

Product Highlights

- Works with Northwest Logic DMA Back-End Core to provide high-performance, scatter-gather DMA operation
- Fully supports overlapped DMA operation
- Windows and Linux versions have a common API
- Supports Packet/Block and Addressed/Non-addressed transfers
- Supports 32 and 64 bit system addressing
- Supports legacy, MSI, MSI-X interrupts
- Performs parameter checking
- Can be quickly customized to create an application-specific driver
- Includes Command Line Interface (CLI) test application
- Delivered as Source code
- Customization and Integration services are available

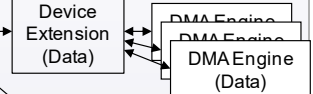
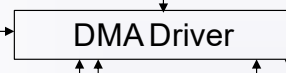
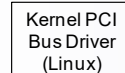
DMA Driver Environment

Application (Ring 3)



IOCTls:
 • Setup DMA Engine
 • DMA Transaction
 • Memory Read/Write (BARs)

Kernel (Ring 0)

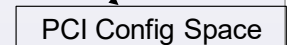


DMAEngine Queues

Control Registers

Interrupts

Hardware



Product Overview

The DMA Driver is specifically designed to be used with the Northwest Logic DMA Back-End Core. It supports all DMA modes supported by the DMA Back-End Core including Packet/Block and Addressed/Non-Addressed transfers. Together the driver and core provide a complete, pre-packaged, flexible DMA system.

The DMA Driver includes support for:

- Device registers and memory reads and writes
- DMA read and write transfers
- Low-level performance statistics
- PnP and Power Management events (Windows)
- Legacy, MSI, MSI-X interrupts

The DMA Driver creates and manages descriptor chains in system memory. The DMA Back-End Core then fetches and executes these descriptor chains. This approach enables the descriptor chain size to be maximized while minimizing the need for large descriptor memories in the DMA Back-End Core.

Windows and Linux versions of the DMA Driver are available. These drivers have been designed for maximum API compatibility to simplify application porting between Windows and Linux.

The DMA Driver is also provided with a very useful Command

Line Interface (CLI) test application. This application can be used to write and read large amounts of data, collect performance data, etc.

Northwest Logic also provides board support packages for a wide variety of third party PCI Express boards. This support packages include a working FPGA design, Driver and GUI binaries. Contact Northwest Logic for more information.

Northwest Logic also provides IP Core customization services. Contact Northwest Logic for a quote.

Product Deliverables:

- Driver Source Code (C)
- Developer's Guide
- Expert Technical Support & Maintenance Updates