# Welcome to the InfiniBand Low Latency Technical Forum!

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# Why We're Here

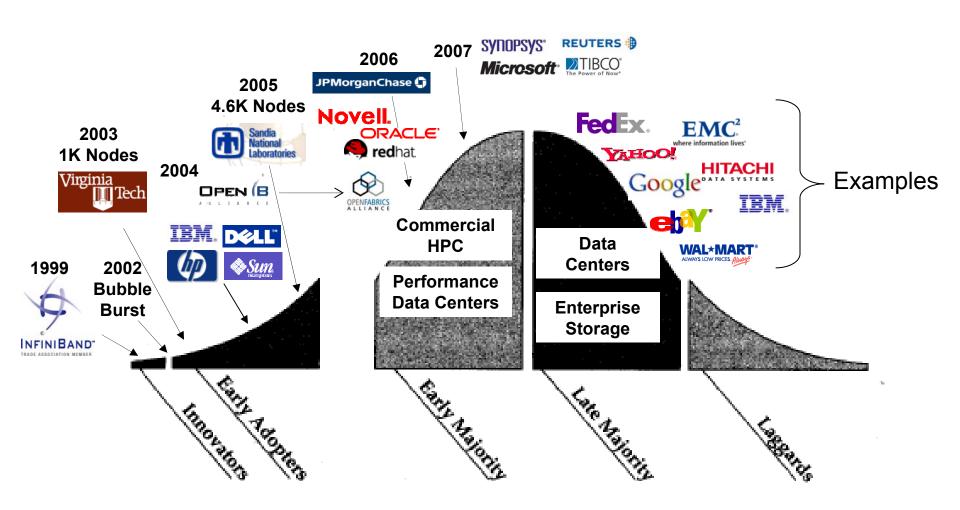


- Socialize real-world benefits low-latency InfiniBand is delivering today
  - Expanded number of commercial applications
  - Optimization of computing and storage
  - Software, hardware and cabling
- Hear real end-user deployment experiences
- Network and collaborate on future needs

Ask questions & get the most out of your day!

# **Technology Adoption Cycle**





## InfiniBand Leadership



- Designed to be implemented in silicon
- Industry-Standard SW and HW Solutions
- Lowest power per Gb/s bandwidth
  - 10/20Gb/s →40Gb/s node-to-node
  - 30/60Gb/s →120Gb/s switch-to-switch
- Efficient, scalable and reliable
- Service Oriented I/O
  - QoS, Virtualization and I/O consolidation

...and of course, low latency!

#### What Delivers Better Latency?

or







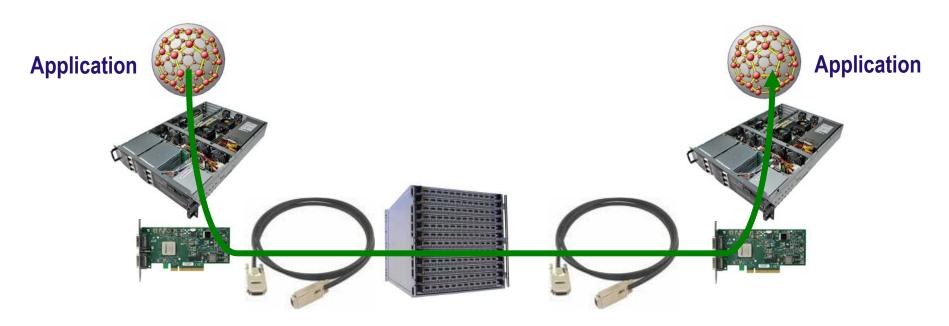


Depends on many other factors!

# **Application Latency**



- Data transfer time between applications on different servers (one direction)
  - − ~1.Xµs over IB depending on # switch hops, etc.



InfiniBand delivers the best application latency in the industry!

# Virtually All Markets Benefit from Real Time Response



- Government and Educational Research
- Fluid Dynamics and CAE
- Bio and Geosciences
- Financial Markets
- Database
- Electronic Design Automation
- Customer Relationship Management
- Healthcare
- Web/Retail services

 Ever increasing amounts of data to be processed, stored and recalled

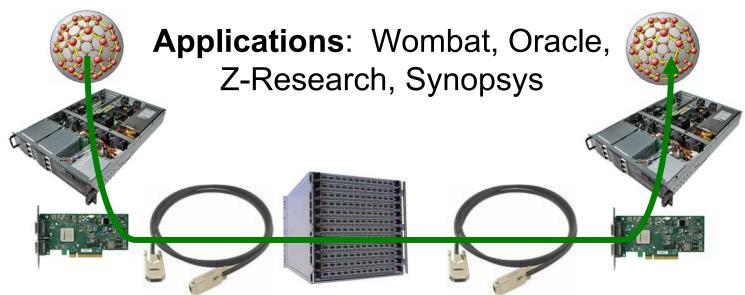
No one likes to wait!

 InfiniBand's flexibility accelerates time to re-provision resources

# Today's Program



**End Users**: Wachovia, Oak Ridge National Labs, Stanford Manufacturing Group, Alexa Internet



**InfiniBand Infrastructure:** 

Cisco, Mellanox, QLogic, Voltaire

Cabling: Gore, Intel

Industry Groups: InfiniBand Trade Association, OpenFabrics Alliance

### Logistical Issues





- Unless…
  - It's about a BIG InfiniBand order
  - It's about any InfiniBand order

- Restrooms located outside in the hallway
- · Wireless access and laptop power provided
- Please fill out the feedback form before you leave

| TIME     |          | PRESENTATION   | SPEAKER(S)  |
|----------|----------|--|---|
| 8:00 AM  | 8:30 AM  | Registration and continental breakfast   |   |
| 8:30 AM  | 8:45 AM  | Opening remarks  | Thad Omura, Mellanox  |
| 8:45 AM  | 9:15 AM  | Platform Directions at Wachovia (Platform Fabrics / Processor Arrays)                          | Jacob Hall, Wachovia  |
| 9:15 AM  | 9:45 AM  | Financial services ISV - Wombat Financial Software   | Ken Barnes, Wombat Financial Software                             |
| 9:45 AM  | 10:30 AM | End user case study regarding Oracle installation on InfiniBand                                | Paul Tsien, Oracle  |
| 10:30 AM | 10:45 AM | BREAK  |   |
| 10:45 AM | 11:15 AM | InfiniBand Trade Association update OpenFabrics Alliance update                                | Lloyd Dickman, Qlogic<br>Jim Ryan, Intel                          |
| 11:15 AM | 11:45 PM | Oak Ridge National Lab's Use of InfiniBand as a High Speed LAN Interconnect                    | Makia Minich, Oak Ridge National Lab                              |
| 11:45 PM | 12:45 PM | LUNCH  |   |
| 12:45 PM | 1:15 PM  | Enormous Computational Demands in Flow and Quantum Physics                                     | Steve Jones and Masoud Aryanpour,<br>Stanford Manufacturing Group |
| 1:15 PM  | 1:45 PM  | The Need for Scalable Clustered File Storage   | Anand Babu and Hitesh Chellani,<br>Z Research                     |
| 1:45 PM  | 2:15 PM  | Latency of Passive and Active Copper Interconnects for Use in InfiniBand DDR Compliant Systems | Dave Blake, W.L. Gore & Associates                                |
| 2:15 PM  | 2:45 PM  | The Contribution of Intel(R) Connects Cables in Enabling Low Latency Computing                 | Tom Willis, Intel   |
| 2:45 PM  | 3:00 PM  | BREAK  |   |
| 3:00 PM  | 3:30 PM  | Efficient Web Search Performance and Storage Capacity Scaling Using NFS-RDMA and InfiniBand    | Dr. Ekechi Nwokah,<br>Alexa Internet                              |
| 3:30 PM  | 4:00 PM  | IBTA vendor presentations- Cisco and Voltaire  | Roy Kim, Cisco<br>Brian Forbes, Voltaire                          |
| 4:00 PM  | 4:30 PM  | Speeding EDA Design Cycles   | Glenn Newell, Synopsys  |
| 4:30 PM  | 5:00 PM  | IBTA vendor presentations - Mellanox, QLogic   | Thad Omura, Mellanox<br>Lloyd Dickman, Qlogic                     |
| 5:00 PM  | 5:15 PM  | Wrap up  | Thad Omura, Mellanox  |
| 5:15 PM  | 6:15 PM  | Cocktail reception   |   |











