# Delivering Superior Customer Shopping Experiences with Flash Technology

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# All Flash Arrays Accelerate Databases

***Improve Performance***

## Databases

- Logs
- Temporary Files
- Hot Tablespaces
- Entire Databases
- OLAP/OLTP/Key:Value
- Bare Metal/Virtual
- Real-time/Batch

# Industry Leading Databases Accelerated with Flash

## *Improve Performance*

| DB2 | SQL Server | Oracle | Sybase SAP HANA |
|---|---|---|---|
| DB2 | SQL Server<br>• Standalone<br>• Clustered<br>• Always-On | Oracle<br>• Standalone<br>• RAC<br>MySQL | Sybase<br>SAP HANA |

*Flash is an equal opportunity database accelerator.*
*You name it, flash makes it faster.*

# Ace Hardware Corp.

*The helpful place gets a helping hand from IBM Flash*



## 50 percent
latency improvements over spinning disk

## 10 percent
better performance with same server footprint

## 4700 stores
requiring inventory and retail application support

### Solution Components
- IBM FlashSystem
- IBM Power Systems & System x
- Hyper-V
- SAP

**Business challenge:** Application performance for a major hardware retailer was inhibited by existing spinning disk systems, creating challenges for user satisfaction and business growth.

**The solution:** IBM Power 770 servers running AIX for SAP supporting the mission-critical Acenet application generating IOPS to the IBM FlashSystem 820.

**Results:** Application performance was optimized across the enterprise with reduced latency compared to existing disk solutions, thereby enhancing user satisfaction and accommodating business growth.

# Shopping.com

*Online-commerce company saves green in multiple ways*

## $183k savings

anticipated for storage footprint, power and cooling costs

## 730 metric tons

reduction in the amount of carbon dioxide produced

## 600 disks

equals the spindle count required to match new IO rates

### Solution Components
- IBM FlashSystem
- Oracle
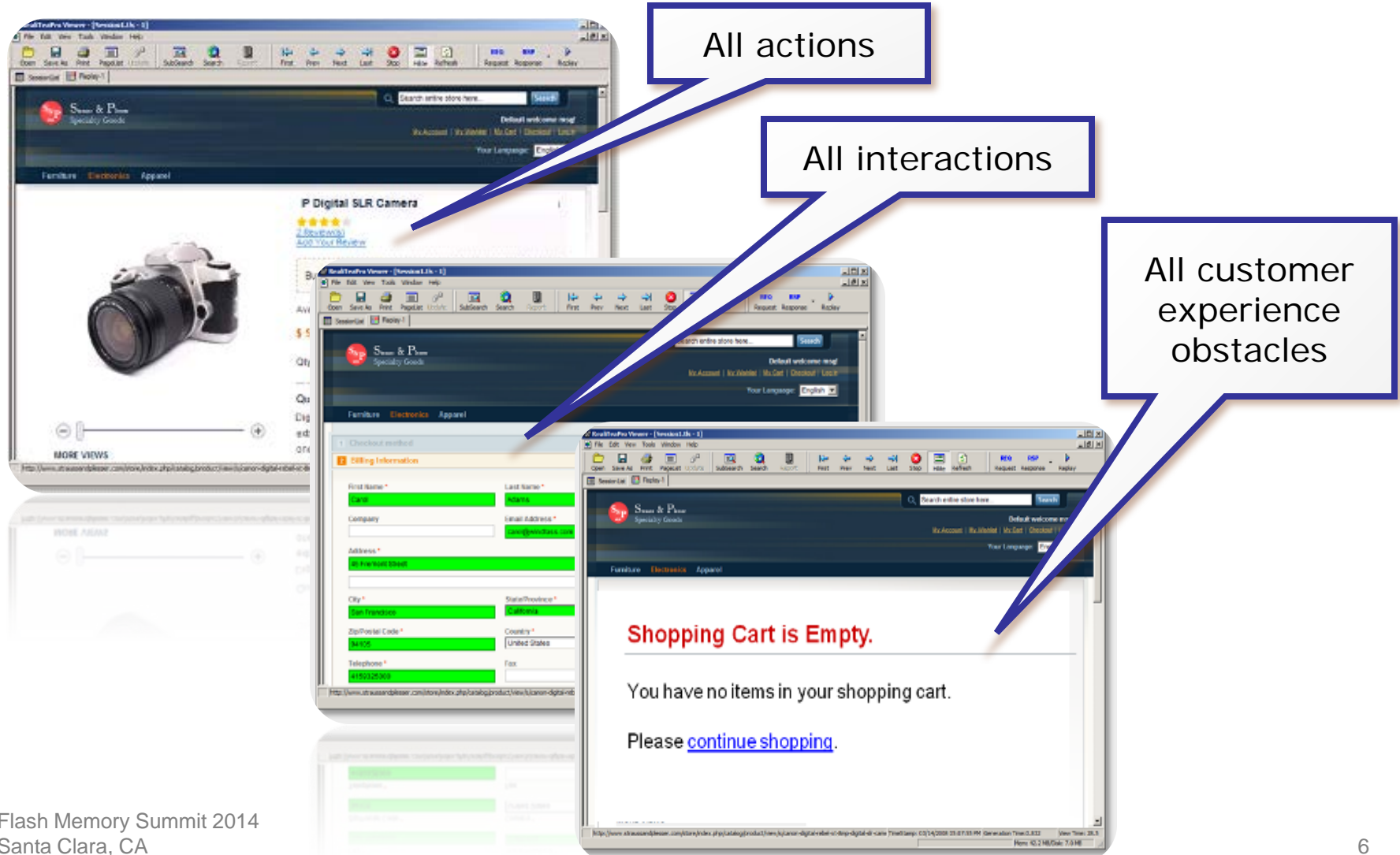- eBay Commerce Network Publisher Program

**Business challenge:** A division of eBay in the USA, Shopping.com, wanted to expand its business with an open application program interface but was constrained by performance limits of traditional disk configurations.

**The solution:** The IBM FlashSystem was implemented as a centralized data repository for all its databases including Oracle.

**Results:** eBay gained the ability to support the new API, increased IO performance, new growth related to the launch of its eBay Commerce Network Publisher Program, and reduced its carbon footprint significantly in environmental savings.

# IBM Tealeaf is accelerated with flash



All actions
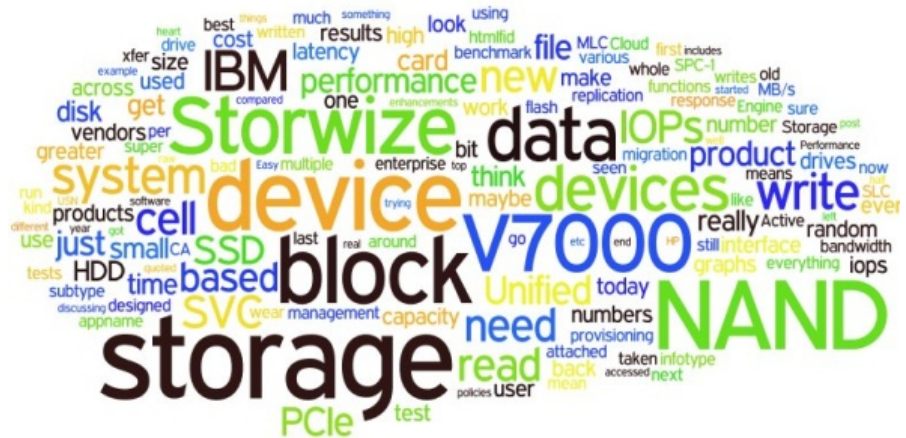
All interactions

All customer experience obstacles

# All Flash Arrays accelerate your entire infrastructure

*Reduce Cost*

## Infrastructure

- Centralized data centers
- Virtualized servers
- Storage services
- Uncertainty about which application to accelerate and when

# Flash accelerates mixed workload deployments

**Reduce Cost**

## Improve Infrastructure Productivity

- **Consolidate applications** onto a platform with the capacity and performance scalability capable of supporting multiple applications

- **Avoid scale out hassle** with high density flash

- **Centralize and virtualize,** don't create new silos

# Major home improvement retailer
## *Improving the customer experience with IBM Flash*

## 16 minutes
**from 8-10 hour query window**

## 250k
**daily queries supported**

## Millions
**of dollars in profit from improved customer experience**

### Solution Components
- SAS
- SPLUNK
- IBM FlashSystem 840, 820
- IBM SAN Volume Controller
- IBM Storwize V7000
- VMware VDI



**Business challenge:** Millisecond-response time for contractors and buyers was threatening the customer experience, and identifying opportunities and managing inventory from big data was cumbersome and long.

**The solution:** The IBM FlashSystem significantly reduced response time per "enter" keystroke enabling excellent customer experience, and provided faster analytics to run the business.

**"Unbelievable . . .we went from 9ms down to 100 microseconds, a 90x improvement.."**

*- IT staff*

# Flash Improves Workforce Productivity

### *Reduce Cost*

## Improve Worker Productivity

- **Users** wait less on slow applications
- **Developers** focus on new features and not tuning
- **System Administrators** spend less time installing
- **CIOs** spend more time creating value and less time fighting fires

## 71%

of CEOs rate their employees as their most important source of sustained economic value

The IBM 2012 CEO Study, surveying 1,700 CEOs

# Follett Higher Education Group
## *Delivering top performance for e-retail with IBM Flash*

## Over 1,800
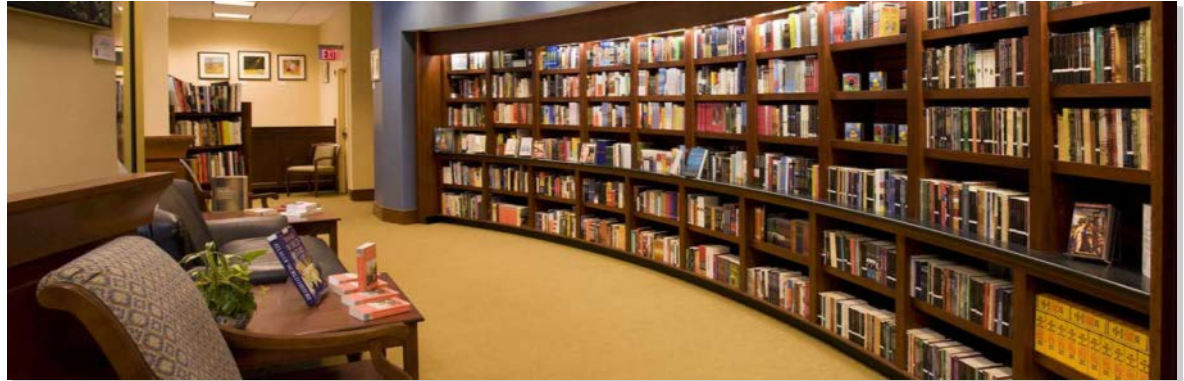managed bookstores

## 50 percent
increase in web traffic supported

## Zero
application tuning effort required

### Solution Components
- IBM FlashSystem
- IBM AIX
- IBM Sterling Commerce
- IBM WebSphere
- Oracle



**Business challenge:** Largest operator of college bookstores in North America experiencing database performance issues and disk-based latency problems.

**The solution:** Replaced disk-based storage with IBM FlashSystem deployed in a mirrored high-availability configuration with redundant data paths over 8Gb FC.

**The IBM FlashSystem has "eliminated our I/O bottlenecks, reducing system response times and enabling the system to handle far greater concurrent transactions."**

*- Clyde Remedios, Senior DB Administrator, Follett Higher Education Group*

# Flash Creates New Opportunities

## *Enable New Opportunities*

### ReThink Your Business

- Create competitive advantage
- Launch new products
- React in real-time
- Improve customer satisfaction
- Grow with more concurrent users, orders, and personalization