



# NEXTware™ Software Suite

Product Brief

## Product Highlights

- ❑ Robust tool suite for programming Bay's Internetworking Processors
- ❑ Enhanced productivity by eliminating the need to write any microcode
- ❑ Includes sample application libraries for rapid prototyping of customer applications

## NEXTware™ Software Suite

NEXTware™ is the next generation NETwork EXTension software suite which facilitates the high-level programmability of Bay Microsystems' Internetworking Processors. NEXTware includes the advance toolset required to integrate Bay's family of Internetworking Processors into network system designs and rapidly prototype customer applications. NEXTware is part of the Bay Software Environment packaged with the BayPort™ family of demonstration and evaluation platforms running on Linux.

This software suite includes the following components:

- ❑ BAPI (Bay API Library)
  - Functional APIs
  - Configuration APIs
- ❑ BDDI (Bay Device Driver Interface)
- ❑ BSAL (Bay Sample Application Library)
- ❑ BRUL (Bay RunTime Utility Library)

## BAPI — Bay API Library

The Bay Application Library is a set of advanced functional and configuration APIs that enable programming of Bay's Internetworking Processors. The Bay programming model is unique in the network processing industry, providing the most flexibility and highest level of hardware abstraction to drastically reduce the effort required to build new applications from the ground up. A developer interfaces only with a library of C++ based Functional and Configuration APIs and does not worry about lower level device interfaces.

The Functional APIs are wrappers that perform complex operations such as programming a multicast flow, traffic management, policing, etc. using a single function call. Configuration APIs handle atomic operations such as resetting devices, retrieving status, port/memory configuration, etc. These APIs in turn translate a request into device specific interfaces and program the processors, thus eliminating the need to write microcode. This model allows standardization of APIs across all packet processors and enables rapid application development and verification.

## BDDI — Bay Device Driver Interface

The Bay Device Driver Interface is a set of device specific interfaces required to program Bay's Internetworking Processors directly from the control plane. These interfaces are invoked directly from the BAPI (high-level APIs). The combination of BAPI and BDDI eliminates the need for another OS and code base memory for the network processors, making it the most effective programming mode in the industry today. This layering model accelerates the integration process and eliminates the need to train a new team developing microcode for the data plane.

## BSAL — Bay Sample Application Library

The NEXTware software suite comes with a sample application library which can be used to demonstrate various features offered by Bay's network processors. This library includes ATM/Ethernet/IP interworking applications, L2 Bridging/Switching, L3 Routing/Forwarding, deep packet classification, and advanced traffic management/policing functionality. This library will grow over time to support many future applications.

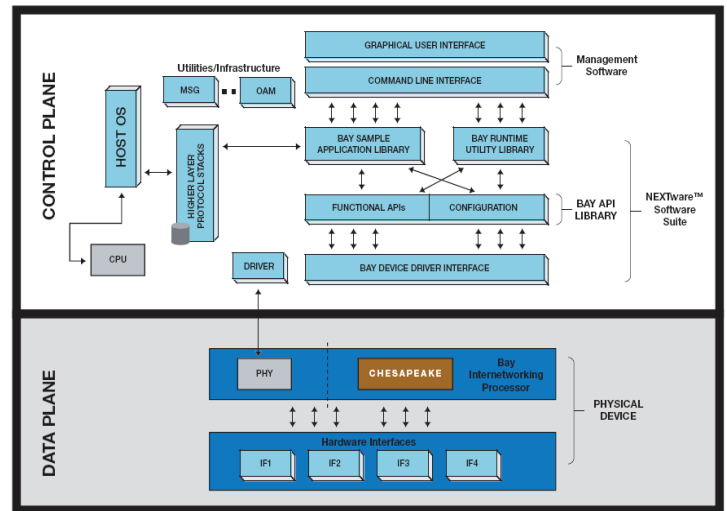
## BRUL — Bay Run time Utility Library

The software environment is provided with all the necessary diagnostic and debugging tools needed to build full scale applications. Besides these tools, the utility library is comprised of a set of Cisco-like CLI commands for performance monitoring and gathering of statistics from the processors. This utility library has been designed to maintain the same look and feel across all products.

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Some features listed in the specifications are under development.

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Bay Software Environment (BSE)