DEPARTMENT OF INFORMATION TECHNOLOGY

Departmental Overview

The mission of the Information Technology Department (ITD) is to develop information infrastructure and provide various services of information technology for the efficiently operation of the research and the related activities at RERF. Specifically, the department is responsible for the maintenance in-house network infrastructure of RERF, the development of application programs and the operation or maintenance of hardware resources such as servers or network equipment. For example, RERF has large amount of data obtained from many kinds of unique research field epidemiological, biological, and clinical studies, including data from the F1 study cohort or the other major cohorts. We have contributed to the improvement of the reliability and availability of the data by developing applications applied for creating databases for these large-scale data and utilization of these data. Furthermore, ensuring the security of these data not only contributes to the efficiency of research, but also greatly contributes to the protection of sensitive information of A-bomb survivors from any external threats.

The ITD organization has been changed in 2022. The organization changes of ITD have been enhanced with installing the Research Resource Section as the first step in establishing the Research Resource Center. At first, the Research Resource Center (RRC) deals with the role regarding development of information technology and secretariat function for supporting the research activities. However, the changing in 2022, RRS has only one role regarding development of information technology and digitized or integrated various research assets of RERF. This is for reasons related to human resources in the institute. The department chief of ITD also serves as the section manager of RRS. That is, ITD is composed of three sections: Research Resource Section, System Technology Section, and The Library and Archive Section. The Systems Technology Section is responsible for the above-mentioned information system-related tasks. The Library and Archives Section manages RERF's collection of books, published papers, and historical materials, and has started a project for archiving these assets permanently.

FY2022 Departmental Achievements

1) Strengthen of external communication line (SINET)

   Previously, our external communication line has only 100Mbps bandwidth. Therefore, we have strengthened the bandwidth up to 10Gbps. Also, the communication line has been provided by NII (National Informatics Institute), and the line is dedicated for academic field. The line is prepared for Cloud computing that is required for our future plan.

2) Expansion of Single Sign On application fields

   In last year, we had introduced Single Sign On authentication method as modern authentication architecture. In this year, we have added two applications (password change function and secure cloud storage) within the SSO.

3) Hyper Converged Infrastructure

   Currently, we have several physical servers or virtual servers based on hypervisor such as VMWare as principal IT infrastructure. For these integrations, we need to consider new modern architecture not only integration but also for the cloud computing. HCI is extremely easy to enhance the resource like a cloud environment, and we can easily manage all computing resources integrally through the hybrid environment such as private or public cloud.

4) Construct electronic application flow

   In last year, we had constructed ‘Scan Center’ as digitized method. In this year, we have established the electronic application flow using ‘Scan Center’ as a pilot project. The introduction of this electronic workflow system has streamlined the paper-based application process sent from Nagasaki institute.

5) Replacement Network Attached Storage

   The Network Attached Storage which provides the resource for the virtual slides in pathology lab., had been replaced due to aging. A smaller and more energy-efficient storage with the same performance as that of the previous storage was selected.

6) Replacement Active Directory Server

   The Active Directory Server will provide a central role in our institute for the authentication infrastructure. Preparing for unexpected accident, we will construct the redundant environment by duplicating the server, and it has been replaced with new one due to aging.

7) Replacing fiber channel switch

   The old model of switch for connecting from the servers to the storages was replaced with new one. Most physical servers’ access large scale storage devices through this switch.

8) Replacement of the liquid monitor for employees (15 units)

   We made a lump-sum purchase of liquid monitors to be used by staff members at RERF for periodic replacement. Work efficiency was improved by adopting monitors with a wider angle than the old ones.

9) Replacing PCs for staff (60 units)

   We made a lump-sum purchase of workplace PCs for staff for periodic replacement. A space-saving model with SSD internal storage was selected to improve work efficiency and maintainability of the equipment.

10) Replacement of laptop PCs for lending (5 units)

    For periodic replacement, we made a lump-sum purchase of laptop PCs for lending to various departments/sections.

11) Recruiting new graduate

    As a result of our internship and the other activities to recruit new graduates in last year, we were able to hire a student who graduate from the Faculty of Informatics at Hiroshima City University. We will train her as an application engineer in the future.