



Transforming Data Economics with Flash and Data Virtualization

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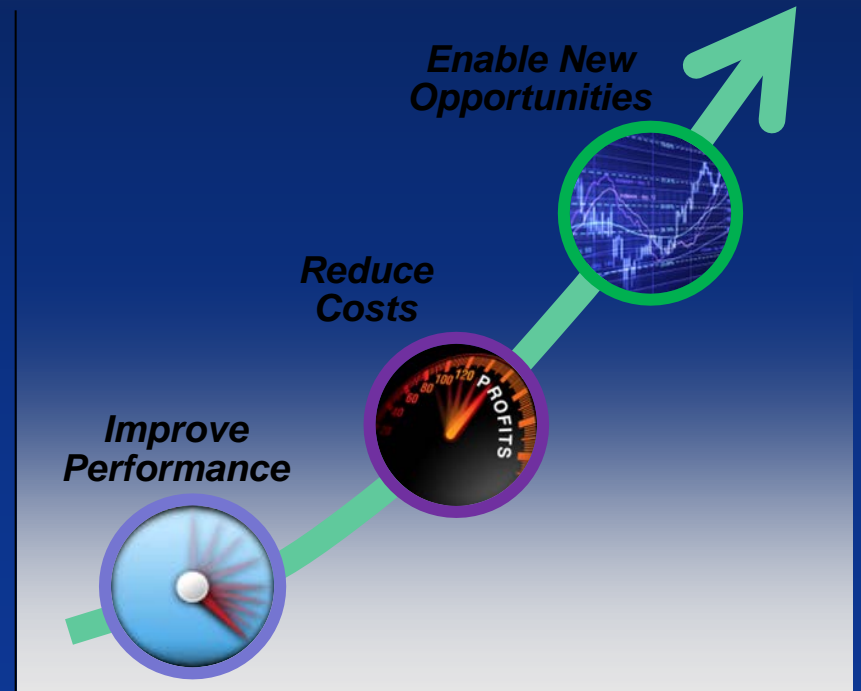
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All Flash is About Economics

Leverage the “Economies of Scale” of Flash

- Accelerate Application Performance
- Gain Greater System Utilization
- Lower Software & Hardware Cost
- Save Power / Cooling / Floor Space
- Drive Value Out of Big Data



Application Acceleration Market

Improve Performance



Use Case

Transaction



ERP / SCM



Big Data



Virtualization



Cloud



Financial



Telecomm



Retail



HPC



Government



Industry Vertical



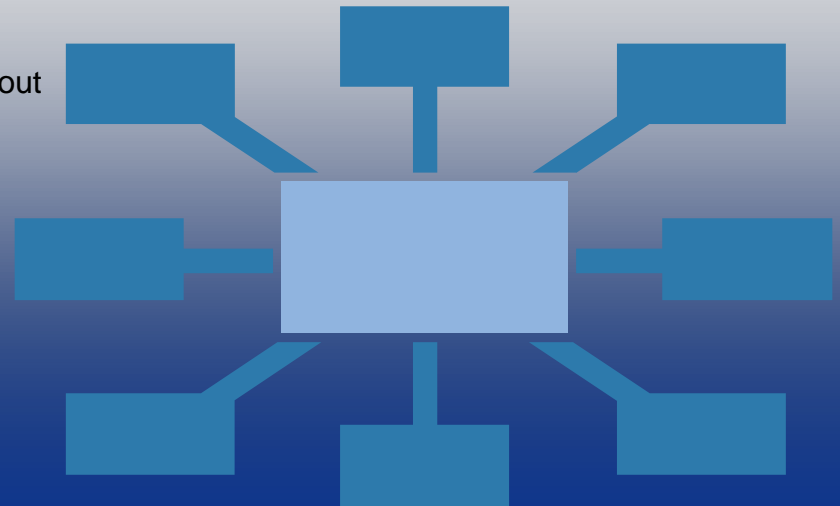
IBM FlashSystem Accelerates VDI

Improve Performance



VDI

- Stateless
 - none of their settings or data is saved once they log out
- Persistent
 - each desktop runs from a separate disk image
- Prevent boot storms
- Lower cost/desktop
- Better performance than real desktop
- Lower risk VDI installations





Kelsey-Seybold Clinic

Improving client care with flash optimized virtual desktop infrastructure



3000+ persistent

virtual desktops supported by one FlashSystem

90 percent

data reduction through in-line deduplication and compression

4x better TCO

than competing all-flash storage

Solution Components

- Citrix XenApp
- Atlantis ILIO
- IBM FlashSystem 840, 820
- IBM SAN Volume Controller
- IBM Flex System



Business challenge: Kelsey-Seybold's existing SAN storage could not support its virtual desktop infrastructure without slowing down other critical applications and they needed a scalable solution to handle business growth.

The solution: Kelsey-Seybold deployed FlashSystem with Atlantis software for in-line compression and deduplication and achieved lower cost per desktop and higher performance than dedicated VDI solutions from competing flash vendors.

“Atlantis ILIO with our existing IBM storage was a much better solution. I have never seen anything perform faster.”

- Bryan McClellan, Systems Architect, Kelsey-Seybold Clinic

Kelsey-Seybold Clinic

Your Doctors for Life



Northeast US Commercial Bank

Taking care of clients' needs with virtual desktop infrastructure



178,000 IOPS

needed to meet challenging VDI workload requirements

12x better

user density than competing flash solution

12 seconds

boot time on a VDI, for a faster-than-local desktop experience

Solution Components

- VMware VDI
- Atlantis ILIO
- IBM FlashSystem 820
- IBM SAN Volume Controller
- IBM Storwize V3700



Business challenge: Bank needed an end-to-end VDI solution that could support over two thousand desktops at 175+ branches and handle rapid growth

The solution: Bank eliminated performance issues, improved VDI density and achieved high availability with IBM FlashSystem and Atlantis software





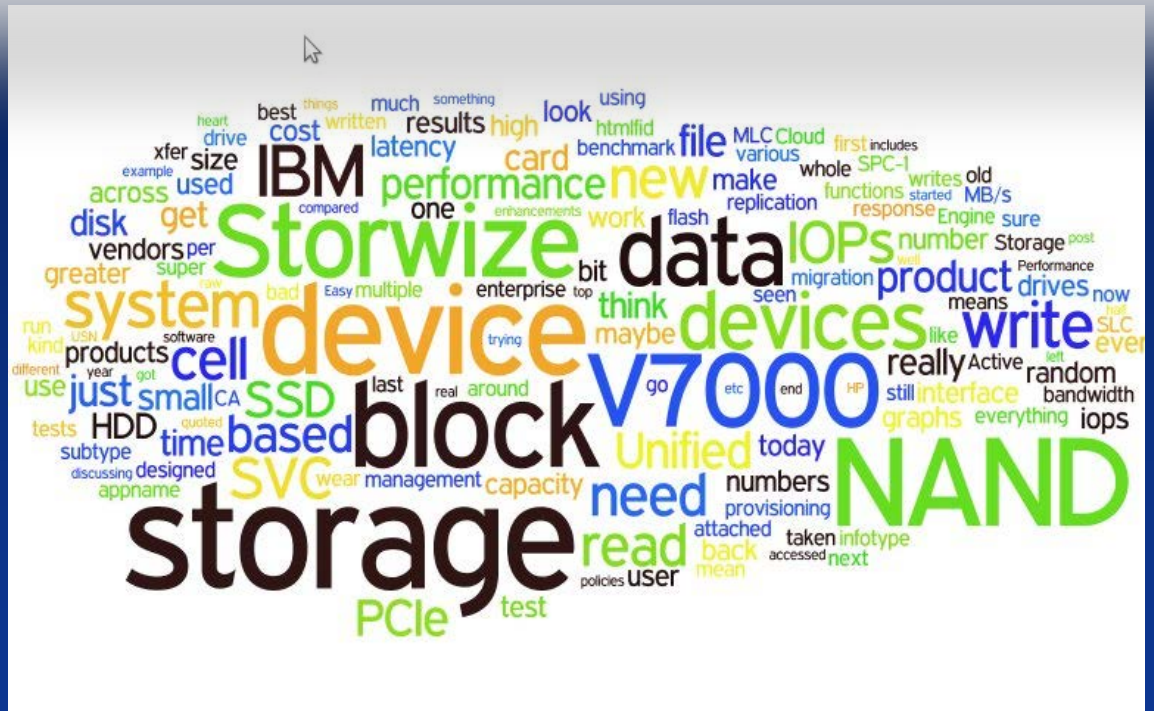
IBM FlashSystem accelerates your entire infrastructure

Reduce cost



Infrastructure

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





Lekkerland AG & Co. KG

Gaining system-wide efficiencies with IBM FlashSystem



2x better

application-response times

Virtual

environment performance
greatly improved

102k

delivery points, 24 warehouses



Solution Components

- IBM FlashSystem
- IBM Power Systems
- IBM DB2
- IBM Tivoli Storage Manager
- MS SQL
- VMware
- Business Partner: Inter Access Nederland

Business challenge: Large wholesale goods supplier based in the Netherlands needed to improve the performance of its IT infrastructure to sustain service levels required to support operations across Europe.

The solution: Implemented as part of an IBM DB2 migration project, an IBM FlashSystem array was configured to IBM Power Systems servers to improve performance in database and backup operations.

Results: Reductions were achieved for response times, performance was improved for the databases, and efficiencies were gained for IBM Tivoli Storage Manager.



CRDB





Network Broadcasting

Major television network increases efficiencies with IBM FlashSystem



73 percent

faster response time than
Competitor

41 percent

higher IOPS than Competitor

600 users

in VDI pilot to gauge savings via
consolidation and centralization

Solution Components

- IBM FlashSystem
- VMware
- VDI
- Windows 7



Business challenge: Highest-rated broadcast network looking to trim operating costs and leverage technology infrastructure in a highly-competitive and rapidly changing industry - implemented a VDI comparison between IBM and Competitor Solution.

The solution: IBM FlashSystem installed to support 4 VMware ESXi hosts running hundreds of guest VMs.

Results: IBM FlashSystem allowed memory usage on the hosts to be reduced and CPU efficiency increased compared to competitor solution. Broadcaster determined the only way to be successful was to match or increase the experience of end users using thick client hardware.



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





Cegeka

Enabling lightning-fast performance to lead enterprises to the cloud

66 percent

reduction in SAP ERP application response times

97 percent

cut in potential footprint requirement

95 percent

decrease in power consumption

Solution Components

- SAP ERP
- IBM FlashSystem 820
- IBM SAN Volume Controller
- Oracle database
- VMware



Business challenge: To broaden its cloud-services client base, Cegeka targeted enterprises with demanding SLA requirements. Could it meet data performance and scalability needs without costs spiraling out of control?

The solution: Cegeka gained the capacity to support enterprise clients in the cloud, helping to meet corporate growth objectives, while continuing to attract and retain business from existing customers.

“IBM FlashSystem Enterprise Solution accelerates some SAP ERP processing jobs by up to 90 percent.”

- Luc Greefs, Director of Cloud Services, Cegeka





IBM, Data Virtualization & Flash

The perfect recipe for business success



Drive your **Competitive Advantage**

Data is the world's newest resource, virtualizing equals efficiency



Enhance your **Decision Making**

Move away from the few to the empowered many



Better understand the **Value of Data**

As the value of data continues to grow, current systems won't keep pace