EZchip's NP-5 is a highly-flexible network processor with integrated traffic management targeting Carrier Ethernet Switches and Routers (CESR) and other Carrier Ethernet platforms that require high performance, flexible packet processing and fine-grained traffic management.

Highlights

- 240Gbps wire-speed network processor aimed at Carrier Ethernet applications
- Integrated 240Gbps traffic management providing granular bandwidth control
- Up to 480Gbps peak processing data path and CoS classification
- Suited for line card, services card and pizza box applications
- On-chip control CPU for host CPU offload
- Power management for minimizing line card and system power dissipation
- Operations, Administration and Management (OAM) processing offload
- Synchronous Ethernet and IEEE1588v2 offload for Circuit Emulation Services
- IP reassembly for advanced packet processing offload
- Integrated serial interfaces with support for 64x1GE, 48x10GE, 12x40GE and 4x100GE
- Utilizing DDR3 DRAM memory chips for minimizing power and cost
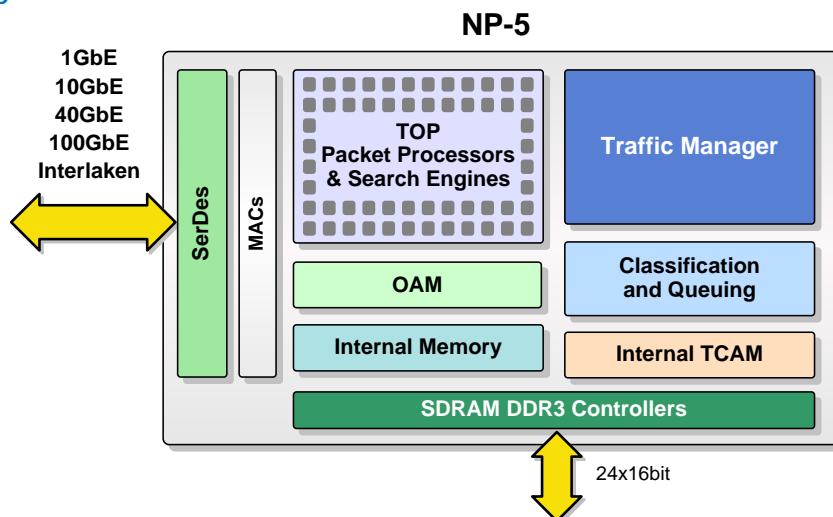- SW compatible with EZchip's NP-4 network processor

Target Applications

NP-5's flexibility and integration allows system vendors to deliver cost effective solutions that can easily adapt to changing market requirements.
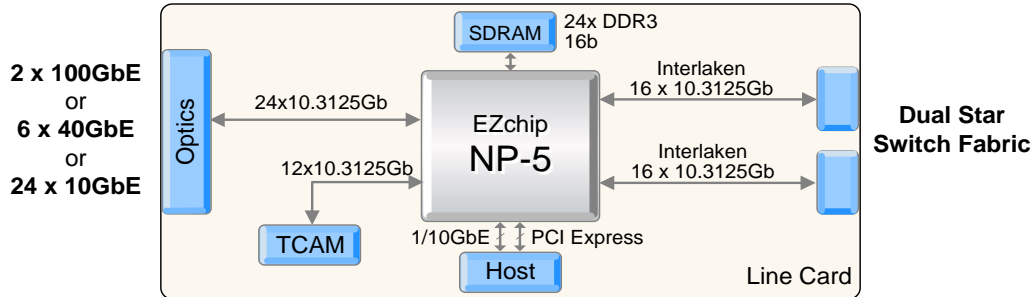
Typical applications include:

- Line cards in modular chassis:
  - Edge and Core Routers
  - Transport Switches
  - Data Center Switches
  - 3G/4G Wireless Infrastructure Equipment

- Stand-alone pizza box solutions:
  - Ethernet Aggregation Nodes
  - Server Load Balancing Switches
  - Multi-10Gbps Firewalls & VPN
  - Intrusion Detection Appliances
  - Network Monitoring and Analysis Services
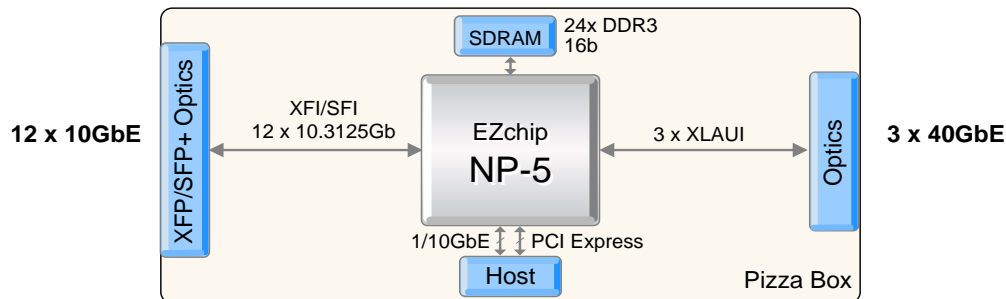
NP-5 Block Diagram

Sample Applications

NP-5 line card with 2x100GE, 6x40GE or 24x10GE network ports, and a dual Interlaken interconnect to a switch fabric. The Traffic Manager is 240Gbps providing 240Gbps egress scheduling or Virtual Output Queuing.

Pizza box with 12x 10GE and 3x 40GE network interfaces.

Software Tools

EZchip supplies a comprehensive set of software tools to facilitate system design for NP-5 based products. The toolset manages the data plane and allows designers to edit, build and debug microcode applications for the EZchip's network processors with a unified GUI. Designers can quickly develop and test the microcode using cycle-accurate simulation and debugging tools including breakpoints, single-step program execution and access to internal resources.

The Driver API Library manages the control plane and facilitates the development of the control path software for EZchip based systems. It is a full source code C library that is easily ported to any OS.

Applications Library

EZchip offers a library featuring production code and tested reference code to help its customers simplify their development efforts and expedite the time-to-market of their system products.

The library includes:

- L2 switching
- Metro Ethernet
- MPLS LER and SER
- IPv4/IPv6 routing
- Access Control Lists (ACL)
- IEEE 1588 1-step implementation
- Fragmentation and defragmentation
- Multicasting
- L23 QoS

Ordering Guide

Product	Catalog No.	Description
NP-5 RoHS	20782502	240Gbps Network Processor with integrated Traffic Manager; RoHS model, Phase 2.1

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