

# Load Distribution Method using Multicore Based NIC for High-Performance Computing System

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**Abstract**—Cloud computing is becoming more important in Software Defined Networking (SDN) / Network Function Virtualization (NFV). Virtual Machine (VM) and various services require higher performance servers. Accordingly, the performance of the server also requires high capacity and high performance. As the performance of hardware increases, it is required to increase the speed in the data plane area. In order to increase the speed of the data plane area, it is necessary to adjust the core affinity for each flow. When passing through the kernel, the kernel performs packet header parsing, which is overhead in terms of speed. Therefore we propose a data plane acceleration technology with load distribution of multicore (28 core) based Network Interface Card (NIC) in the test environment that delivers packets at 20 Gbps.

**Keyword**—By-pass, Core affinity, Data plane acceleration, Multicore based NIC



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