

## A Kind of Low Latency Communication Way over Ethernet

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### ABSTRACT:

In PC cluster systems, some kinds of multiprocessor systems and distributed systems, the low latency property of communication is a research focus. Ethernet applied to these systems should be very satisfying with cost and performance, if its low latency property could be ensured by a kind of communication way. The paper presents a kind of Low Latency Communication way over Ethernet (LLCE) that reduces the overhead and complicity of communication software. The solution is to bypass TCP/IP protocol within kernel context and directly program the Ethernet interface controller. LLCE has achieved lower latency and higher bandwidth than TCP/IP communication over same 1000Mb/s Intel PRO/1000 XF Ethernet adapter on PCs with 2.0GHz Pentium CPU and 133MB/s PCI.

**Key words:** Ethernet, latency, TCP/IP protocol, software overhead, bypass.