Workload Optimized® ARMv8 Processors – High Performance Networking

ThunderX_NT™ Family of Network Centric Workload Optimized Processors

Product Brief

OVERVIEW

The ThunderX_NT™ product family is the best in class 64-bit ARMv8 Data Center & Cloud Processors, offering unprecedented level of integration and industry leading SoC performance. The product family comprises of high performance custom ARMv8 cores supporting single and dual socket configuration. The SoC integrates hardware accelerators, scalable Ethernet fabric, feature rich I/O's supporting full level of virtualization along with high memory capacity thereby providing the best in class performance/$ and performance/watt. The ThunderX_NT™ family includes multiple SKUs that enable servers & appliances that are optimized for network centric workloads in the cloud. This product family is based on highly efficient full custom processor cores designed by Cavium in 28nm process technology under architectural license from ARM. It is fully compliant with ARMv8 architecture as well as ARM's Server Base System Architecture (SBSA) standard.

FEATURES

Processor Sub-System:
- Scales from 24 to 48 cores with up to 2.5GHz frequency
- 78K-Icache, 32K-D cache per core,16 MB shared L2
- Single and Dual socket support via CCPI™

Memory Interfaces:
- Up to 4 DDR3/4 memory controller
- Upto 1 TB of memory capacity in dual socket config

I/ O Interfaces:
- Multiple 10/40GE ports
- 100GE connectivity
- Multiple independent SATAv3 interfaces
- Multiple PCIe – x4 , x8 support

Virtualization:
- End-to-End virtualization from I/O to core (virtSoC™)

Accelerators:
- Layer 2 and Layer 3 packet processing
- Integrated security accelerators

Fabric:
- Integrated standard low latency Ethernet fabric
- OpenFlow 1.3.1+ compliant

Operating System and Related Software Support:
- Server Base Boot Requirements (SBBR), UEFI, ACPI support
- SBSA Level 2 compliant
- Ubuntu V14.04 LTS and later
- Red Hat Early Access for ARMv8
- Fedora F20
- OpenSUSEV13

Management:
- External Baseband Management Controller (BMC)
- Supports standard BMC interfaces & functions
- IPMI 2.0 compliant

Reference Platforms:
- StratusX: 1U1S in ATX form factor (Single Socket)
- CirrusX: 2U4N in ½ SSI form factor (Dual Socket per Node)

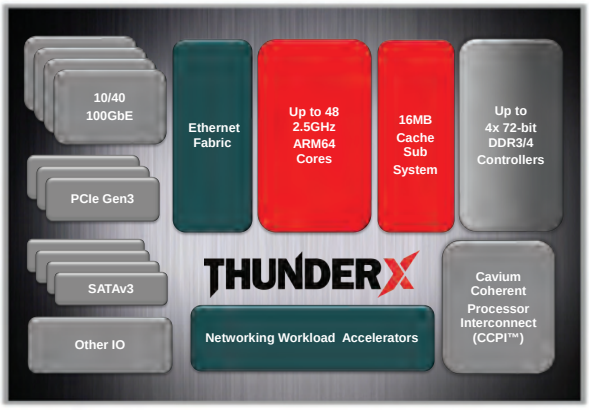
BENEFITS

Fifth Generation multi-core processor design from Cavium with proven building blocks and architecture.

Optimized for network centric workloads through scalable core count, high network throughput through 10/40/100 GbE integrated networking, core to IO virtualization and accelerators for security and L2/L3 packet processing in hardware

Integrated low latency fabric for east-west interconnect traffic enables highly scalable network platforms with fewer ToR ports

Applications:
- Telco Servers
- Media Servers
- Gaming Servers
- NFV Appliances



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