Fabric Interconnect Networking Software (FIN-S)
Device Communication (DCOM) Package

FIN-S PACKAGE OVERVIEW

Concurrent Technologies Fabric Interconnect Networking Software (FIN-S) is a family of software packages that provides a rich fabric software ecosystem allowing applications on multiple processor boards to communicate with each other. To address different use cases, FIN-S is split into two functional packages: Embedded Clustering (EC) and Device Communication (DCOM). The EC package enables multiple Concurrent Technologies' boards to communicate with each other over a socket interface to provide a clustering solution. The DCOM package enables a point to point communications interface between multiple Concurrent Technologies' boards and third party boards.

FIN-S DCOM HIGHLIGHTS

- FIN-S DCOM package enables communication:
  - between Concurrent Technologies and 3rd party boards
  - utilizing either RapidIO® and PCI Express® fabrics
- Available on a range of system architectures:
  - VPX™
  - AMC
- Operating Systems supported:
  - Linux®, Windows® and VxWorks®
  - contact your local sales office for latest operating system support
- Available on range of Concurrent Technologies boards utilizing Intel® and ARM processors including:
  - Intel® Core™ i7 processors
  - Intel® Atom™ processors
  - NVIDIA® Tegra® K1 processors
- Contact your local sales office for further details

FIN-S DCOM DESCRIPTION

This datasheet describes Concurrent Technologies' FIN-S Device Communication (DCOM) package on RapidIO fabrics and on PCI Express (PCIe®) fabrics.

On RapidIO fabric based systems, DCOM library provides an operating system and platform agnostic standards based Application Programming Interface (API) to access the devices on the RapidIO fabric. The comprehensively documented API provides the ability to enable outbound and inbound RapidIO windows, mapping CPU transactions to the RapidIO address space and vice versa.

It also provides the ability to carry out high performance synchronous/asynchronous DMA along with the ability to synchronize the communicating boards using doorbell messages.

On PCIe fabric based systems, a third party board can operate as a standard PCI endpoint or in non-transparent mode. The DCOM library provides a set of APIs to write user space drivers for a board operating as a standard PCI endpoint and to communicate with a board when it is operating in a non-transparent mode.

SW FN1/0xx: FIN-S DCOM Package

- Fabric Interconnect Networking Software (FIN-S) Device Communication (DCOM) package

Interconnect Fabrics Supported

- support for the latest interconnect fabrics:
  - → PCI Express® (PCIe®)
  - → RapidIO®
  - → contact your local sales office for latest fabrics supported
- PCIe fabric support (see Figure 1):
  - → support for device operating in endpoint or non-transparent mode
  - → ability to write user-space device driver when operating in endpoint mode
  - → outbound/Inbound window management and DMA when operating in non-transparent mode
- RapidIO fabric support (see Figure 2):
  - → enable outbound windows to map CPU transactions to RapidIO
  - → enable inbound windows to map RapidIO transactions to CPU address space
  - → perform high performance DMA
  - → low latency doorbell

System Architectures Supported

- available on various system architectures, e.g.:
  - → VPX™
  - → AMC

Software Supported

- support for Linux®, Windows® and VxWorks®:
  - → contact your local sales office for the latest operating system support

Concurrent Technologies Boards

- available on a range of Concurrent Technologies boards utilizing Intel® and ARM processors, e.g.:
  - → Intel® Core™ i7 processors
  - → Intel® Atom™ processors
  - → NVIDIA® Tegra® K1 processors
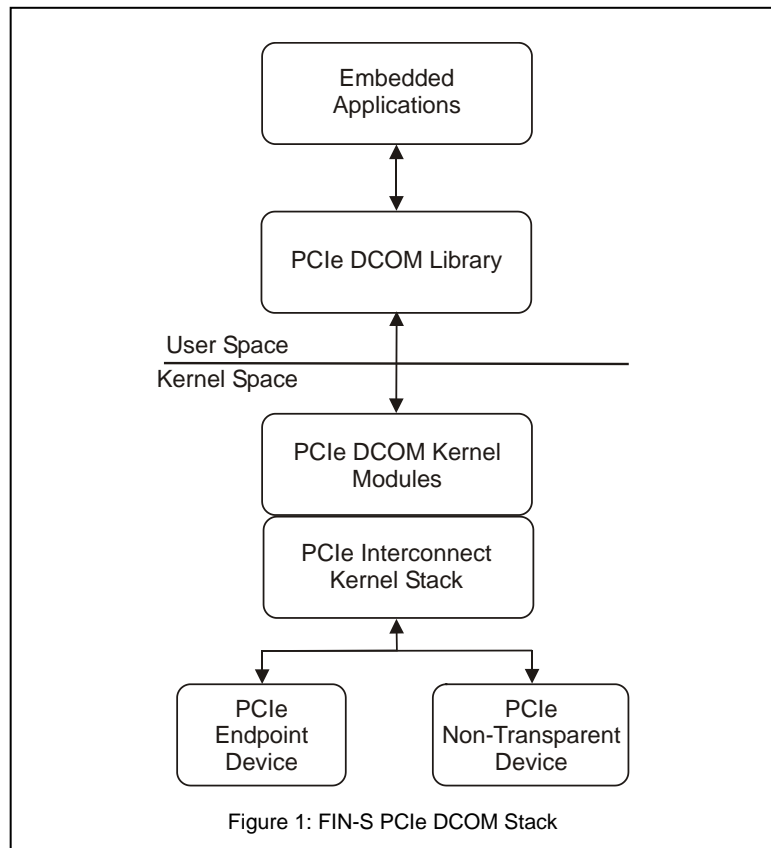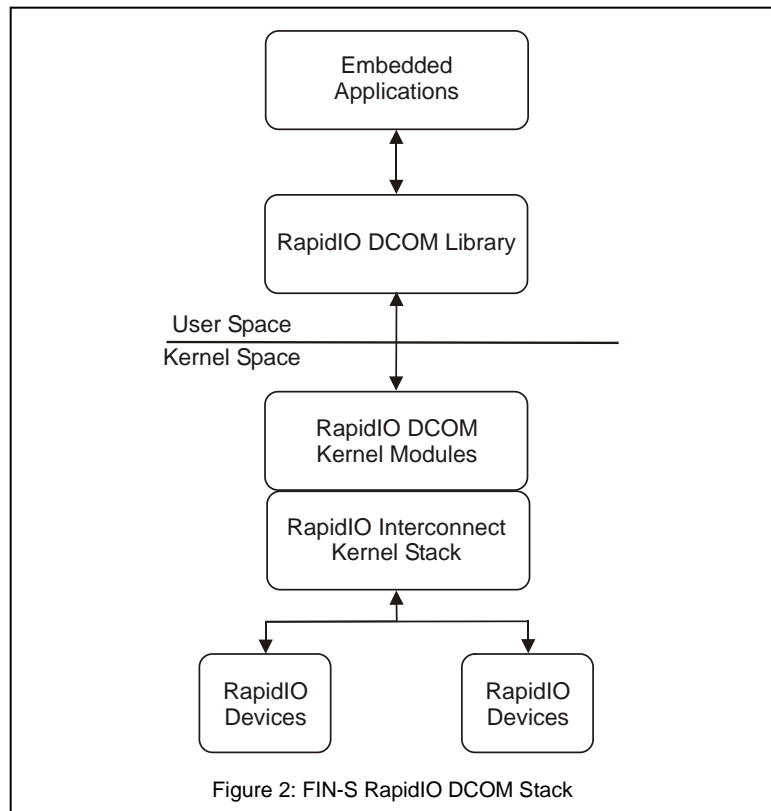 - → contact your local sales office for the latest boards available

Figure 1: FIN-S PCIe DCOM Stack

Figure 2: FIN-S RapidIO DCOM Stack

Please contact your local Concurrent Technologies sales office for further details.

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