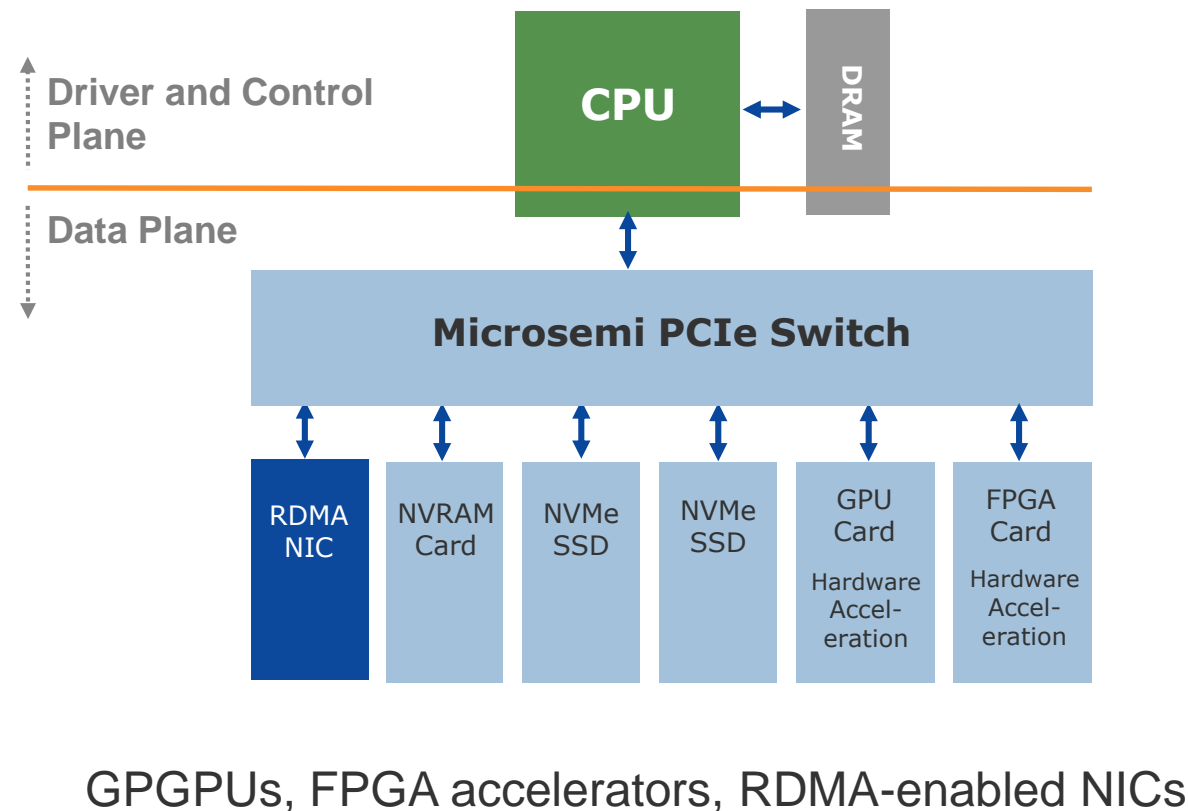


# Microsemi Mellanox NVMe-oF Collaboration

Feb. 9<sup>th</sup> 2018

# NVMe over Fabrics and Heterogeneous Compute

- Standard NVMe over Fabric forces all IOs through CPU DRAM, putting unnecessary strain on the control plane and CPU
- NVMe over Fabric with **PCIe peer-to-peer (P2P)** allows data IOs to bypass CPU DRAM and flow directly between NIC and NVMe endpoint which is achieved by:
  - Relying on Microsemi NVRAM card with DRAM exposed as a PCIe BAR (or other DRAM PCIe BAR implementations such as CMB)
  - Deploying the new NVMe driver on the target CPU with P2P capability

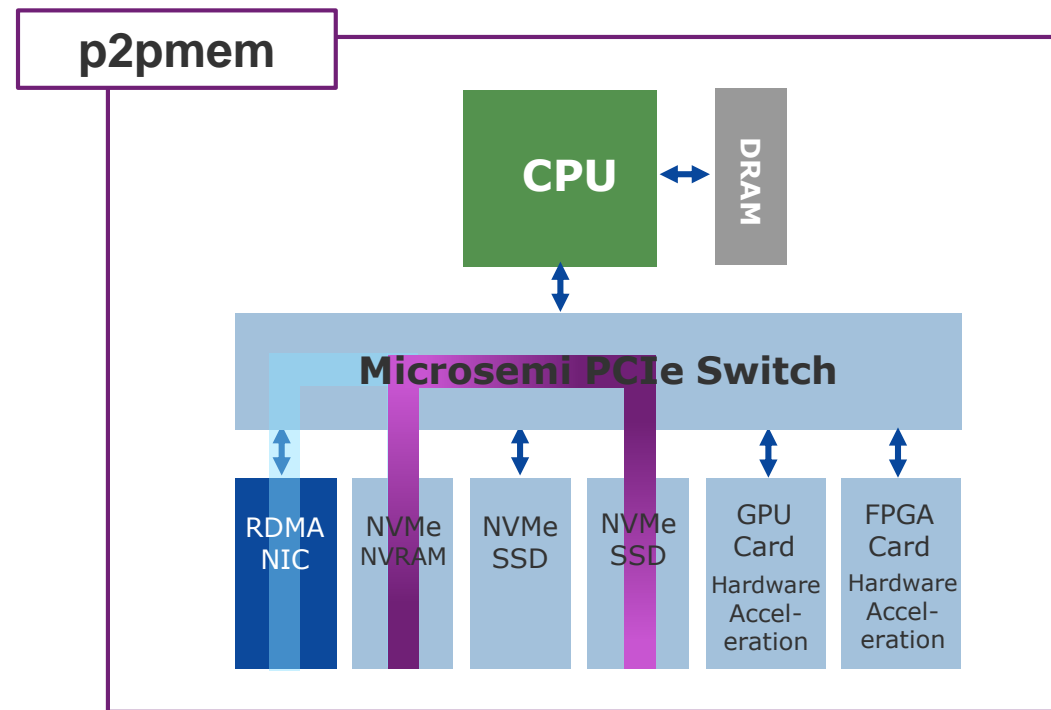
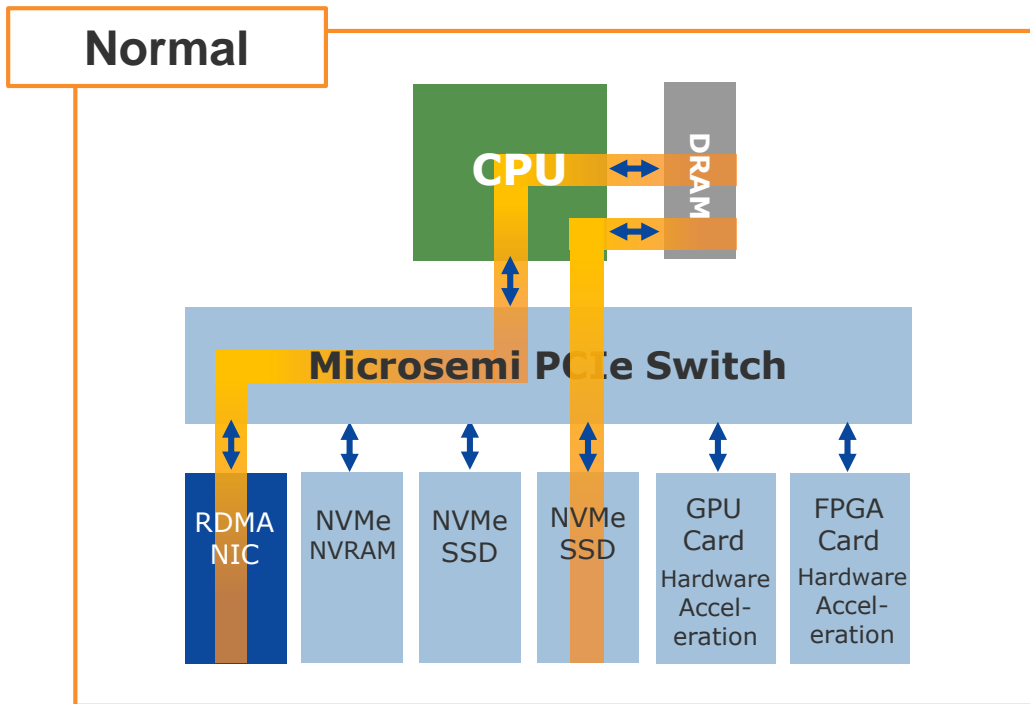
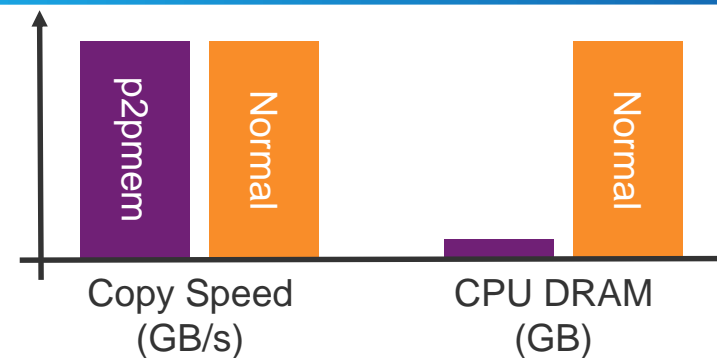


# Demo: What is an FBOF?

# JBOF + Fabric + P2P

## NVMe over **F**abrics attached just a **B**unch **O**f **F**lash

- Start with a PCIe JBOF with Microsemi Switchtec and Flashtec
- Add RDMA NIC
- Add DRAM exposed as PCIe BAR with Microsemi Flashtec
- Add Microsemi P2Pmem NVMe Linux Driver

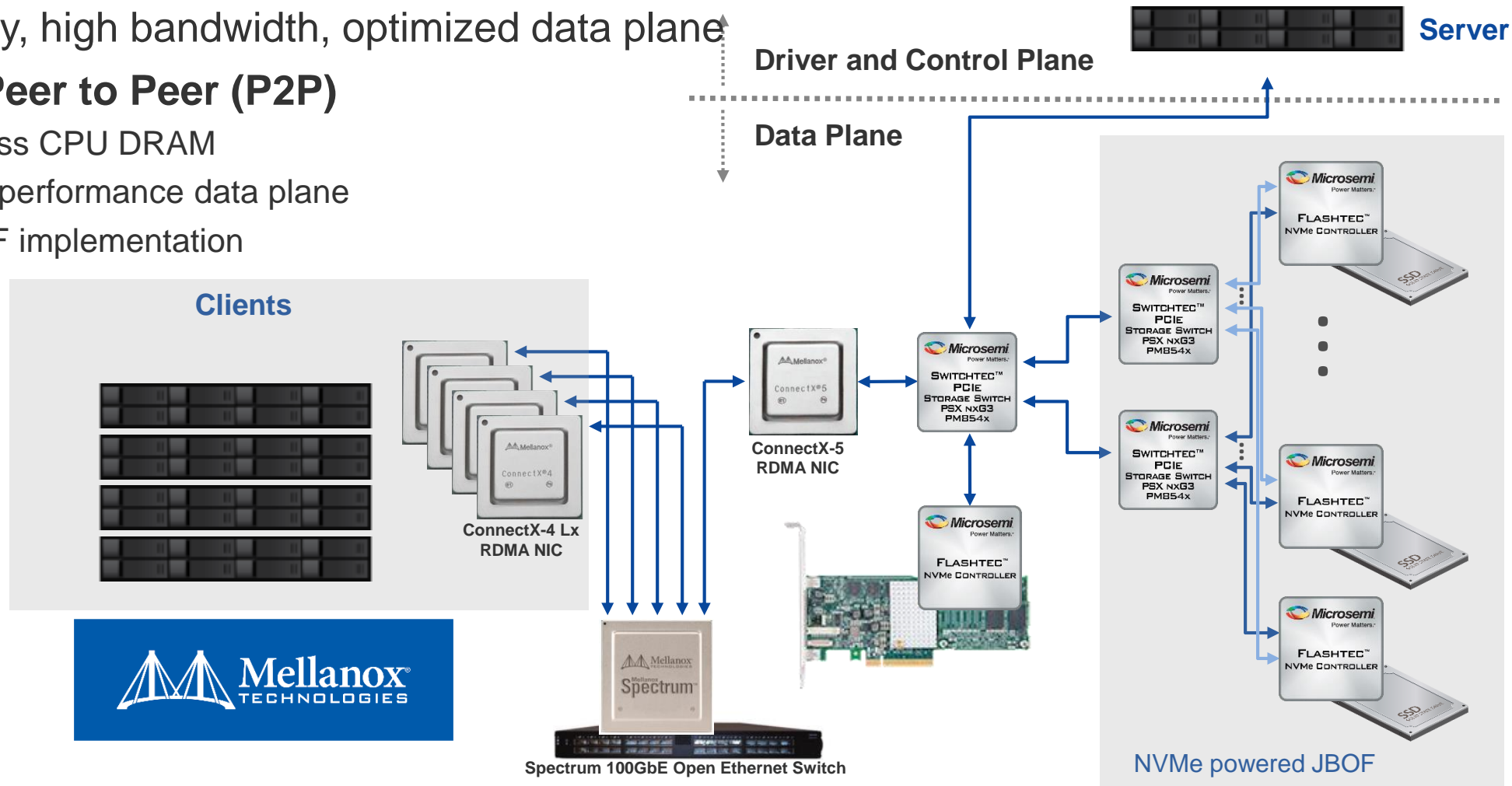


# Example: High Performance FBOF with CPU Offload

Low latency, high bandwidth, optimized data plane

## PCIe Peer to Peer (P2P)

- Bypass CPU DRAM
- High performance data plane
- FBOF implementation



*Microsemi's Switchtec+Flashtec+P2P = Lowest TCO for NVMe-oF Applications*

# Microsemi Mellanox NVMe-oF Collateral

- [NVMe-oF P2PMem Storage Solution Press Release](#)
- NVMe-oF P2PMem FMS Demo Presentation (this slide deck)
- [NVMe-oF P2PMem FMS Demo Video](#)
- [NVMe-oF P2PMem Reference Architecture](#)
- [Accelerating NVMe Innovations FMS 2017 Keynote](#)
- [BlueField Support Press Release](#)

# Thank You!



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