Smart Networks Alliance Solutions Brief

FEATURING
WIND RIVER SYSTEMS

MOTOROLA
intelligence everywhere™

Freescale Semiconductor, Inc.

COMPLETE CONTROL AND FORWARDING PLANE INTEGRATION WITH WIND RIVER TMS AND MOTOROLA'S NETWORK PROCESSOR DEVELOPMENT ENVIRONMENT

Networking products typically partition functionality so that fast-path forwarding and packet/cell processing run in an optimized environment (such as Motorola's network processors), and less time critical functionality (like signalling, routing stacks, and system management) runs on a general-purpose, networking host processor, such as Motorola's MPC750. Integrating the functions of these processors for advanced networking technologies, such as Gigabit Ethernet and SONET-based optical switching, requires an intelligent software solution.

Motorola's C-Port Network Processor (NP) Family (including the C-5/C-5e/C-3e NPs and Q-3/Q-5 Traffic Management Coprocessors) delivers complete program-mability of forwarding plane functions within a highly integrated hardware and software platform. Combine this advanced forwarding plane technology with Wind River® Systems' control plane expertise, and network

The C-5 Switch Support Package (SSP) integrates the C-5 NP's forwarding functions with the layer 2 and layer 3 networking applications and protocols of Tornado for Managed Switches.
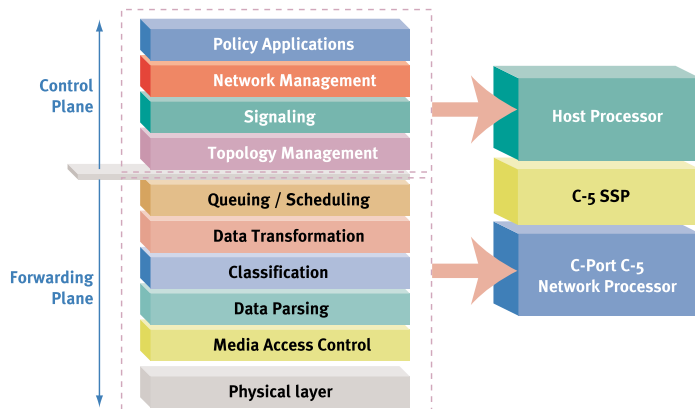
equipment vendors are able to build fully integrated system software solutions more quickly than ever before — and keep products in the market longer through soft-ware upgrades.

Integrated Layer 2 and Layer 3 Support

Wind River and Motorola have collaborated to create an intelligent networking software solution with the C-5 Switch Support Package (SSP). The C-5 SSP integrates Wind River Systems' Tornado® for Managed Switches (TMS) with Motorola's C-5 NP to provide an easily customized system that serves as the foundation for next-generation network devices.

Wind River's TMS is an embedded software solution that combines the powerful Tornado application development platform and the VxWorks® RTOS, and a complete set of layer 2 and layer 3 networking applications and proto-cols. With advanced Quality of Service (QoS), TMS supports Voice over IP (VoP), video conferencing, and other sophisticated networking applications.

With the C-5 SSP, the C-5 NP implements nearly all of the TMS functionality, and it is the first network processor to provide VLAN support with TMS. By combining layer 2 Ethernet features with IP capabilities, the SSP addresses the needs of next-generation applications in areas such as broadband access, wireless infrastructure, and multi-service access platforms.

Control Plane
- Policy Applications
- Network Management
- Signaling
- Topology Management

Forwarding Plane
- Queuing / Scheduling
- Data Transformation
- Classification
- Data Parsing
- Media Access Control
- Physical layer

- Host Processor
- C-5 SSP
- C-Port C-5 Network Processor

Freescale Semiconductor, Inc.

Integrated Development Environments

To allow developers to customize the system, the C-5 SSP includes source code as well as documentation. Wind River Systems has long been integrated on Motorola's C-Ware™ Development System, enabling customers using the C-5 SSP to easily develop and test their host applications.

The C-Ware Development System's Host Application Module allows users to test and tune the interface between the C-5 SSP and their host software prior to full system assembly. It includes the VxWorks kernel and the C-Port host applications programming interface to the C-5 NP. Using this module, users can load C-5 NP software off of the PCI bus and test the full networking software suite, including host processor software.

The C-5 NP simulation environment also interoperates with VxWorks' simulation environment to accelerate time to market. Vendors will be able to simulate their entire host system, including message-based host processor interaction with the C-5 NP. Using a 'sockets' interface, The C-5 Simulator can pass messages to and from instantiations of Wind River's VxSim RTOS simulator running the target system's host applications. Thus, vendors can debug the entire management system and routing/signalling protocols for their product before target hardware becomes available.

The alliance between Motorola and Wind River helps customers reap the benefits of faster product development by providing:

- High-speed processing power combined with a complete set of layer 2 and layer 3 protocols
- An integrated environment for developing and testing applications
- Custom application development for the SSP through Wind River

For more information, go to:

- www.windriver.com
- www.motorola.com/networkprocessors

SMART NETWORKS ALLIANCE

Motorola's Smart Networks Alliance is designed to enable the broadest suite of solutions for communications OEM customers leveraging the Smart Networks Platform. Members of the Smart Networks Alliance exist for almost any hardware, software or tools category, including companion chips, hardware tools, software development tools, networking software, RTOS, and emulators.

For more information, go to:
www.motorola.com/smartnetworks/alliance

MOTOROLA

WINDRIVER-FACT/D
Rev 03 July 2002