

Development of network platform for data transmission and practical use for NIED Hi-net system

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The real-time earthquake information transmission requires high-speed, high-reliability, high-availability and permanent high-performance. We map out our solution as the Improvement of the performance by common platform of data transmission and started the development of the data transmission practicable system for realtime earthquake information network as a sub-theme of the leading project.

The basic necessary condition of the system is as follows,

The delay time is less than one second.

There is no data missing and destruction

The system is available for more than one thousand seismic stations.

The data transmission is not affected by difference of the data format.

The system is available for continuous data and intermittent data.

Based on the basic necessary condition, we developed the common network platform system by using the adaptor as the interface between different systems. The function of the system is as follows,

data forwarding and resending, data archive, data copy and multicast, data load balance, data priority control, performance monitoring.

The system has been reconstructed and improved by NTT Communication Company. At last, NTT succeeded to commercialize the system, EarthLAN. The EarthLAN provides the high performance network services. The delay time of data sending is less than 500msec. The EarthLAN is a redundant system with high maintenance level. The EarthLAN is used by Hi-net/F-net system for the continuous data sending. Recently, the EarthLAN is attached the function of sending event trigger data from the strong motion.