

STT055-P05

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Improvement of Channel Information Management System

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The WIN format [Urabe, 1994] is the national standard format of the seismic waveform data in Japan. The specification of this format is the waveform data and their channel information (i.e. channel ids, sensor types, components, data resolutions, sensor sensitivities, sensor locations, etc.) are separated. This format is useful to exchange waveform data among seismic observatories and stations because the data size is smaller than other format. When using the waveform data, the channel information must be required. In other words, the correct management of channel information is very important. We developed the Channel Information Management System (CIMS), which treats the unified channel information using the distributed database system [Nakagawa *et al.*, 2007]. The user of this system accesses the database by web, and updates or browses the channel information which is requested by user. This system has a function that the CIMS servers deployed at the seismic observatories of the Japanese universities and other institutes automatically negotiate with one another and exchange the channel information. So, CIMS is not only the distributed database system but also the mirror database system.

The most important feature of CIMS is a retroactive change of channel information accurately. To preserve change logs of channel information and to ensure the consistency among the CIMS servers, a command for deleting the channel information from the database was not implemented. After we started the operation of CIMS, incorrectly-inputs of data occurred frequently. To correct the data, we needed to directly access the database middleware of CIMS and fix the data. This is not undesirable way in terms of maintaining consistency.

In this study, we improve the CIMS by implementing a deleting the data command. It is need attention that the correct data was not deleted by error if a delete command is executed. So, deleting data consists of two stages. First stage is to set an invalid flag, and second stage is to delete data which have invalid flags from the CIMS database. This improvement has finished in January 2011, and operates the improved CIMS. We enhance the reliability and stability.

Keywords: database, channel information, WIN format