

VLX for Network Infrastructure

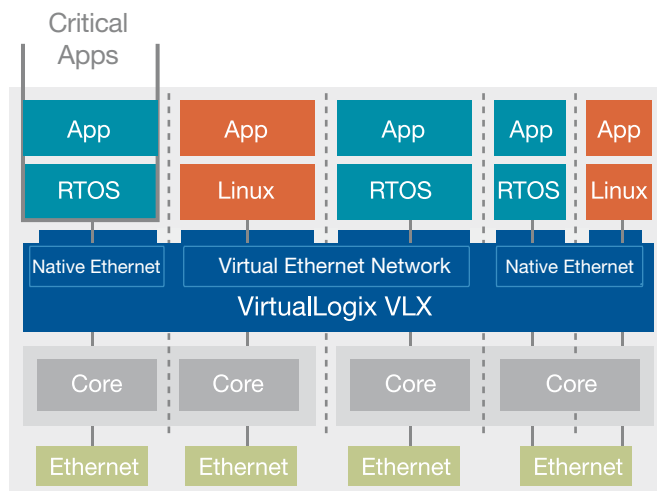
Supporting Intel® Core™ Microarchitecture

Overview

VirtualLogix™ VLX for Network Infrastructure enables customers to easily migrate from single core to multi-core processors by allowing commercial or proprietary real-time operating system (RTOS) and Linux operating systems to run unmodified on the Intel® Core™ Microarchitecture, without disrupting the behavior of their supported applications.

The combination of VirtualLogix VLX software with Intel Virtualization Technology hardware addresses the networking infrastructure market by providing support for high throughput and time critical applications.

The advanced features, flexibility and performance of VLX for Network Infrastructure allow developers to solve problems which are difficult to address with other solutions today.



Key Benefits

- Lowers bill of material (BOM) through hardware consolidation
- Enables support of multiple heterogeneous OS onto a single platform with no porting effort
- Provides high data throughput and device driver re-use via direct I/O access
- Secure containment for mission critical application
- Enables isolation of proprietary code from open source license (GPL) requirements

Key Features

Linux, UNIX, and RTOS Support

VLX for Network Infrastructure enables unmodified operating systems to run concurrently on a multi-core Intel processor. Each operating system can be of the same type (e.g. all Linux), different types (e.g. Linux v2.4 + RTOS), or even different releases of the same OS (e.g. Linux v2.4 + Linux v2.6). One guest operating system may be dedicated to a single core, a single core may support multiple guests, or a Symmetric Multi-Processor (SMP) OS may be dedicated to a subset of CPUs, leaving the remainder to run another guest OS.

Unlike other virtualization solutions, VLX architecture ensures that RTOS continue to provide guaranteed response to the system regardless of the work-load of other operating systems on the platform. This capability allows deployed legacy solutions to be migrated to multi-core Intel processors without extensive re-validation or performance issues.

Optimized I/O Throughput

With VLX for Network Infrastructure each operating system can use its native device drivers for direct access to the hardware, resulting in the highest performance, code portability and ease of migration. VirtualLogix VLX does not have any system bottlenecks or dependencies on a 3rd party operating system or its activities, making it an ideal solution for systems which require high data throughput.

Configurable for Performance and/or Security

VLX for Network Infrastructure allows developers to configure any guest OS for best performance with the lowest latency and highest throughput, or to possess strict isolation from one OS to another. This capability allows developers to balance needs of performance versus security within their product.

Inter-OS Communications

VLX for Network Infrastructure allows each guest OS to inter-communicate, share data, and coordinate their tasks. By supporting both the virtual Ethernet network and virtual UART, guest OS's can communicate using their standard protocol stacks.

64 GB Memory-space Usage

VLX for Network Infrastructure partitions physical memory into smaller units, allowing operating systems capable of addressing 32 bits of address space to utilize independent 4 GB areas of

today's 64 GB addressable platforms. This capability enables the re-use of legacy solutions on these newer hardware platforms and ensures software scalability and re-use into the future.

Validated Target Boards

VLX has been designed to run on Intel Virtualization Technology hardware utilizing standard legacy compatible chipsets. VLX has been specifically validated for multiple Linux and VxWorks® deployments on the following boards:

Intel MPCBL0040 (Damascus)
 Intel MPCBL0050 (Whippany)
 Kontron CP6012-64
 Continuous Computing CCPU cPCI-CD1215
 RadiSys Procelerant CE945GM Core Duo
 RadiSys Endura TP945GM
 S5000 Intel Server – Dual-Core Intel Xeon processor 5100 series (Woodcrest)
 S5000 Intel Server – Quad-Core Intel Xeon processor 5300 series (Clovertown)
 Intel Allagash - IPDXE7520ALDVKT

Use Cases Examples

VirtualLogix VLX real-time virtualization software for Intel processors provides an advanced, high-performance solution for:

Hardware migration/consolidation – VLX for Network Infrastructure enables developers to benefit from the latest Intel multi-core processor performance, while keeping existing validated and proven software unchanged. The VLX architecture has the ability to consolidate multiple stand-alone blades or servers, running disparate operating systems, onto an optimized hardware platform.

Platform Management and Fault Tolerance – VLX for Network Infrastructure enables standby and active software instances to perform live upgrade, software fall-back, and fault tolerant functions to protect against OS crashes, denial of service attacks, security breaches and more.

Feature Extension – VLX for Network Infrastructure allows one OS and its features to be combined with another, to create a single fully featured, quickly delivered operational system.

Legacy Peripheral Support – VLX for Network Infrastructure virtual device driver framework allows peripherals (e.g. SCSI hard disks) which may be hard coded into an OS to be supported with a virtualized I/O device which accesses new hardware (e.g. SATA disks).

Customer Consolidation – VLX for Network Infrastructure is able to isolate one operating system from the next, allowing multiple software stacks to be hosted on a single hardware server.