

Departmental Overview

By providing various application services and an IT infrastructure to fulfill the needs of all RERF researchers and nonresearch personnel, the ITD (Department of Information Technology) facilitates efficiency in research and related work activities. Additionally, it endeavors to protect much of the electronic, sensitive information stored in-house.

ITD is comprised of two sections. First is the Systems Technology Section, which handles planning, installing, and building to introduce network systems and information systems in-house. Moreover, it is responsible for maintaining relevant hardware (which also includes the PCs used by employees). Also, it builds databases for various electronic information saved by the foundation and develops applications for using them. As an information security measure to protect these kinds of information assets, the section also endeavors to protect networks, servers, and PCs, as well as to protect the personal information of study participants based on the Personal Information Protection Law.

Second is the Library and Archives Section, which oversees duties related to the library (archive management and user support) and manages RERF scientific publications (research protocols, papers, and materials form presentations at scientific meetings) and historical materials from the ABCC era.

ITD is comprised of 14 staff members, including one acting administrative department chief, an administrative assistant department chief, and an administrative unit staff member. There are nine employees attached to the Systems Technology Section and two at the Library and Archives Section. To prepare to build a data sharing/use platform for conducting proactive collaborative research with external research institutions, ITD is progressing in its preparations to integrate in-house research materials. In addition to the integration of in-house research materials, the ITD is providing proactive technology support for the new push to establish the RRC (Research Resource Center), which will promote internal and external collaborative research.

FY2019 Departmental Achievements

1. Regular meetings by the ITD (Department of Information Technology) leadership team
Every other week, discussions were held about planning to upgrade the infrastructure of in-house information systems and establishing the RRC (Research Resource Center). Specifically, discussions were held on new infrastructure that should be expected for the foundation from now on and application services that the infrastructure can provide.
2. Training for staff
For forward-looking renewals of infrastructure and the modernization of applications that use stored research data, ITD personnel participate in various kinds of conferences/seminars. By their participation in training, staff members will be able to learn about the latest technologies/techniques.
3. Replacement of server switches
Server switches, which are part of the main switches, were replaced because they were deteriorating.
4. Replacement of Nagasaki's network switches and edge switches
Because they were deteriorating, the network switches in the Nagasaki Laboratory server room and the edge switches installed on each floor of the Nagasaki Laboratory were replaced.
5. Nagasaki Laboratory's UPS battery
The preventive replacement of a battery associated with deterioration in Nagasaki Laboratory server room's UPS (uninterruptible power supply) was conducted.
6. Updated host servers
Because two virtual host servers that the Department of Epidemiology uses for its tumor registration system database were outdated, a routine replacement was done.
7. Updated storage
Regarding the legacy storage system for virtual servers, two devices in Hiroshima and one in Nagasaki were replaced. This time by increasing the usable capacity to 20-25 TB, information stored in multiple storage units until now will be consolidated, and the number of storage units will be able to be reduced. Reduction in the number of storage units is also expected to save maintenance costs and lead to a reduced budget. Also, the burden on staff members in charge of systems administration can be reduced.
8. environment of personnel
Support for Microsoft Windows 7 was to end on January 14, 2020; therefore, work to update user desktop and notebook PCs provided by ITD to Windows 10 was completed on January 8, 2020. Additionally, as of January 2020, the switch to large LCD monitors for users' Desktop PCs was approximately 40% completed.

9. Installed solutions as countermeasures against targeted attacks

For responding to targeted cyberattacks and zero-day attacks that have been rising in recent years, an intrusion-detection system that monitors packets flowing in the network and detects and provides notice of unauthorized access from outside was introduced. By introducing a product that can link to endpoint-security-countermeasure software already installed at RERF, it is now possible to monitor in-house-network traffic, detect unauthorized traffic, implement preventive measures for all transmission nodes, including endpoints.

10. Conducted a security diagnosis (vulnerability diagnosis)

For servers at RERF that are accessible from outside, a security diagnosis was performed by a contractor. The diagnosis primarily checked whether an attacker would be able to perform operations on any nodes by exploiting setting mistakes or vulnerabilities of servers. In the results of the report, their diagnosis was that the whole system's security level is extremely high.

11. Toward the use of sample data

For constructing the Laboratory Information Management System (LIMS) set to be introduced in FY2019, machinery such as the servers and backup equipment that would be necessary was selected. Additionally, in addition to considering the management of machines set up in the server room, network construction, and screen specifications of the system, work to transfer the sample data saved at the research departments to the LIMS system is ongoing.

12. Recruited personnel for the Systems Technology Section to hire next fiscal year

Toward the establishment of the RRC, the permanent storage of the various electronic data saved at RERF must be guaranteed. To achieve this, the foundation's management of information must be continuous. Therefore, we will hire two new graduates during next fiscal year.