

To the Press

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YRP Ubiquitous Networking Laboratory

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Development of the Mobile IP High-Speed Hand-over Function Required for Seamless Communications Succeeds on T-Kernel

The YRP Ubiquitous Networking Laboratory (Location: Shinagawa, Tokyo, Director: Ken Sakamura) successfully developed a high-speed IP hand-over method which is required in order to seamlessly use real time applications such as streaming videos, even while moving between networks, and installed it on T-Kernel.

This high-speed hand-over method was developed by adding unique functions to the IPv6 Mobile IP standardized by the IETF (Internet Engineering Task Force) to enable speeding up of hand-over processes and improvement of reliability through buffering. The IETF has been looking into IPv6 Mobile IP-based high-speed hand-over methods. However, these methods assume that destination networks are predicted in advance and that all routers in a network support a high-speed hand-over method. On the other hand, the method that has been developed this time can be used even if destination networks are not predicted and even in an environment where a normal IPv6 router that does not support this method exists. Therefore, it has the advantage that it can be introduced into existing networks sequentially.

This method was implemented on T-Kernel based on the KASAGO IPv6 of Elmic Systems, Inc. that is the TCP/IP stack for T-Kernel and its optional protocols, Mobile IPv6 and IPsec. Free IPv6 software called KAME on Free BSD was modified and used for the Mobile IP functions on the network side, such as routers and home agents.

Please note that this method was exhibited and demonstrated in the YRP Ubiquitous Networking Laboratory's booth at the TRONSHOW2005 that was held at the Tokyo International Forum from Tuesday, December 7th to Thursday, December 9th, 2004.

This research has been conducted as part of "Research and development of basic network protocols to realize ubiquitous computing environments" conducted by the National Institute of Information and Communications Technology (NICT).

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