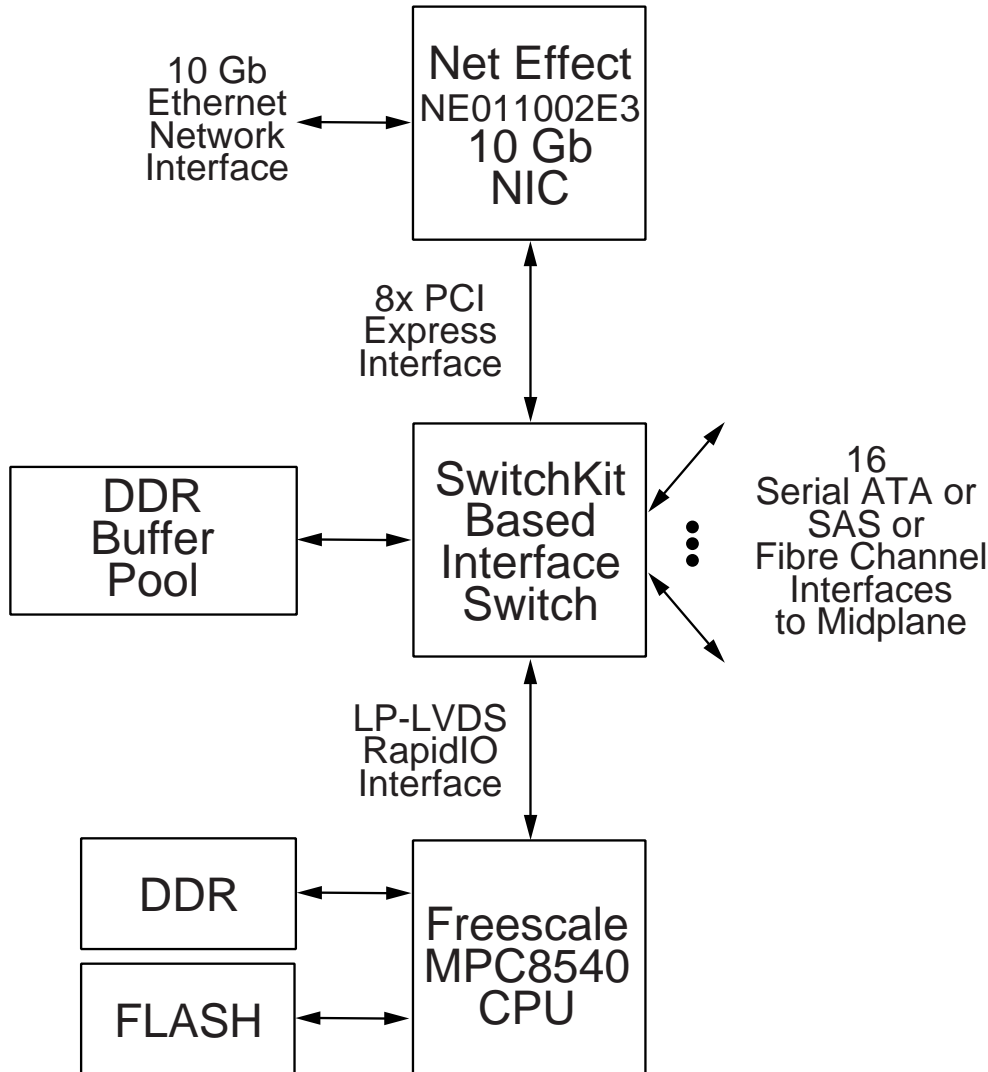


# ***SwitchKit*<sup>™</sup> Case Study: Network Attached Storage**

- Low cost NAS box with the following features:
  - 10 Gb Ethernet network interface
  - SMB/CIFS, NFS storage abstraction
  - Leverages low-cost SATA drives with reliability enhanced via RAID
- Challenges:
  - Range of interfaces
    - 8x PCI Express interface on 10 Gb NIC with TOE
    - Parallel RapidIO on 8540 Power QUICC-III control processor
    - 16 SATA interfaces to drive mid-plane
  - Storage abstraction firmware on control processor for flexibility
  - High performance, shared memory, pool needed for data streams

# SwitchKit Based Solution



- 16 SATA interfaces connected to high-bandwidth memory pool via *SwitchKit* based switch.
- Triple ported memory for exchange of data between:
  - 10 Gb network interface
  - 8540 control processor
  - SATA interfaces

# Interface Switch Implementation

- Shared memory implementation simplifies data manipulation by control processor which implements
  - RAID functions
  - Storage abstraction
  - Managing data transfers via DMA

