

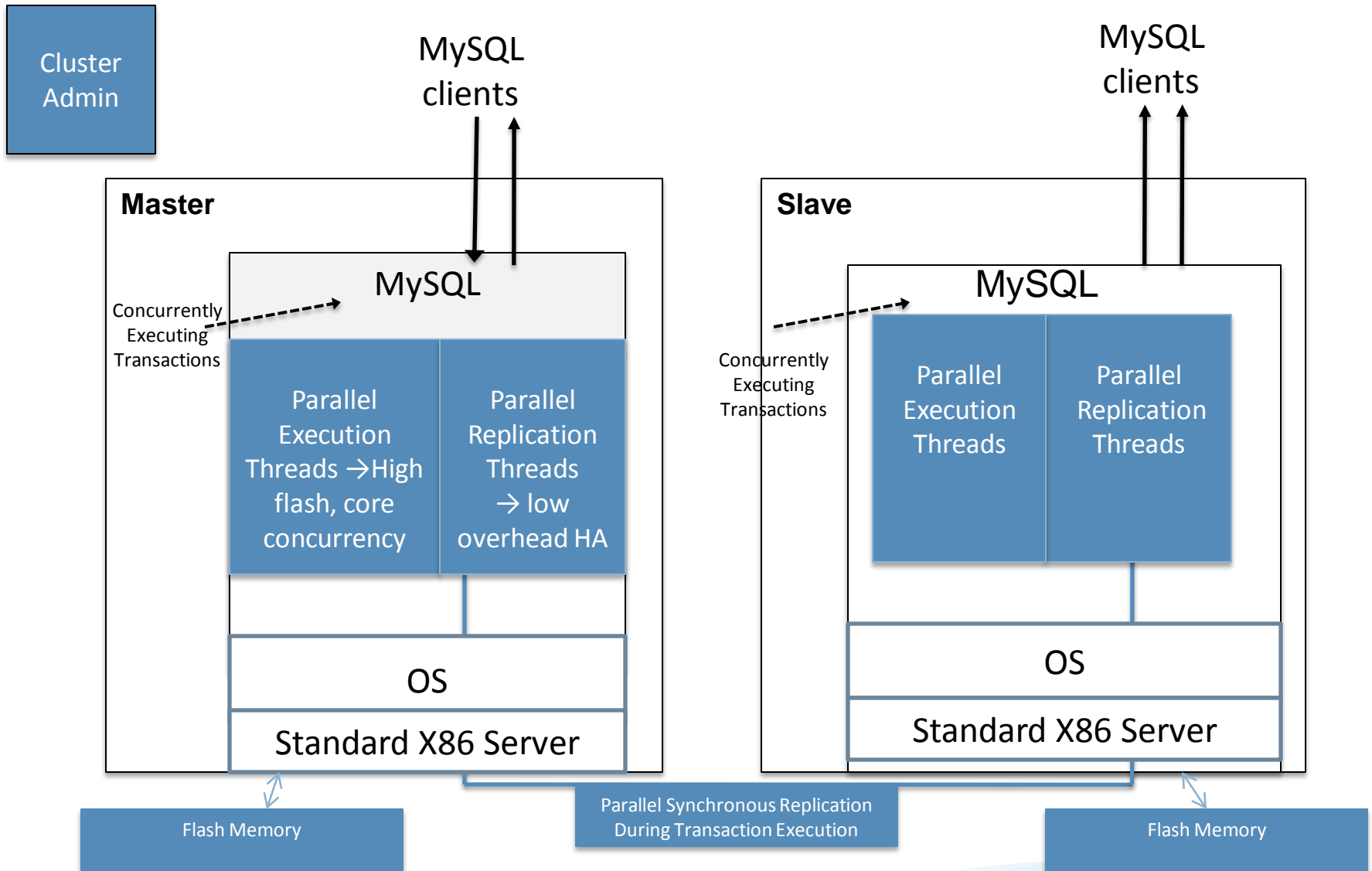


# Accelerating Oracle Databases With Flash Memory

Flash Memory Summit Session 103  
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*Dr. John R. Busch*  
*Founder and CTO*  
*Schooner Information Technology*  
***John.Busch@SchoonerInfoTech.com***

# Tightly-Coupled MySQL Design with Flash Memory and Fully Synchronous Replication → High Performance and High Availability

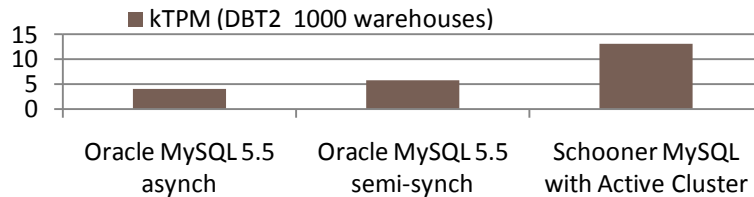


# Tightly Coupled Database Design Enables Effective Vertical Scaling with Commodity Flash Memory and Horizontal Scaling with High Availability

DBT2 open-source OLTP version of TPC-C  
1000 warehouses, 32 connections  
0 think-time  
Result metric: TPM (new order)

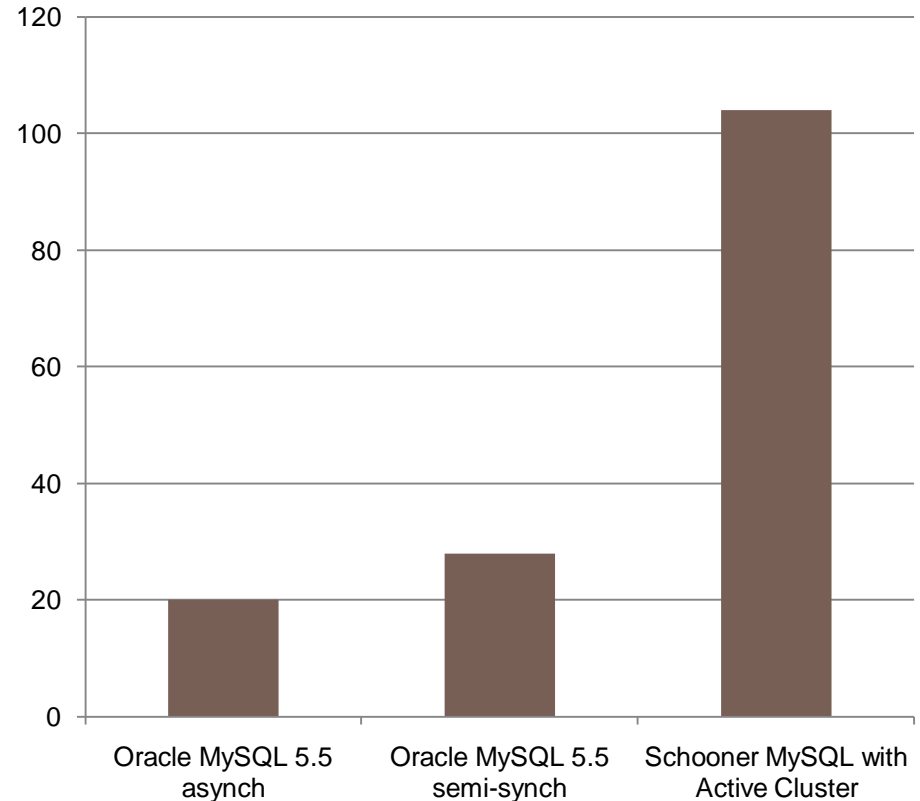
Measurement Configuration  
2 node Master-Slave configuration  
2 socket Westmere  
72GB DRAM

## Transaction Throughput with Hard Disc Drives



## Transaction Throughput with Flash

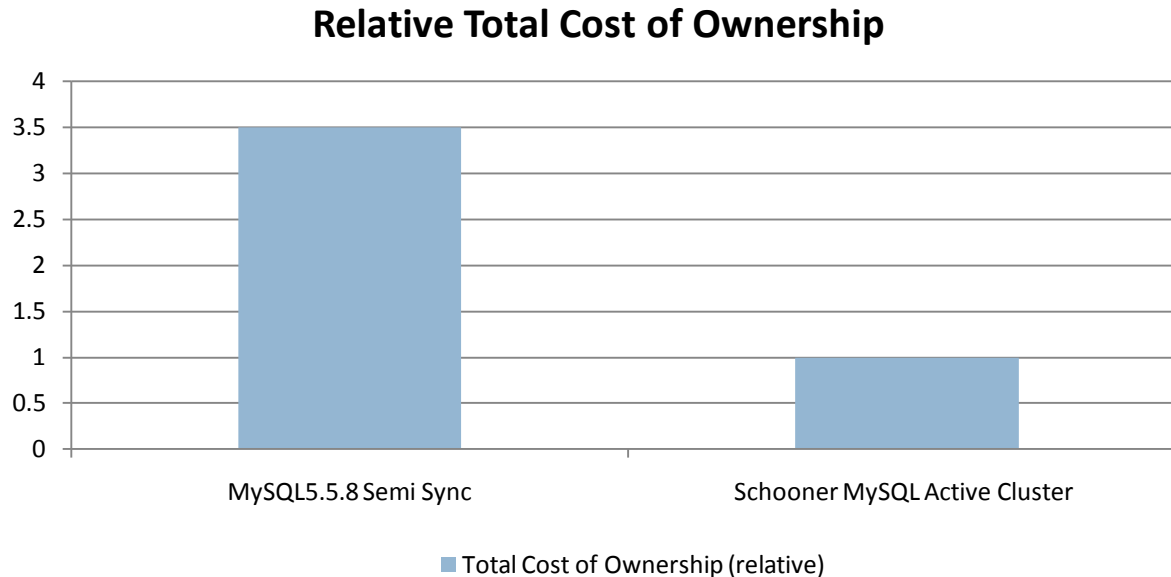
■ kTPM (DBT2 1000 warehouses)



# Tightly Coupled Database Design with Effective Vertical Scaling using Flash Memory + Horizontal HA Lowers Total Cost of Ownership

## **Lower Cost**

- Reduced capital and operating costs through reduction in servers, power, space, admin
- Savings from increased service availability and associated revenue and customer retention



- TCO and ROI models are customer and workload specific
- Function (throughput/server; server, rack, and network costs, software license and support costs, admin costs; space and power costs; cost of downtime)



## High Availability

- No service interruption for planned or unplanned database downtime
- Instant automatic fail-over
- On-line upgrade and migration
- 90% less downtime vs. MySQL 5.5
- Full WAN support with master auto-failover



## Data Integrity

- No lost data
- Cluster-wide data consistency



## Great Performance and Scalability

- 4-20x more throughput/server vs. MySQL 5.5
- High performance synchronous and asynchronous replication



## Visibility and Control

- Easy cluster administration
- No error-prone manual processes
- Monitoring and Optimization



## Compelling Economics

- Cut server capex (consolidation)
- Cut opex (power, pipe, DBA time)
- Increase revenue (eliminate service interruptions)
- TCO 70% cheaper than MySQL 5.5



## Out-of-the-box Product

- Full MySQL + InnoDB: not a toolkit
- Free your staff to build your business, not a custom database



## 100% MySQL Enterprise Compatible and Certified

### Broad Industry Deployments

- eCommerce, telco, financial,...
- high volume websites

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