NETWORK SECURITY SYSTEM AND METHOD FOR RIBF CONTROL SYSTEM

A. Uchiyama A,B M. Komiyama B R. Koyama A,B M. Fujimaki B N. Fukunishi B

A) SHI Accelerator Service Ltd. B) RIKEN Nishina Center

Outline of the ACC-LAN (Network system for RIBF control system)

- Perfectly closed network system for ensuring security
  - No connection!

Characteristics of ACC-LAN

- Communications to the Internet or RIKEN-VLAN from client PCs are strictly prohibited.
- The information is provided by only web communication via reverse proxy server.
- The system opens only a minimum number of ports by the firewall.

Next Best Policy

- Web Communication is suitable to provide information for a lot of people.
- Squid for reverse proxy server and IPTables for firewall.
- Two reverse proxy servers
  - For accelerator staff members with authentication (Single Sign-On)
  - For RIBF beam users with No authentication, but access only some specific website.

E-mail Alert in closed network

- PVs are converted by the framework with XML and JSON.
  - We can develop EPICS-based mechanical switches without a connection between the networks.

- RIKEN-VLAN and ACC-LAN is separated completely.
- The system can send E-mails by using on-off control action of EPICS-based mechanical switches without a connection between the networks.