

RDMA Attached Storage

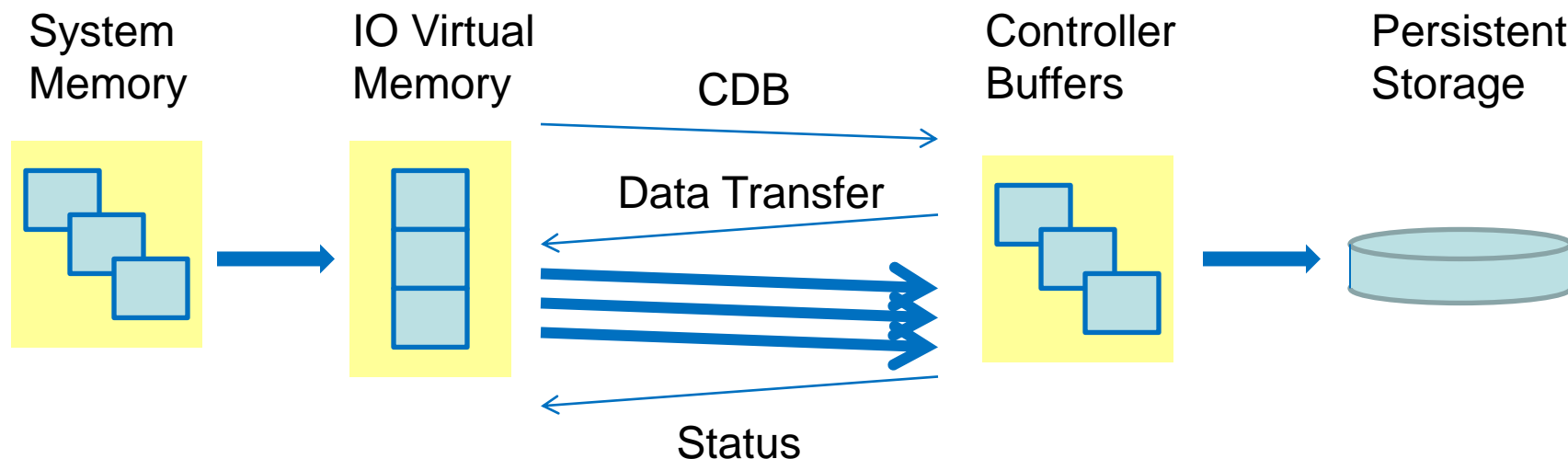


Bob Pearson - System Fabric Works

RDMA Attached Storage

- How does it work?
- Why is it interesting?
- What is available today?
- SFW and storage

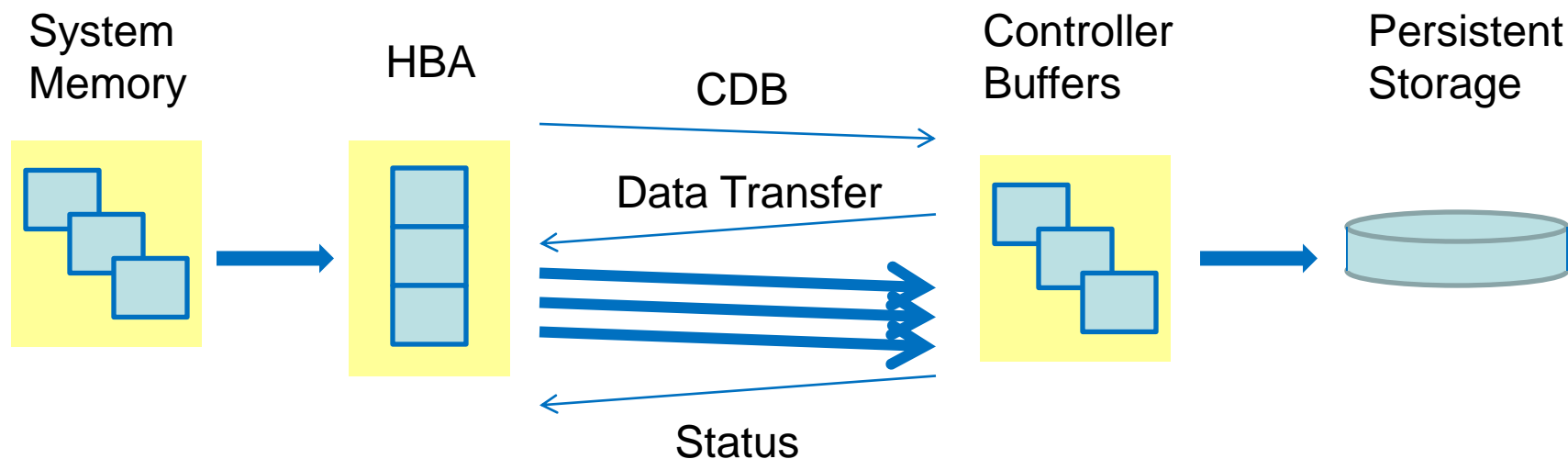
How does it work?



TODO list for user

1. Create (fast) MR
2. Send CDB
3. Read Status

How does an HBA work?



- Both RDMA solution and HBA solutions are very efficient for the storage client
- RDMA solution is just software using a general purpose IO channel with a rich set of transports

What is out there?

Conventional products

- SAN
 - FCP (SCSI/FC)
 - SAS (SCSI/serial link)
 - iSCSI (SCSI/TCP/IP/Ethernet)
- NAS
 - NFS (NFS/TCP/IP/Ethernet)
- PFS (parallel file systems)
 - Pnfs, lustre, gpfs, etc.
- Intelligent Storage
 - E.g. Data bases

RDMA based solutions

- SAN
 - SRP (SCSI⁽⁺⁾/IB or iWARP)
 - iSER (iSCSI⁽⁺⁾/IB or iWARP)
- NAS
 - rNFS (NFS⁽⁺⁾/IB or iWARP)
- PFS
 - Lustre⁽⁺⁾, gpfs⁽⁺⁾
- Intelligent Storage
 - E.g. Oracle Exadata

(+) plus RDMA

Why is it interesting?

- High (relative) performance
 - As efficient as specialized adapters with very low overhead, and similar cost
- High (absolute) performance
 - 4X absolute performance advantage today
- Flexibility
 - One interface supports entire range of storage types DAS/SAN/NAS and beyond

System Fabric Works

- SFW is a service oriented company
- Our goal is to provide a broad range of professional services for RDMA fabric technologies and OFA software
- RDMA storage and file systems have been a major part of our practice including:
 - Development of RDMA software solutions for storage OEMs
 - Integration of RDMA storage solutions for end users
 - Specialized storage solutions HW and SW