

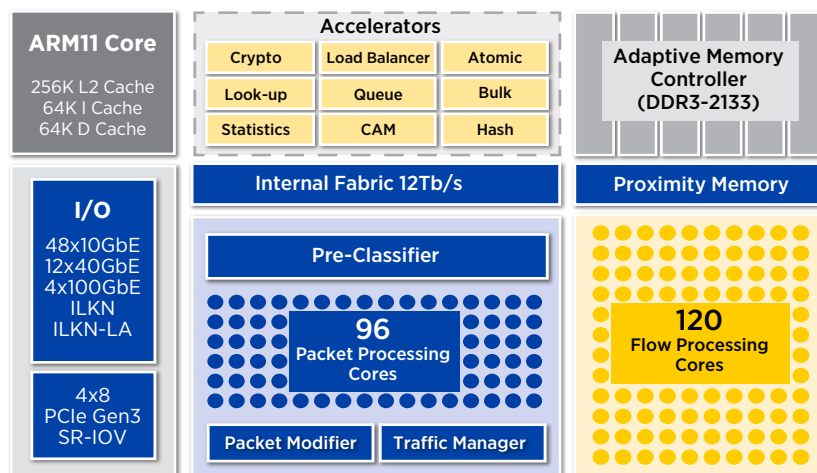
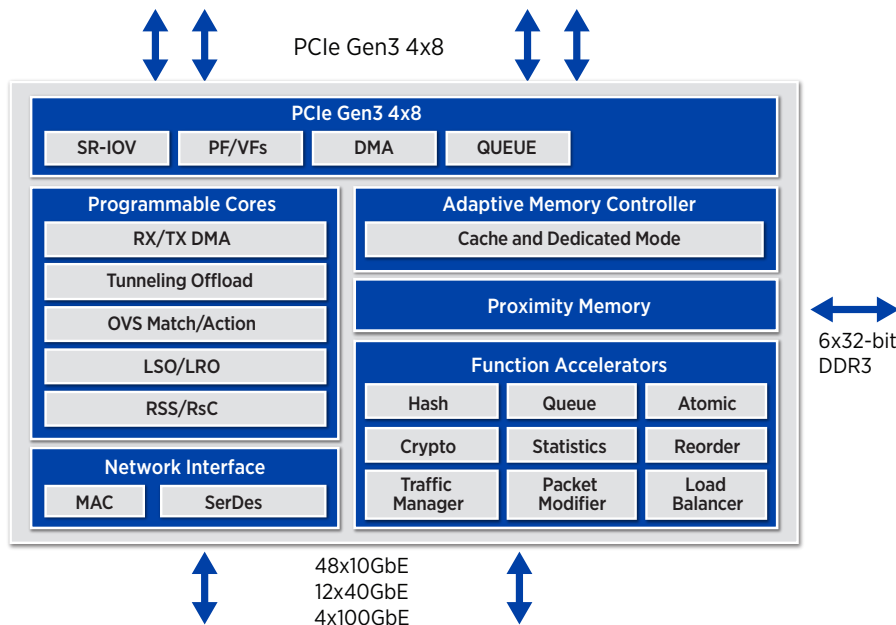
Netronome NFP-6000 Flow Processor

PURPOSE-BUILT PROCESSORS FOR INTELLIGENT NETWORKING

Netronome's 6th generation NFP-6000 multi-threaded, multicore flow processor targets intelligent data plane processing at higher performance, with lowest power and cost, while enabling the capability to adapt quickly to new networking features. The optimized match/action-based flow processing architecture enables per tenant, per VM, per application policies at scale to support microsegmentation. In security applications, the built-in, high-performance bulk cryptography acceleration delivers secure data access at cloud scale.

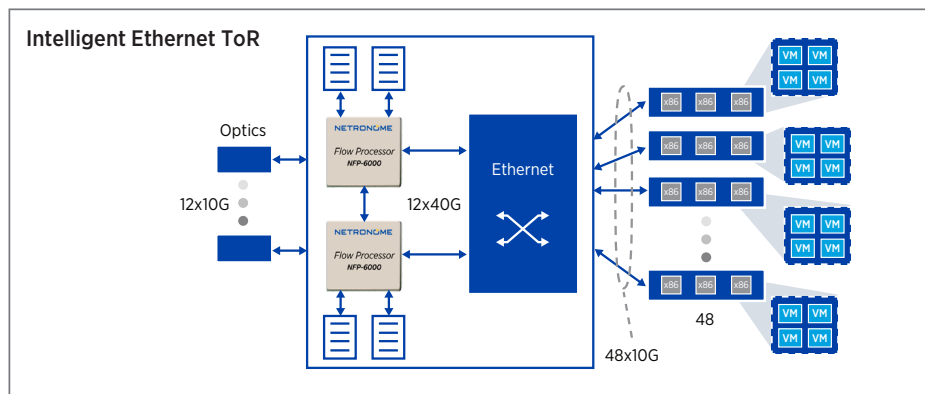
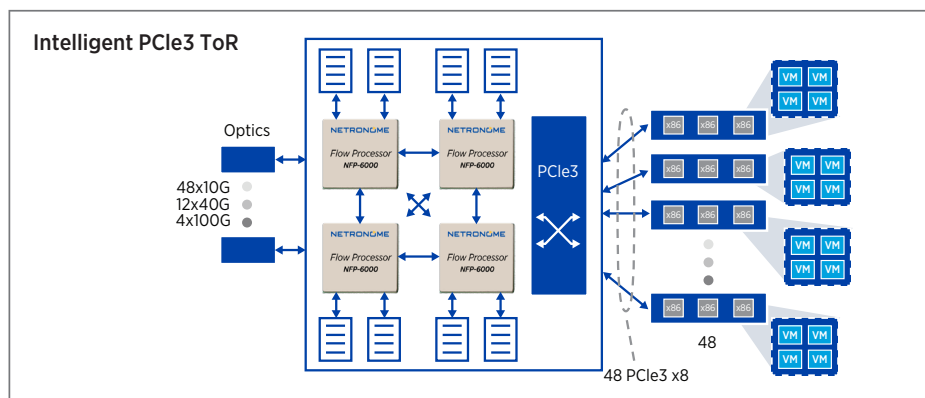
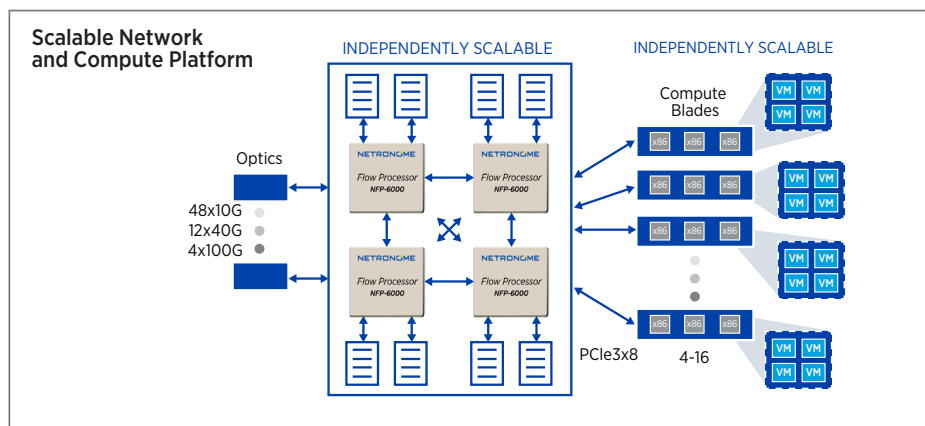
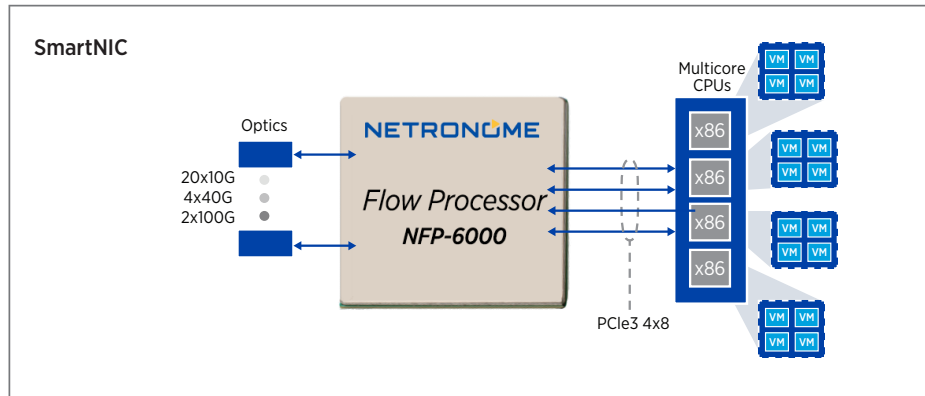
FEATURES

- 120 programmable flow processing cores
- 96 packet processing cores
- PCIe Gen3 4x8 interface (4PF/64VF each)
- SR-IOV with 256 hardware queues
- Adaptive buffer management
- Configurable 6x32-bit or 3x64-bit ECC protected DDR3-2133
- Over 31MB of on-chip memory
- 48 KR capable SerDes supporting:
 - Ethernet 10G/40G/100G
 - Interlaken x10G, x40G, x100G
- 12Tb/s credit-based internal fabric connecting processing and memory resources.
- Hardware-based, in-line bulk cryptography support for all major cypher suites
- 100 dedicated accelerators for Deep Packet Inspection (DPI)
- Regex matching, traffic management, security processing and bulk cryptography
- ARM11 Core (L1 (64K), L2 (256K))



NFP-6000 Flow Processor Block Diagram

Sample Designs



Benefits

- Fully programmable 200Gb/s L2-L7 processor
- 384 million packets per second
- Over 256Gb/s wire-speed stateful flow and packet processing
- Support for custom tunnel types: VXLAN, NVGRE, MPLS
- Millions of exact match and wild card flows
- Stateless and stateful load balancing
- Hardware flow tracking for cut-through acceleration
- 100K+ tunnel encapsulation and de-encapsulation

Target Applications

- Security appliances
- Intrusion Detection Systems (IDS)
- Intrusion Prevention Systems (IPS)
- Next Generation Firewall (NGFW)
- Routers
- Load balancers
- Packet brokers
- Data center applications
- Carrier SDN and NFV appliances
- Advanced services blades
- Data center virtualized appliances
- Open Compute Platforms
- Test and measurement equipment
- Network probes and monitors
- Aerospace and automotive
- Industrial control



Software Support

- SDK
- Drivers up-streamed to RHEL
- P4
- BPF, eBPF offload
- Open vSwitch (OVS 2.0) acceleration and offload
- SDN Support
- OpenFlow 1.3 support with 42 match fields
- KVM hypervisor support
- Intel DPDK poll mode driver and zero-copy to Linux user space
- Profile and performance tools

Specifications

- 6/6 RoHS compliant

Package

- 1,932 Ball (45x45mm) Flip Chip BGA, 1mm solder ball pitch

NETRONOME

Netronome Systems, Inc.
2903 Bunker Hill Lane, Suite 150
Santa Clara, CA 95054
Tel: 408.496.0022 | Fax: 408.586.0002
www.netronome.com

©2018 Netronome. All rights reserved.

Netronome, the Netronome logo, and Agilio are trademarks or registered trademarks of Netronome Systems, Inc. All other trademarks mentioned are registered trademarks or trademarks of their respective owners in the United States and other countries.