

Product Brief

PRODUCT HIGHLIGHTS

- ❑ High performance 10G evaluation platform for Bay's Internetworking Processor family - Montego & Biscayne
- ❑ Enhance productivity with a simplified and futuristic programming model.
- ❑ Highly integrated data/control plane allowing service providers to rapidly prototype and validate network services.

Introduction

With many network equipment designs increasingly becoming dependent on packet processing, validating the functionality and performance of network processors becomes critical to the product's success. BayPort™ is a comprehensive demonstration and evaluation platform for Bay Microsystems' Internetworking Processor™ family of network processor (NP) and traffic management (TM) products, enabling customers to rapidly develop and deliver next generation systems.

BayPort features Bay's protocol agile Montego® and Biscayne™ products. Montego is the world's first 16Gbps full line rate programmable network processor with integrated traffic management. Biscayne is Bay's classification processor with policing capabilities for data rates up to 16Gbps. Montego and Biscayne operate seamlessly together to accomplish any-to-any interworking, complex tunnel resolution and routing at core line rates of OC48, 10GbE and OC192c. Biscayne enables flexible policing algorithms required for sophisticated DiffServ, Ethernet, Frame Relay, and ATM interworking.

BayPort

BayPort supports multiple configurations of ATCA-based line cards. Network equipment manufacturers can rapidly address a variety of end-user applications to increase the value of their final product offerings.



BayPort 10G NP/TM Card

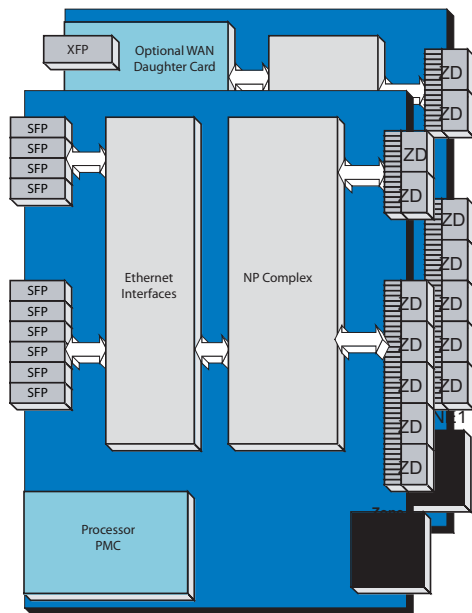
Physical Characteristics

- ❑ ATCA compatible 19 inch rack mountable form factor
- ❑ 80-250VAC and -48VDC power supply options
- ❑ Mid-plane chassis design
- ❑ Modular and interchangeable network interface and preprocessing cards
 - Software-configurable 10Gb port adapter card (OC192 SONET/SDH or 10GbE) with pluggable XFP SONET and WDM optics
 - Quad OC48 port adapter card with pluggable XFP SONET and WDM optics
 - Gigabit Ethernet LAN with optional VLAN
- ❑ Processor PCI Mezzanine Card (PPMC)
 - Freescale PowerPC7447A
 - Up to 2GB DDR SDRAM with ECC
 - User Flash memory
 - PCI bridge/controller

Product Features

- ❑ Bay-powered 10G Universal NP/TM Card for switching, interworking and aggregation of packets and cells with the following capabilities:
 - Any-to-any agile, line-rate protocol mediation
 - Datagram processing
 - Network policing & traffic management
 - Deep-classification and tunneling
 - Over-subscription management
 - Integrated ATM AAL5 SAR
- ❑ Access to statistics, status and control functionality
- ❑ Indicator LEDs for power, faults, link, activity
- ❑ Management via CLI or WEB interface
- ❑ NEXtware software suite running on PPMC
- ❑ Linux OS
- ❑ Hardware support for management interfaces:
 - Local Craft access
 - Ethernet for telnet and CLI
 - Network HTTP

BayPort Block Diagram



NEXTware™ – Bay's Highly Simplified Programming Model

Using BayPort, developers can experience the ease of programming and configuration provided by Bay's NEXTware™ software suite with its powerful Applications Programmers Interface (API). NEXTware provides a seamless and straightforward programming interface to the versatile features and performance of Bay's Internetworking Processors, and a simple API interface to existing control plane software development environments. BayPort provides the flexibility to configure the box both at the system and network processor level. This includes smart device initiators and configurators which can be triggered by the end-user to seamlessly configure and edit memory, physical interfaces, traffic parameters, etc. The platform comes with a library of application modules and comprehensive diagnostics to jump start software development.

The capabilities provided by BayPort and NEXTware can be used to support a wide range of features and protocols ranging from Layer 2 to Layer 4 including (but not limited to):

- ❑ Ethernet: Port mirroring, MAC learning and aging, MAC switching, MAC filtering, VLAN switching, spanning tree
- ❑ IPv4/IPv6: ACL filtering, switching and forwarding, tunnel resolution, routing
- ❑ MPLS: Switching, L2 VPN, LER
- ❑ PoS: PPP over SONET/SDH and Cisco HDLC, PPP in HDLC-like framing encapsulation and de-encapsulation
- ❑ ATM: LLC encapsulation, VC and VP Switching/mapping
- ❑ BRAS: PPP, L2TP, Broadcast, Multicast

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Some features listed in the specifications are under development.

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BayPort Configurations

BayPort is available in two configurations:

- ❑ A single full-duplex 10G NP/TM card and chassis
- ❑ Two full-duplex 10G NP/TM cards and chassis supporting multiple pluggable and configurable interfaces including 1GbE, OC48 (PoS, ATM), 10GbE and OC192 (PoS, ATM).

Single Service Card Configuration	Gigabit Ethernet Ports	OC48 Ports	OC192 Ports	10G Ethernet Ports
1	10	–	–	–
2	–	4	–	–

Dual Service Card Configuration	Gigabit Ethernet Ports	OC48 Ports	OC192 Ports	10G Ethernet Ports
1	20	–	–	–
2	10	4	–	–
3	10	–	1	–
4	10	–	–	1
5	–	8	–	–
6	–	4	1	–
7	–	4	–	1
8	–	–	2	–
9	–	–	1	1

BayPort Target Applications

The deterministic nature and scalability of Bay Microsystems' Internetworking Processor family of NP/TM products enables customers to develop network equipment targeting a range of applications at very low risk. These include:

- ❑ Carrier Ethernet switching and transport
- ❑ Ethernet LAN extension over ATM, POS or Ethernet
- ❑ Aggregation of Gigabit Ethernet, IP, ATM, POS
- ❑ Packet Service Provisioning Platform (PSPP)
- ❑ PON aggregation
- ❑ Multiservice Provisioning Platform (MSPP)
- ❑ BRAS, IP-DSLAM or similar access system
- ❑ Network element integration and elimination
- ❑ Intelligent edge switch/router

