

# New Applications for High Performance Networking

HPC for Wall Street

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## Background: Defining High Performance Networking

- Breaking up the mainframe into the HPC Cluster, while maintaining linear scalability required:
  - Highest throughput
    - Matching CPU interface (PCI)
  - Lowest Latency
    - The lower the better
  - Hardware Based Protocol Offload and RDMA
    - Enabling minimal CPU involvement
  - Scalable routing topologies
    - Eliminating oversubscription bottlenecks
  - Lossless fabric
    - Minimize impact of re-transmissions

### Various subsets of these capabilities continue to enable new HPC applications today

Mainframe



Expensive	×
Low Utilization	x
Limited Scalability	×
Simple to Manage	~





#### **HPC Clusters**



### **Commodity Based**

**Optimized Utilization** 

Linear Scalability

Simple to Manage

# Introducing the Panel: **New Applications for High Performance Networking**

- This panel will attempt to answer the following questions:
  - Who/Where/Why is using high performance networking on Wall Street?
  - What key applications is it enabling?
  - What are some of the challenges they face or tradeoffs they need to make?
- By a group of experienced, diversified individuals:





# **Machine**





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Thank You



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