

§9. CHS Data Acquisition and Analysis System

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The CHS project was shut three years ago, but works on data analysis have been continued. During the last three years, we have modified the CHS data storage system for the experimental database. The CHS data acquisition and analysis system uses various computers with different operating systems (VMS, Tru64, Linux, RSX-11 and etc), and the data are stored by the structure of DMG, MDSplus, old PDP data and so on. Improvement has been made in the data storage system, where the image-data are stored in addition to the original data. The image-data are automatically produced as a secondary-product in the process of data back-up.

The image data can be read by the computer with the same operating system as the data are stored. However the image-data can be moved to any computers with different OSs. Data portability is better. These two characteristics are very useful for the supervisor of data management, but the use of the image data is not easy for ordinary users. Now, all the CHS data are stored in two types, namely, in original data form (relational database of DMG, MDSplus and PDPRAW) and in image-data form. Back-upped image-data can be kept in storage disks in any computer systems.

We have adopted movable disk drive units for the new data storage system. Both the original database and the image database are stored in movable type storage disks. The system has two merits. One is that we can take out the disk drive units easily in case of disaster, and the other is that the disk units are kept static state safely in the separate location. The RAID system is elegant as a data storage system but it is fragile against disasters. Fig.1 shows the magnetic 250Gbyte movable disk drive for the DS20E computer.

The above five computer systems are linked to the ether-net lines on which TCP/IP and DECnet are available. The original database can be transferred within their territory. All image-data can be transferred to any computers with different operating systems if they have TCP/IP protocol. However, it is noted that only the computer with which the image-data are acquired can read those image data. Fig.2 shows the Linux server for the image-data storage only.

An important subject for CHS work after the shut down is to operate the data storage and analysis system constantly, so that the user can read the data easily without any trouble. Improvement of the data storage system is almost completed successfully.



Fig.1. The movable disk unit that is installed the DS20E Tru64/VMS data analysis server.

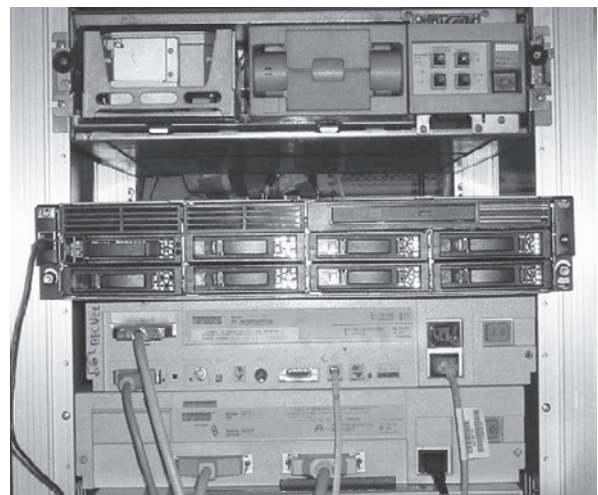


Fig.2. The Linux server set in the middle place of rack stand. This server has 2T capacity disk storage unit (installation 250Gbyte, now) that is using image-data only

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- [2] Takahashi, C. et al., Annual report of NIFS, April 2004-March 2005 300(2005)
- [3] Takahashi, C. et al., Annual report of NIFS, April 2005-March 2006 324(2006)
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