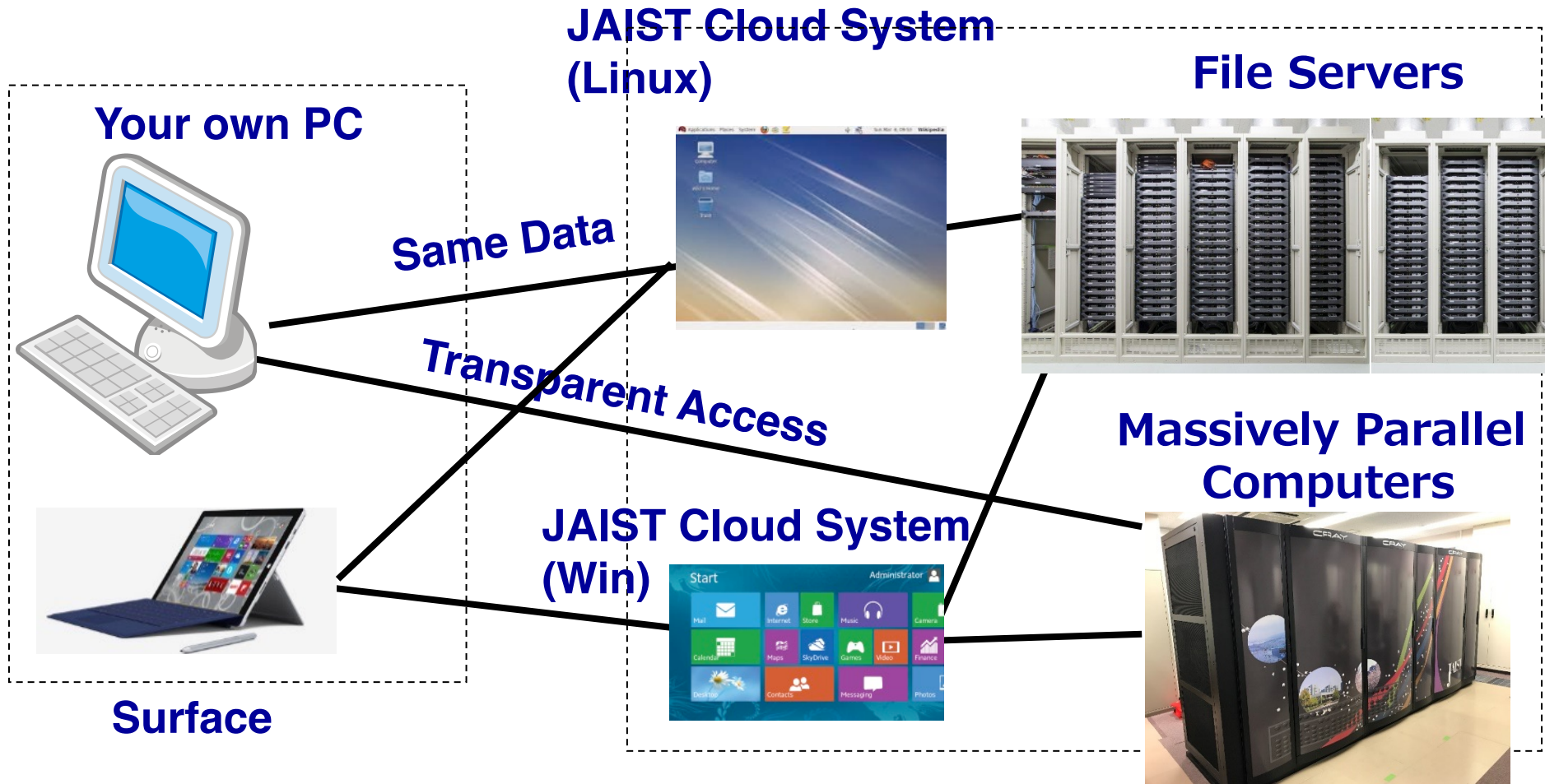
- **You can borrow a MS Surface Pro one by one.**
 - You must return it at the time of graduation.
 - It is your luck to get new or old because it is rental one.
 - If it will have hardware troubles, we will replace it.
 - Display/dock in your desk will be distributed by mid of Oct.
 - If needed, consult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

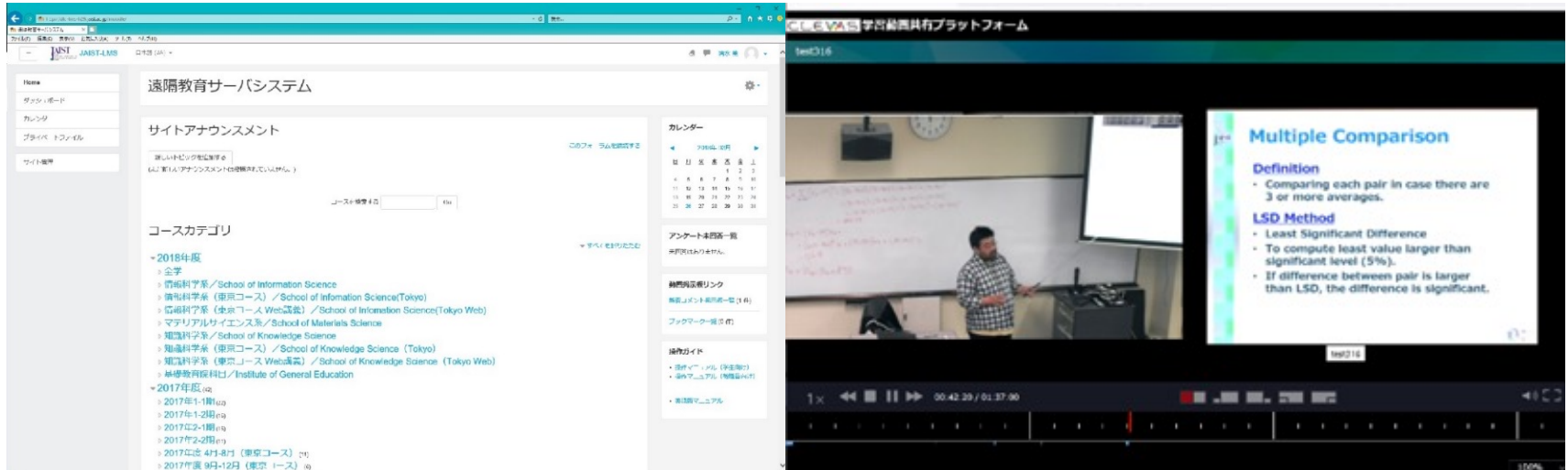


Center for Innovative Distance Education and Research (CIDER)

- **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



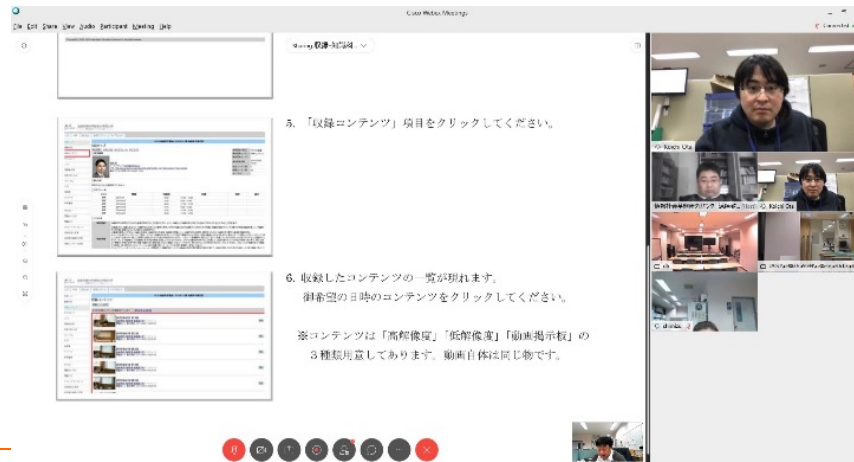
Video Conferencing System

■ 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.



Today's Agenda

JAIST Information Environment = I-Env.

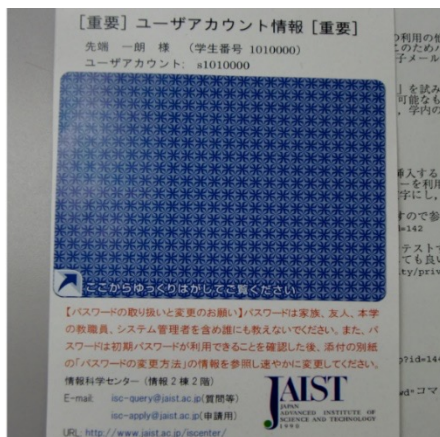
1. Overview of I-Env.
2. Specific Topics in I-Env.
- 3. How to use, the first step to use.**
4. Security Introduction Seminar

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.



**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.**

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.
 - SSID: JAIST, eduroam
 - 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 / Passkeys**

- Passwordless with authentication devices
 - ▣ Windows Hello PC
 - ▣ Apple FaceID/TouchID
 - ▣ 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 (SSID: JAIST, eduroam)
 - Password change
 - 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 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

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**

Security Introduction Seminar

- Understand today's seminar and pamphlet
- Complete I-Env. Usage consent procedure (online)
→ **Account will be suspended if not completed by 10/31**



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

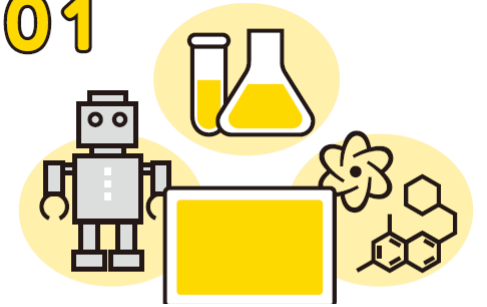
開始する

JAIST Security Introduction For 2023

Research Center for Advanced
Computing Infrastructure



**In Order to Achieve a Secure
Research Information Environment in JAIST**



Basic Policy of JAIST I-Env.

- I-Env. is for education, research, and office work for JAIST
 - Including your own devices connected to I-Env.
 - Student and faculty residents, VPN connection from outside, etc.
 - What kind of usage is acceptable ?
 - It depends on the nature of each individual research.
 - Can you explain that work is proper purpose?
 - If you can't judge by yourself, consult your supervisor or our center.
 - JAIST information security policy / guidelines.
<http://www2.jaist.ac.jp/iscenter-new/private/security-wg/index-e.html>



Importance of Passwords

■ Others know your password ≡

Others can access all of your information

- Put a strong password complicated enough for others not to guess
 - 10 or more characters with a combination of character types
- Do not use same passwords for other off-campus services
 - We recommend using password management software
- Do not tell your password to others
 - JAIST will never ask you to disclose your passwords
- Changing password:
 - <https://www.jaist.ac.jp/iscenter/en/useraccount/password/>



Do not Make Unauthorized Access

■ Diverse types of unauthorized access

- Hacking and unauthorized access
 - Through security loopholes
- Accessing services with somebody else's account
- Performing DoS attack even if non-intentionally

■ These acts are included in criminal or civil offenses

Security Measures (1)

■ Computer Viruses will take advantage of the vulnerability of popular software



- Regularly update your OS and apps to the most recent versions
 - Windows: Windows Updates
 - Macintosh: Software Updates
- Set your devices to automatically get the latest security patches
- Keep updating all the equipment connected to the network
 - Smartphones, wireless LAN routers, IoT equipment, etc.

Security Measures (2)

■ Malware can spread diverse routes

- Use antivirus software in conformance with JAIST
 - Highly reliable products certified by the following organizations
www.av-test.org/en/
www.av-comparatives.org
 - Regularly update the virus definition files
 - We provide a virus detection tool for JAIST members
ESET Endpoint Protection
<https://www.jaist.ac.jp/iscenter/en/software/eset/>



Anti-Phishing

■ Phishing emails → To steal your personal info.

- Do not fill your information on phishing sites
 - We never request you to input your ID / password at outside of JAIST without HTTPS session (<https://web-mail.jaist.ac.jp> etc.)

■ Do not accesss any suspicious web pages

- You have a risk to be punished for such illicit acts aside from being infected with malware
 - Pirated software
 - Copyright infringing animation/music/manga products
 - Illegal drugs/weapon/porn or disclosing personal info. etc.



Protection of Important Information



- Personal info. that can identify an individual
- Research data including lab notes, raw data for experiments
 - Moving research data for weaponry and military outside the country may also be restricted
 - Handle such docs according to JAIST Information Rating Guidelines
 - <https://www.jaist.ac.jp/member/data/personal/rating-guideline.pdf>
 - When sending emails, be careful not to send to wrong addresses or mishandle them.

Respect for Copyright

■ Other authors' work

- Books, papers, reports, music, Web contents, software, and application etc.
- It is illegal to copy any work or make it available online
 - without the consent of the author or beyond the extent permitted by law
- It is also illegal to knowingly download music or images that infringe copyright.
- Everyone will be in the position of having copyright.





Responsible Use for SNS

■ Inappropriate statements and actions on the Internet

- Casual personal writings may lead to problems
 - Including information that should be kept secret or against public consensus and good manners
- The credibility of JAIST or its members would be doubted
- JAIST Social Media Guideline
 - <https://www.jaist.ac.jp/member/personal/snsgideline.html>
 - Understand basic principles for posting information on SNS

Appropriate Use for JAIST Network



- **Do not allow outsiders to access JAIST network**
 - Except for authorized guests (such as eduroam)
 - It leads to accessing info. and services for in-campus
- **Do not use personal VPN or data-anonymizing apps.**
 - It allows users all over the world to access in-campus info.
 - If you need such apps for research, follow the
 - “Application to change firewall settings”
<https://www.jaist.ac.jp/iscenter/en/security/firewall/>

Appropriate Use for Applications



- **Be careful of applications seemingly convenient but with unfamiliar mechanism**
 - Not to be involved in unintended acts
 - Consult your supervisor or our center if needed
- **Examples of applications very likely to threaten the security**
 - **Data anonymizing like VPN for bypassing limitations**
 - VPNgate, Tor, Hotspot Shield, SpotFlux, Hola Unblocker, Mobility XE, Freenet etc.
 - **File sharing applications capable of automatic public transmission**
 - Xunlei, LimeWire, Cabos, Winny, WinMX, Share, eMule, Perfect Dark etc.



If you have any troubles ...

■ If you find any security incidents

- Please contact JAIST CSIRT immediately
 - <https://www.jaist.ac.jp/iscenter/en/security/hotline/>
 - sec-incident@ml.jaist.ac.jp
 - As emergency safety measures, we may disconnect infected equipment from I-Env.
- Examples of the incidents to be reported
 - Malware infected
 - Vulnerability or failure in JAIST security
 - Copyright infringement activities
 - Leakage of confidential / personal information

Conclusions

- Everyone's cooperation for security is important
- We operate I-Env. with consideration of convenience. Use it properly.
- Do not become a victim/criminal of Internet coming from ignorance
- URL: <https://www.jaist.ac.jp/iscenter/en/> for more detail
- If you want to ask us, send e-mail to isc-query@ml.jaist.ac.jp
- Please take measures according to the information security policy / guidelines.
<http://www2.jaist.ac.jp/iscenter-new/private/security-wg/index-e.html>

Have a safe and fulfilling JAIST Life !

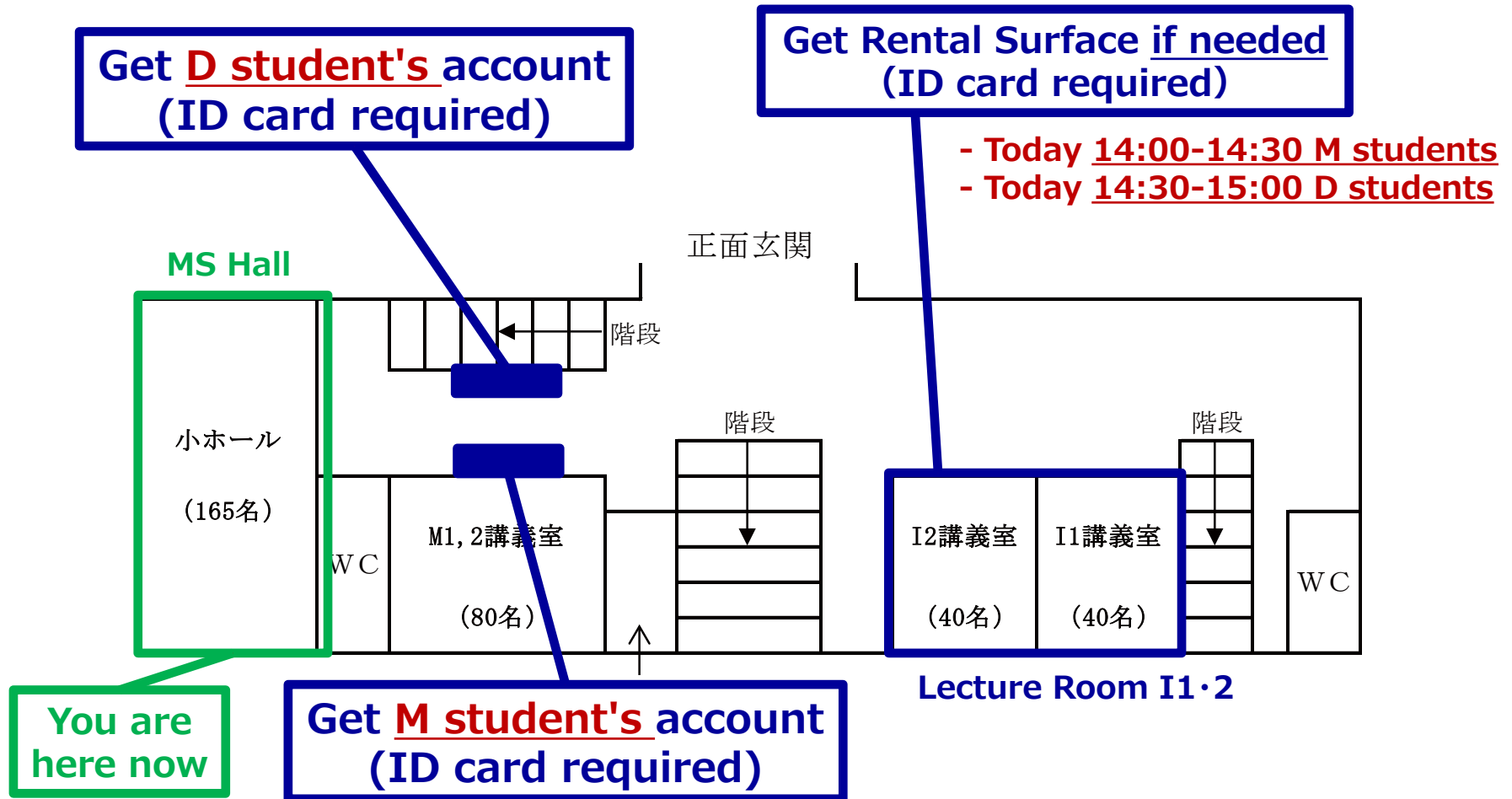
Today's Agenda

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

App. Your Account, ID card, and Rental Surface

Pick up Your Account and Rental Surface



Pick up your Rental 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 14:00-15:00 @ Lecture Room I1•2
- Tomorrow or later: @ RCACI [IS building-II 2F (I-24)]

Necessary Document :

- Student ID card

