

# Computing and network environment at the RIKEN Nishina Center

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We operate the Linux cluster systems<sup>1)</sup> at the RIKEN Nishina Center (RNC).

Figure 1 shows the current configuration of the Linux servers at the RNC. Scientific Linux (SL) 7 and CentOS Stream 8 have been installed in these systems.

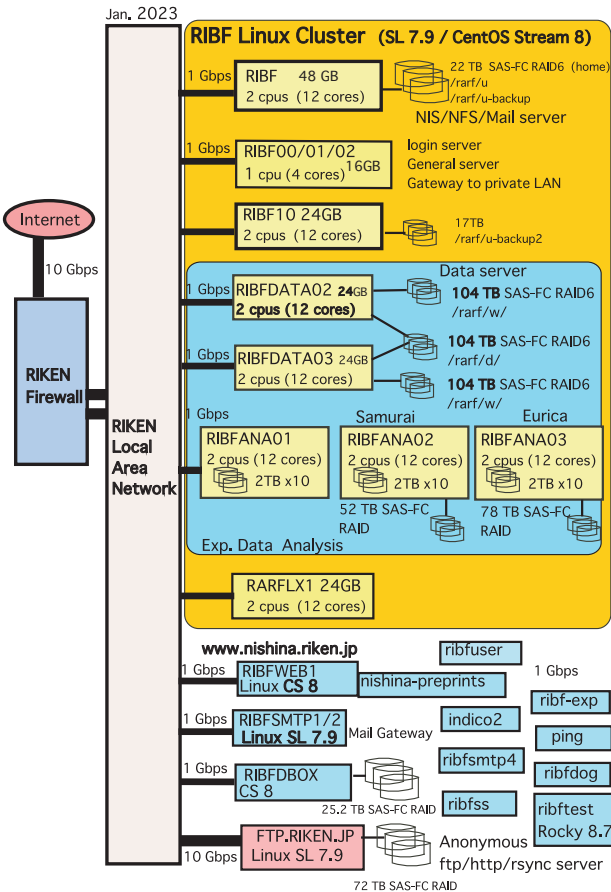


Fig. 1. Configuration of the RIBF Linux cluster.

Among these servers, the hardware of *RIBFSMTP1*, *RIBFSMTP2*, *INDICO2*, *RIBFSS*, and *RIBFUSER* are HP ProLiant DL320e. Because the hardware support of the HP DL320e was ending in December 2022, we replaced the hardware of the *RIBFSMTP1* with the newly installed HP DL160 in November.

HP ProLiant servers were repaired for 8 times. They were faults of two batteries and one capacitor for cache memories, and five hard disk drive units.

The hosts *RIBFSMTP1/2* are the mail gateways used for tagging spam emails and isolating virus-infected emails. The latest version of Sophos Email Protection-Advanced (PMX 6.4.9) was installed. However, as the support for Sophos PMX is scheduled to

end in July 2023, we are preparing for a new mail system without using Sophos PMX. Figure 2 shows the email trends in 2022. Approximately 59% of the incoming emails were blocked by the PMX ip-blocker, and the number of the blocked emails (mostly spams) was increasing monthly.

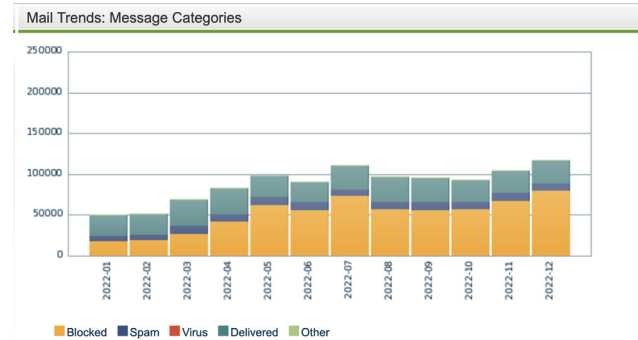


Fig. 2. Mail trends: message categories in 2022.

We tested Clam AV,<sup>2)</sup> a free anti-virus software, on the test server *RIBFSMTP4* and found it working well. This could be one possibility for virus protection of emails when we drop Sophos PMX in 2023. We have also tested Rocky Linux 8 on *RIBFTEST* as a new operating system and the installation possibility of indico,<sup>3)</sup> which is not supported in RHEL8.

An anonymous ftp server, *FTP.RIKEN.JP*, is managed and operated at the RNC. Major Linux distributions are mirrored daily for the convenience of the users. A memory leak was observed, and a workaround is in progress. It was announced in December 2022 that the CERN and Fermilab jointly plan to provide AlmaLinux as the standard distribution for experiments at our facilities, reflecting recent experience and discussions with experiments.<sup>4)</sup> Therefore, our new servers may soon adopt AlmaLinux as an operating system.

We have been operating approximately 70 units of wireless LAN access points in RNC for the convenience of experiments and daily work. Two old and degraded access points, WAPS-APG600H, were replaced by new access points, WAPM-1266R.

## References

- 1) T. Ichihara *et al.*, RIKEN Accel. Prog. Rep. **55**, 102 (2022).
- 2) <https://www.clamav.net/>.
- 3) <https://getindico.io/>.
- 4) <https://linux.web.cern.ch/>.

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