# Information Network System

## 1. Introduction

As the number of network users increased in some buildings, HUBs and switches were installed this year. Virtual LAN [1] switching processes have been increased for any complicated distribution of the user groups.

## 2. Network System

During 1999, a patch panel cabling system at the L3, L4 beam tunnel, a BL15 private network, a biology special experimental facility network system, and a drainage water process facility were adopted. As the number of network users in the biomedical imaging center building is increasing, the number of HUBs and switches were increased in Sep. 1999.

Using RIKEN's global IP address for the RIKEN office users in an area on the second floor of the central administration building, a port of the C5000 switch at this building was changed to the RIKEN V-LAN assignment in May 1999. Figure 1 shows the SPring-8 network connections of a central Ethernet V-LAN switch [2] (CISCO: Catalyst-5500). Seven fast Ethernet V-LAN switches (Catalyst-5000 or 2900 series) and ten fast Ethernet switches are connected. The guesthouses were also connected through a network address translation (NAT). The network systems of all different buildings are connected by optical fibers[3]. The amount of the data for the "Cable Manager" system, which was introduced two years ago to manage physical information on the LAN and telephone system, has increased.

To protect network security for the beamline, the firewall technology was introduced to the network system in the SR experimental group last year. Also the firewall system for the official WWW site servers in the OA-LAN will be introduced in the beginning of 2000.

## 3. Future Plan

In March or July 2000, three more buildings (a users experimental facility building, JAERI solid state physics research facility building, and a RIKEN physical science facility) are being completed. The network configuration design for those three buildings was carried out this year. Three multi-layer switches (Catalyst: C2948 or C2924) and an NAT device will be connected from the SPring-8 central network switch (C5500).

To handle the increasing network traffic to the Internet, an ATM single optical line will be exchanged and the traffic speed will be increased in the next fiscal year.

## 4. Web Publication

*4.1 Web-based Publication*

SPring-8's regular publications (listed in Table 1) are available in PDF (Portable Document Format) on SPring-8's WWW server. The English version of the SPring-8 User Guide in PDF also appears on SPring-8's homepage.

*4.2 Web Announcements*

JASRI officially called for research proposals for SPring-8's public use beamtime in the second half of 1999 and in the first half of 2000 through the SPring-8 WWW homepage. The application form in PDF was provided through the SPring-8 WWW server. Then the lists of accepted proposals were published on the homepage respectively.

Some topical research results obtained at SPring-8 and hot news at SPring-8 were carried on the homepage in parallel with the press release.

SPring-8's Web site served the homepage of the 11th International Conference on X-ray Absorption Fine Structure (XAFS XI) held in Ako, Japan in July 2000. The on-line registration and on-line abstract submission were of service to participants.

*4.3 Web Upgrades*

The list of SPring-8 papers registered at JASRI was published on the SPring-8 WWW homepage and regularly updated.

*4.4 WWW Access Count*

The access counter of SPring-8 WWW server recorded approximately 250,000 counts in 1999. This represents a daily average of around 700 counts per day.

## 5. OA Group

JASRI's OA group installed groupware on the LAN in JASRI's office (the administration sector) to promote office automation last year. The groupware was extended to a work flow system.

## References


[1] Virtual LAN system: CISCO Co., Ltd.

[2] N. Yagi *et al.,* SPring-8 Annual Report 1997 (1997) 136.

[3] H. Takebe *et al.,* SPring-8 Annual Report 1996 (1996) 243.

Table 1. SPring-8 regular- and Web- publications

| Issue | Web-publihsed in PDF in 1999 | Contents |
|---|---|---|
| SPring-8 User Information | Vol. 4 No. 1 through No. 6, 1999 | A Japanese Newsletter for Users |
| SPring-8 User Experiment Report | No. 1, 1997B<br>No. 2, 1998A<br>No. 3, 1999A | An English report covering all of the User's experiments in each reserach period |
| SPring-8 Annual Report | 1997 | An English report giving an overview of the overall activity of SPring-8 including the status report of machines and facilities |
| SPring-8 Research Frontiers | 1997-1998 | An English issue presenting research highlights at SPring-8 as well as scientific and technical developments of the accelerators and beamlines |

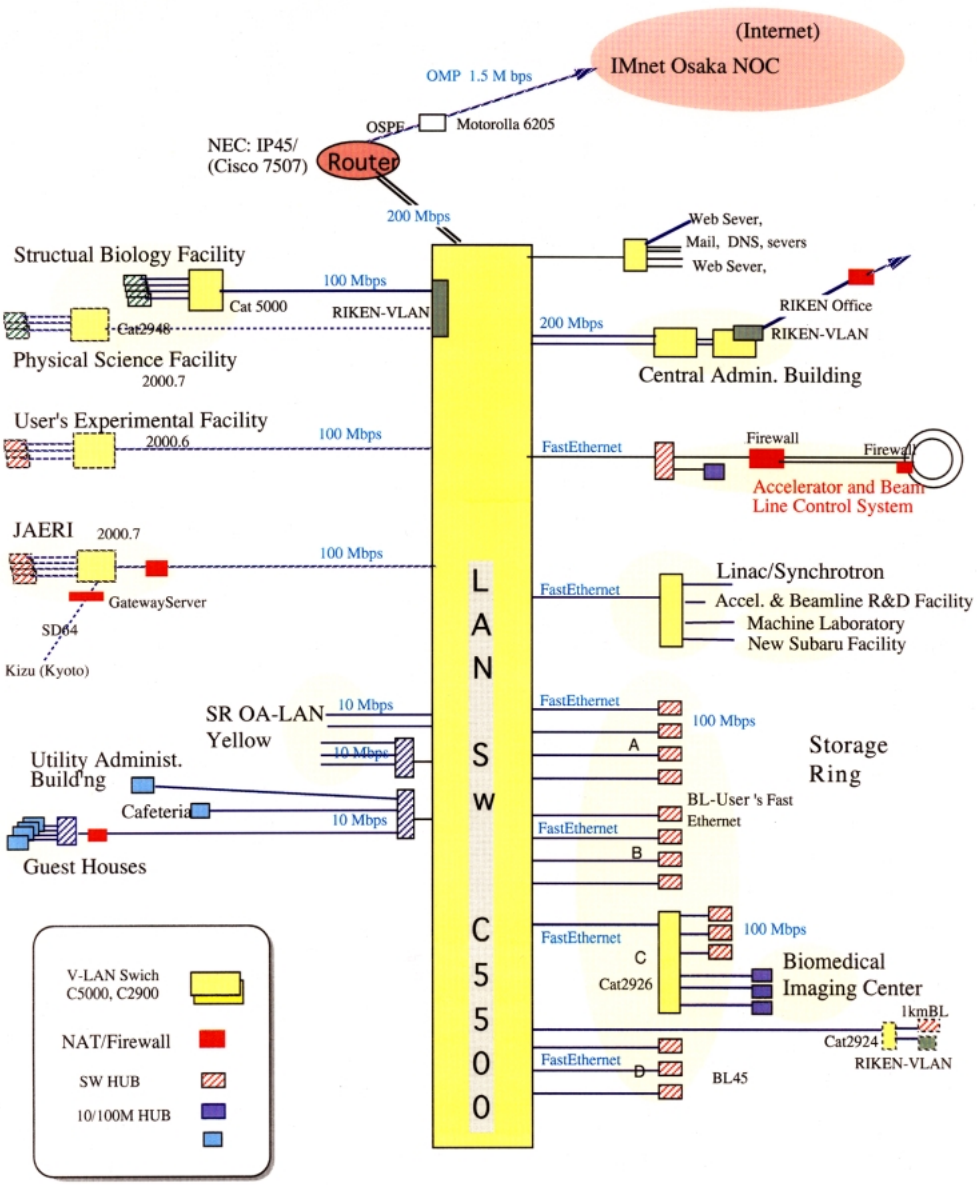


Fig. 1. Configuration of SPring-8 Local Network System.