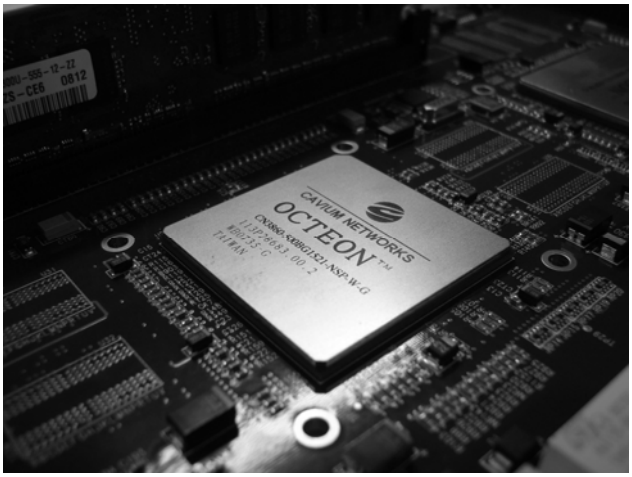
LANBIRD

Multi-core Development Kit
Product Brief



LANBIRD MDK (Multi-Core Development Kit) is developed based on Octeon hardware multiprocessor platform. This kit is design to provide programming environments with such features in system management, programming environment (compiler and linkers) and FP (Fast Path) programming, enables programmer to reduce time in developing high performance products under multiprocessor environment

Lanbird MDK includes optimized Linux Kennel, zebra package, and drivers and utilities, which enable users to design various network infrastructures, reduce time in programming. Lanbird MDK utilizes Control Plane and Data Plane design concept, multiprocessor can be used in Control and Data processes separately. Control Plane provides User Interface to manage Fast Path, and Data Plane can optimize multiprocessor ability by using Fast Path code which will greatly enhance packet forwarding performance.

Fast Path code's ability to forward large size packets faster eliminates sluggish software based packet forwarding decision in Linux platform. Network Service Providers can be satisfied with their high performance, high speed and high quality equipment requirements are met.

By using Linux OS, stable core software features such as Protocol stack, management service application programming can be reused and utilize multiprocessor at high speed effectively. Lanbird MDK is a Development tool set that can satisfy increasing demands of higher performance system requirements.

Lanbird MDK Components

a) NS0216/NS1216 ATCA board or any other boards based on Cavium's Octeon,
b) SDK from Cavium Networks -- toolchain (cross/native)
c) Lanbird Linux OS - Kernel + driver + utilities
d) Routing Suite (Quagga)
e) FPM (Fast-Path Manager)
f) FP (Fast-Path code) - IPv4/v6 L3 forwarding

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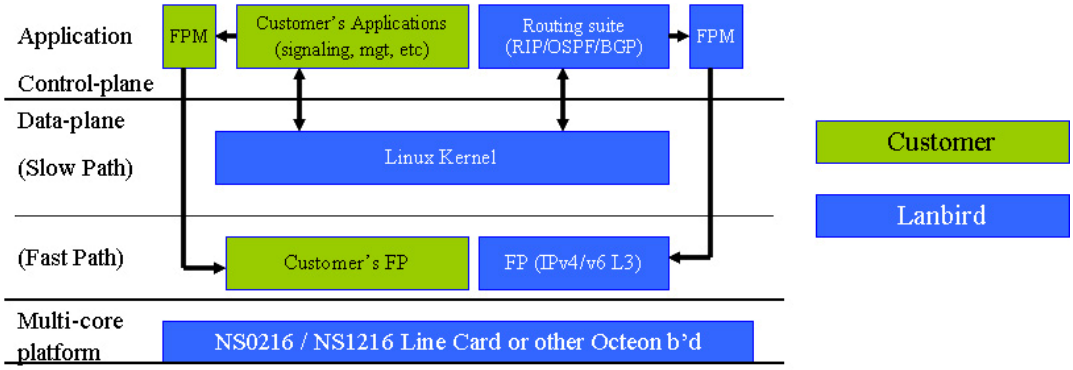
Lanbird MDK S/W Architecture



Performance Result of MDK

1) Purpose

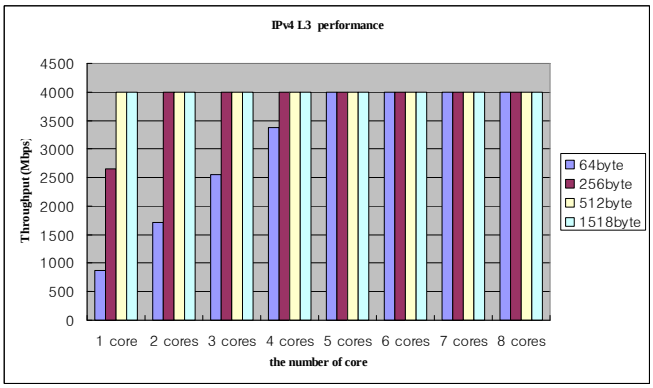
- Test the IPv4 performance of FP -IPv4 L3 forwarding+ Routing Suite (Quagga) code on LBATCA-NS1216
- Test the IPv6 performance of FP –IPv6 L3 forwarding+ Routing Suite (Quagga) code on LBATCA-NS1216

2) Test highlight

- Delivers 4Gbps traffic to NS1216 using Smartbits 6000B with 2 xLAN3200A
- Increase the frame size from 64byte to 1518byte including Ethernet header
- Increase the core of CPU up to 16 until NS1216(only one NSP) deliver 4Gbps with 64 byte

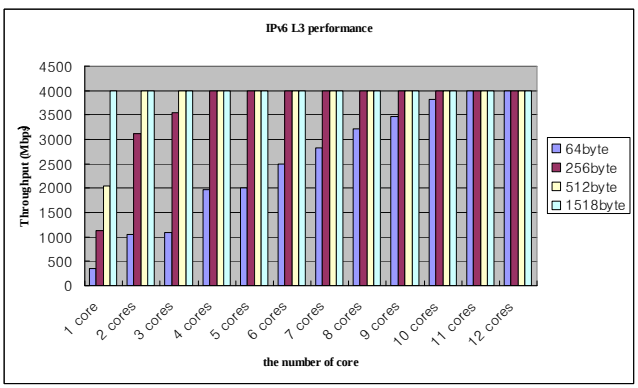
3) Performance Result

IPv4 Performance



100% packet forwarding completed at only using 5 Cores.

IPv6 Performance



100% packet forwarding completed at only using 11 Cores

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