

§33. Construction of LHD Monitoring System for Control Data

Yamaguchi, S., Shouji, M., Yamazaki, K, Kariya, J., (Yamaguchi Univ.), Okumura, H., (Matsusaka Univ.), Emoto, M., (Nihon Sun Microsystems)

The data monitoring system is under the construction for the LHD. The requirements to the monitoring system are as follows,

- A) long time monitoring but fast sampling time acquisition for the monitor of the LHD superconducting system and plasma experiments,
- B) slow sampling (= real time system) and fast sampling (= batch system) are required,
- C) relation data base (RDB) must be used to manage the data and the system which include the LHD itself.
- C) easy maintenance to improve the stability of the system.

These requirements are the start point to study, and we also keep in mind the technological trends because the computer technology is

changing faster than the construction schedule of the LHD. The final specifications of the system are as follows^{1,2},

- 1) UNIX is used.
- 2) IP multicast is adopted to communicate for the real time system.
- 3) All soft-wares works on the browser of the internet, and users can take the data from the WWW server.

Figure 1 shows the system set up in the present time, in which the bold rectangular component is under the construction in this fiscal year, and total 512 CH monitor channels are used to obtain the data of the low temperature system, the vacuum vessel temperature, the divertor temperature and the strain gauge monitoring. This system can be extended to over 4000 CH, and when many user access the system, we will set the additional WWW servers.

Reference

[1] J. Kariya et al, Proc. 16th Int. Conf. Cryo. Eng./Int. Cryo. Mat. Conf., p. 673, 1997.
 [2] S. Yamaguchi et al, J. Plasma Physic and Nucl. Fusion Japan, vol. 73, p. 335, 1997.

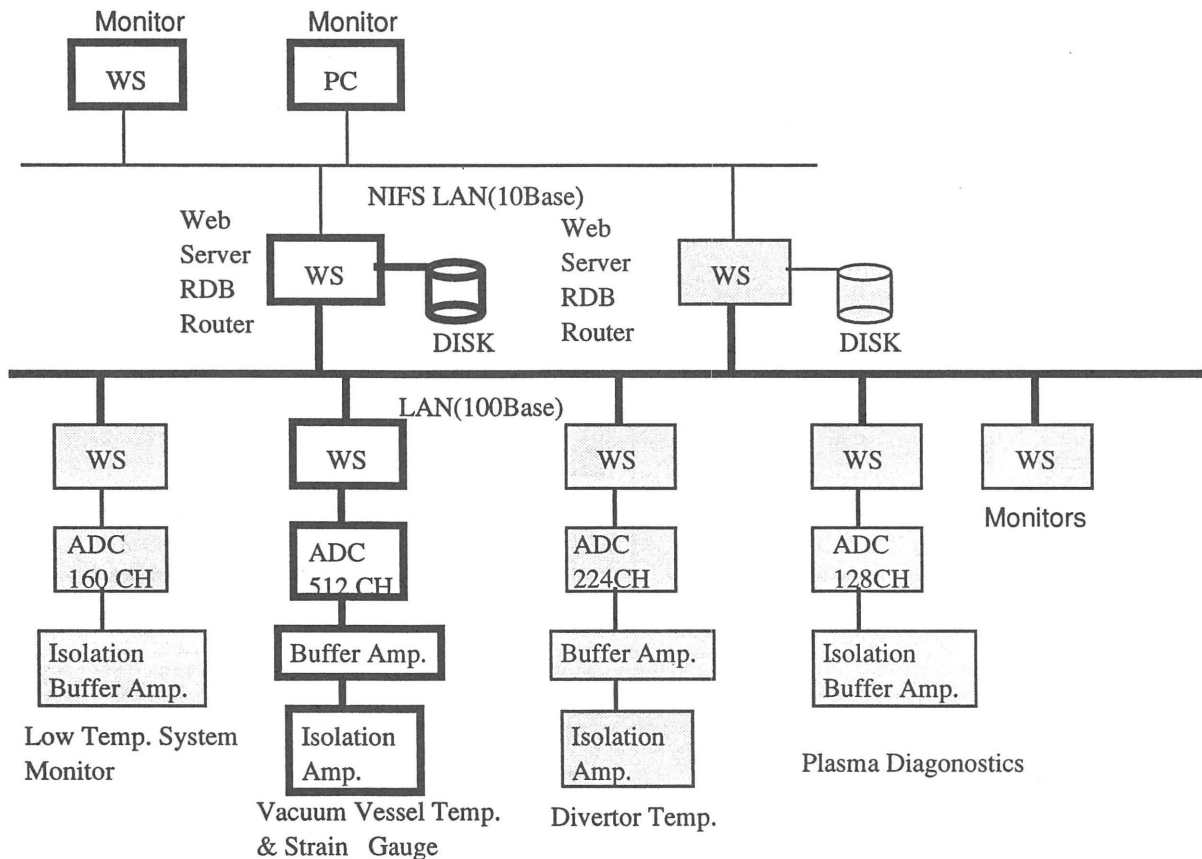


Fig. 1 System set up