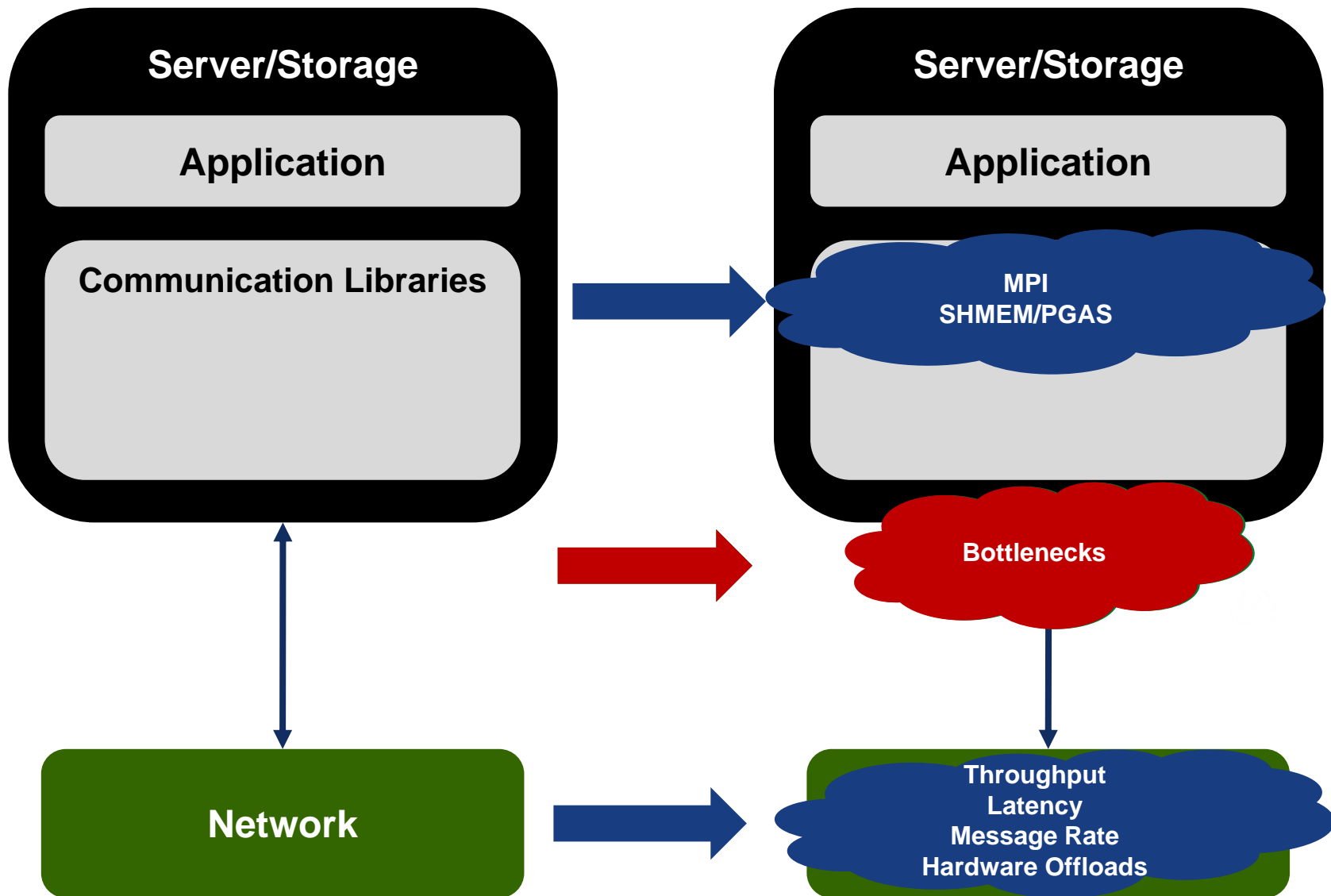


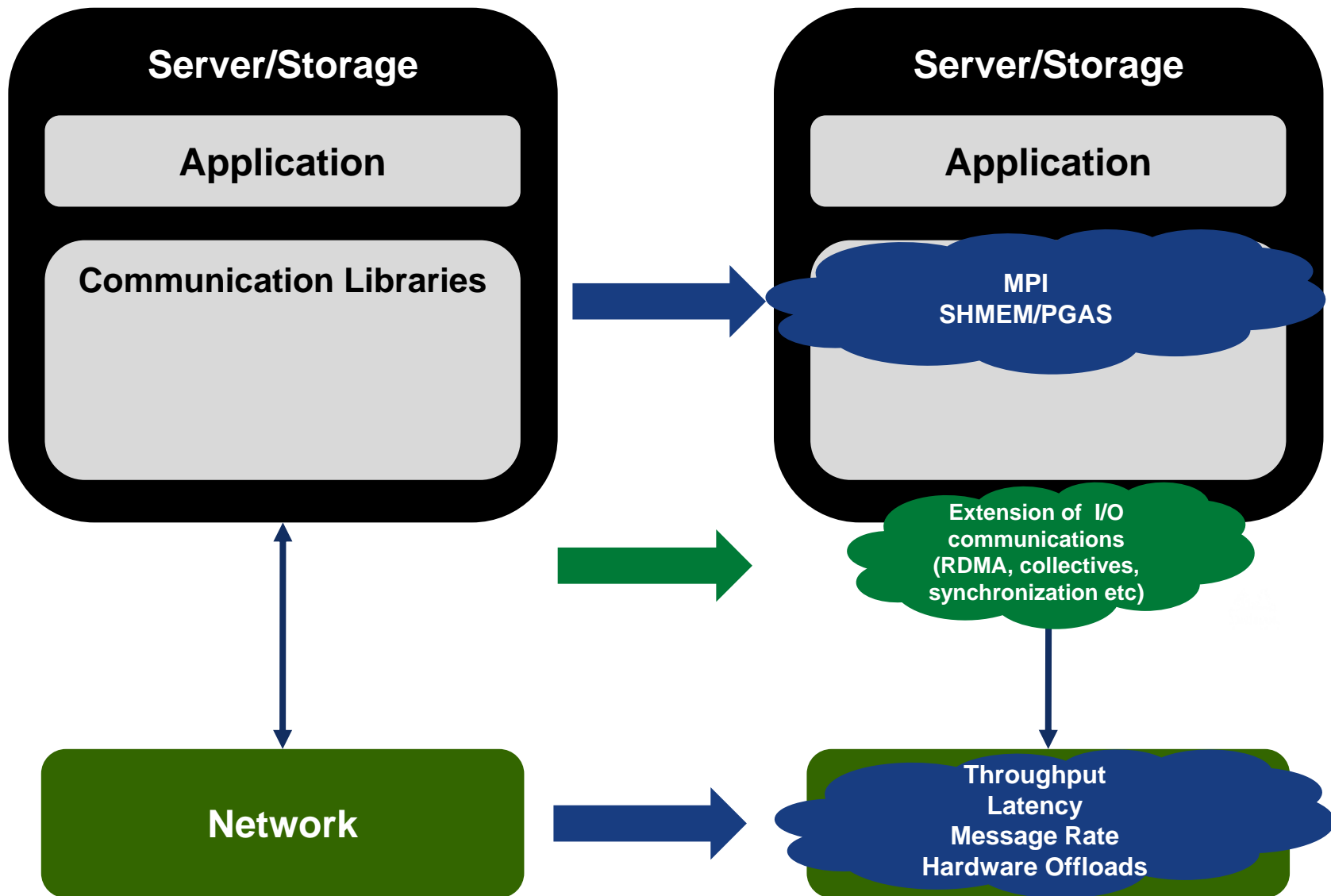


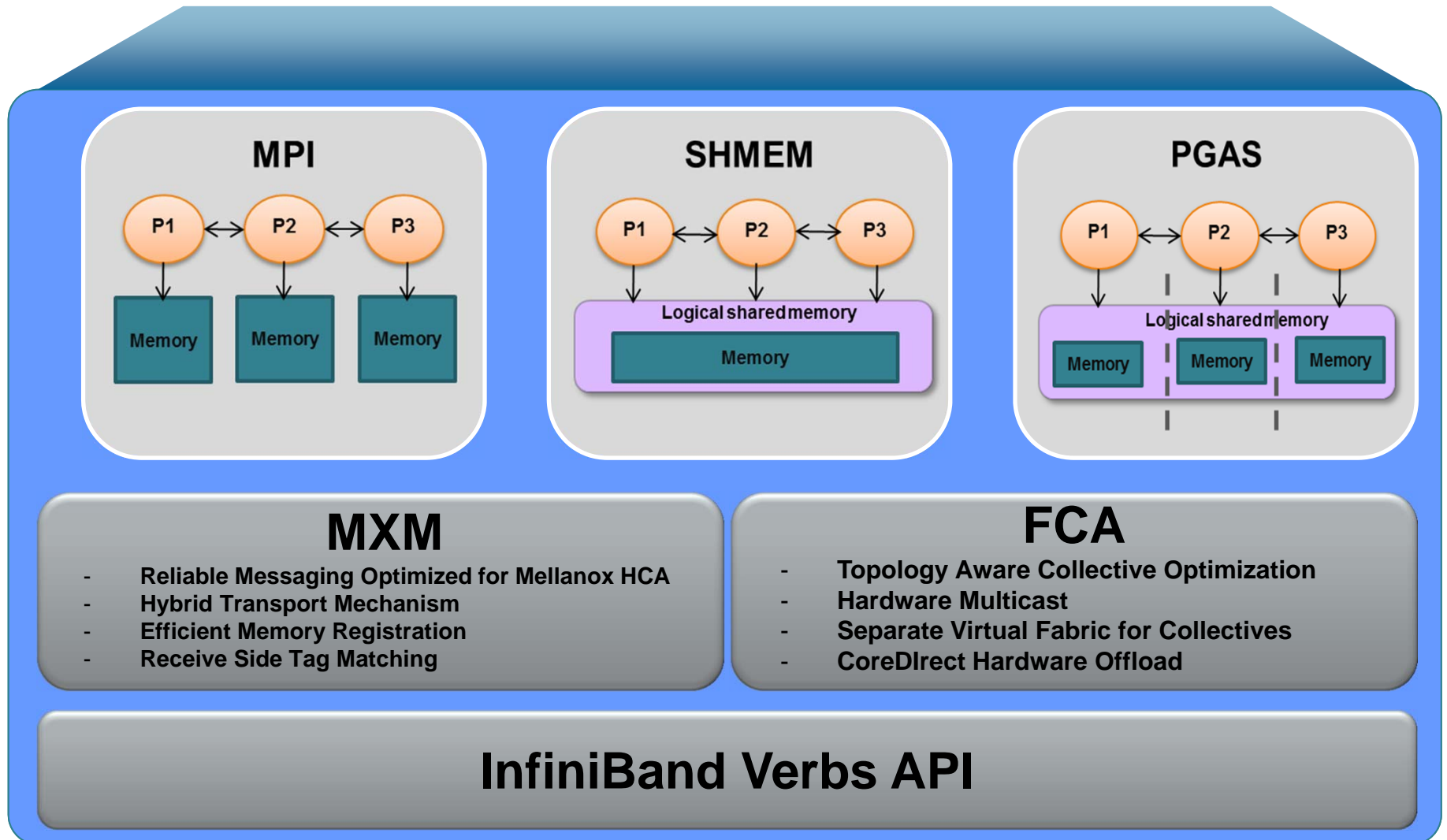
OpenSHMEM BOF

Todd Wilde

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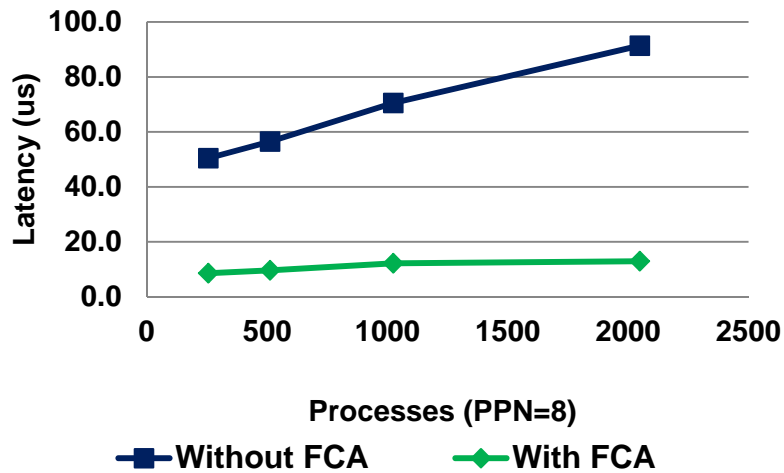




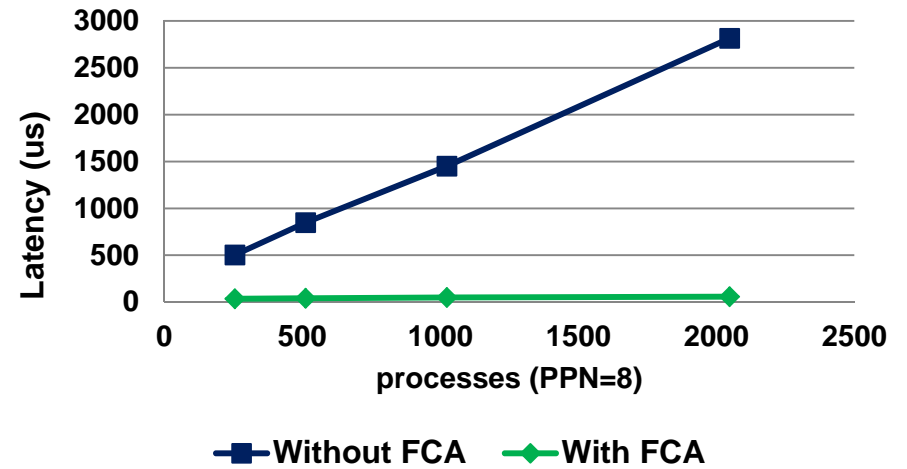
Mellanox ScalableSHMEM Solution with FCA



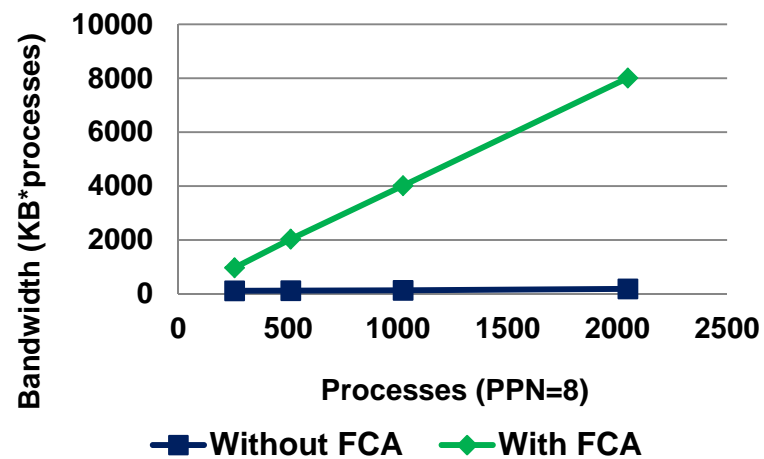
Barrier Collective



Reduce Collective



8-Byte Broadcast



Products Overview

- InfiniBand/VPI Cards
- InfiniBand/VPI Adapter IC
- Ethernet Cards
- Ethernet Adapter IC
- InfiniBand Switch Systems
- InfiniBand Switch Silicon
- Ethernet Switches
- Ethernet Switch Silicon
- Gateway Systems
- Gateway Silicon
- OEM-Branded
- Management Software
- Acceleration Software
- ScalableHPC

Overview

FCA

MXM

ScalableSHMEM

ScalableUPC

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Mellanox ScalableSHMEM

Overview

The SHMEM programming library is a one-side communications library that supports a unique set of parallel programming features including point-to-point and collective routines, synchronizations, atomic operations, and a shared memory paradigm used between the processes of a parallel programming application.

Mellanox ScalableSHMEM 2.0 is based on the API defined by the OpenSHMEM.org consortium. The library works with the OpenFabrics RDMA for Linux stack (OFED), and also has the ability to utilize Mellanox Messaging libraries (MXM) as well as Mellanox Fabric Collective Accelerators (FCA), providing an unprecedented level of scalability for SHMEM programs running over InfiniBand.



Enlarge

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Features

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- ◆ Provides a programming library for shared memory communication model extending use of InfiniBand to SHMEM applications
- ◆ Seamless integration with MPI libraries and job schedulers allowing for Hybrid programming model
- ◆ Maximum collective scalability through integration with Mellanox Fabric Collective Accelerator (FCA)
- ◆ High message rate performance with integration and Mellanox Messaging Accelerator (MXM)

Thanks



- Thanks to Steve Poole, ORNL and UT-Battelle for support of this project.



Thank You
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