



The Leader in Unified All-Flash Storage

# All-Flash Arrays for Enterprise and Cloud

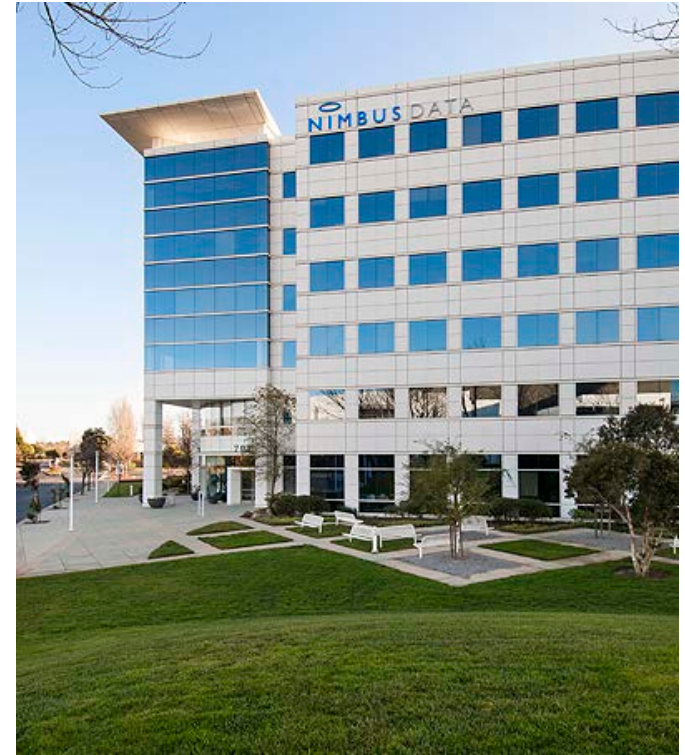
August 2013

## ▶ Leader in all-flash arrays

- › Nearly 500 customer installations
- › 72% of revenue from repeat customers
- › 1.4 Petabytes of our flash storage at a top 3 web company

## ▶ Company operations

- › Profitable, on-track for IPO in 2014
- › Backed by ex-IBM, HP, and Oracle team
- › 400%+ year-over-year growth
- › Global support presence



## ▶ Accolades

- › #1 ranking by Gartner in unified all-flash arrays amongst startups\*
- › #2 ranking by Gartner in SAN-attached all-flash arrays amongst startups\*
- › #1 ranking by IT Brand Pulse in unified all-flash arrays amongst all vendors
- › *Storage Magazine* – Two-time Storage “Product of the Year”
- › *InfoTech Research* – Trend Setter: Flash Enterprise Storage
- › TechCrunch – Finalist, Best Bootstrapped Company
- › Flash Memory Summit – Best Enterprise Implementation of Flash
- › *CRN* – Top 10 Cool Storage Startups
- › *Tech Awards Circle* – Two-time “Product of the Year”

\* *Market Share Analysis: SSD Component and SSD-Based Appliances, Worldwide, 2012, Published June 2013*





## Databases/OLTP

40% of sales

### Benefits

- › Reduce IO latency
- › Increase total IOps
- › Increase revenue



## Virtualization/VDI

40% of sales

### Benefits

- › Improve VM density
- › Eliminate boot storms
- › Scale VM performance



## Cloud Computing

20% of sales

### Benefits

- › Reduce OpEx 90%
- › Enhance storage SLA's
- › Expand TAM / use cases

## ▶ 4<sup>th</sup> Generation Gemini All-Flash Arrays

- › Unified storage with seamless SAN, NAS, and DAS support
- › Fibre Channel, Ethernet and Infiniband connectivity
- › Fully HA with non-disruptive expansion, updates, hot-swap
- › Industry-leading power efficiency, density and performance



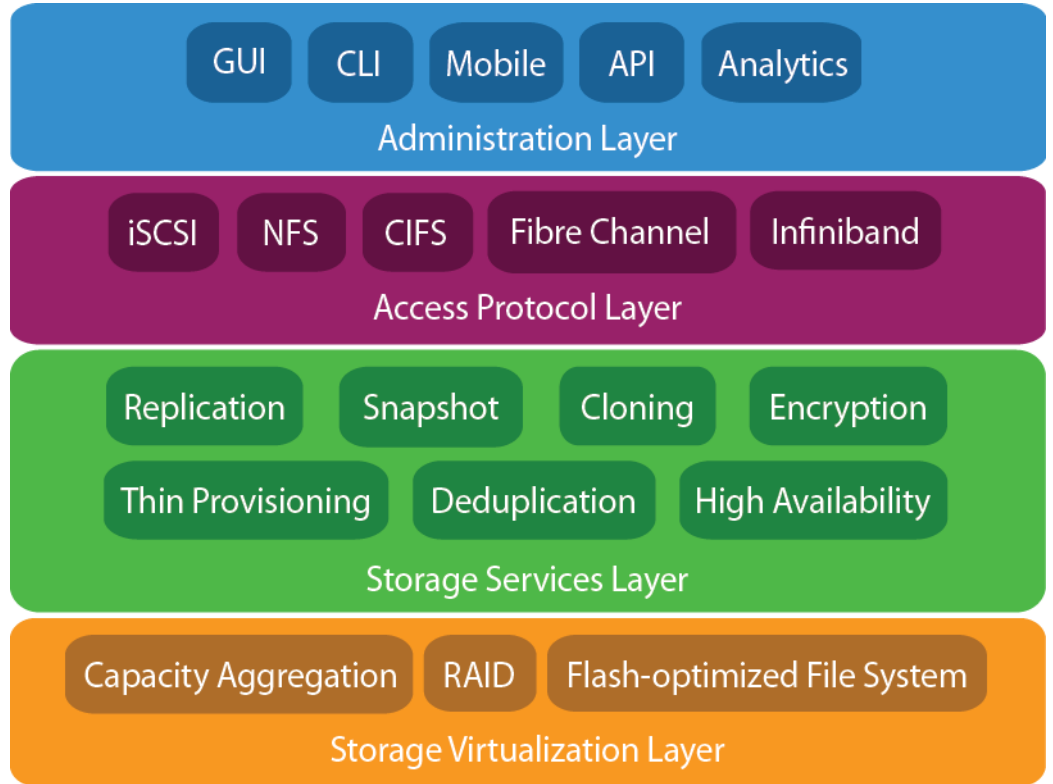
*Front: Up to 48 TB of hot-swap flash*



*Rear: Dual controllers & power supplies*

## ▶ HALO software

- › Industry's most full-featured software for flash storage arrays
- › Unified block and file
- › Flash-optimized PB-scale file system
- › Powerful monitoring and reporting features
- › All-inclusive license
- › 10 minute setup



## ▶ Superior 1X nm MLC flash economics

- › Intelligent DSP adapts electrical signals as flash ages, minimizing wear
- › Always-aligned write operations, even with RAID, maximize endurance
- › Analyzes flash health at a cell-level and adapts wear-leveling accordingly
- › With data reduction in VM use cases, as low as **\$0.78 / usable GB**

Nimbus Gemini  
**All-Flash**  
**\$0.78 / usable GB**

- or -

**Hybrids**  
**\$2-3 / usable GB**



## ▶ Ultimate Storage Performance

- › Dynamic write management reforms random IO into sequential IO
- › 1 Million write IOps (4x gain) and 2 Million read IOps (2x gain)
- › < 50  $\mu$ sec (0.05 ms) latency (2x improvement)
- › All in a 2U package with active-active redundancy

Nimbus Gemini  
**All-Flash**  
1 – 2 million IOps

- or -

**Others**  
250-500K IOps





## ▶ Ease of Management

- › Powerful CLI
- › HALO Web GUI
- › HALO Mobile GUI
- › REST API



## ▶ Application Integration

- › VMware: vStorage VAAI, auto-SSD detection
- › Oracle: DirectNFS, ASM, GoldenGate, Data Guard
- › Microsoft: Hyper-V, SQL, Exchange, VSSprovider
- › Citrix: XenServer/XenDesktop HCL

## ▶ Oracle Databases

- › Replaced NetApp top-of-the-line filers
- › Leverage Oracle DirectNFSclient
- › Nimbus delivers 3-5x performance advantage
- › 10 GbE with NFS for DB's larger than 5 TB

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## ▶ Oracle Acceleration

- › Increased Oracle transactions per second by 10x
- › Reduced rackspace needs by 75%
- › Replaced 150 spindle high-end FC 15K array
- › Less than \$50,000 investment

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## ▶ Healthcare Business Intelligence

- › Average disk latency down 100x
- › Cascaded data update transaction time reduced 50x from 10 seconds to 0.2 seconds
- › Complex query duration reduced 15x
- › Index rebuild times down 30x from hours to minutes



## ▶ SAP Acceleration

- › Improved SQL processing from 4 hours to 1 hour
- › Cut backups by 83% from 2 hours to 20 minutes
- › Improved user experience
- › Reduced rackspace needs by 70%



*@Multinational power systems manufacturer*

## ▶ Private Cloud

- › Reduced provisioning time from 40 to 3 minutes
- › Cut power usage 78%
- › Reduced rackspace needs by 65%
- › Comparable acquisition cost to 15K RPM disk



## ▶ Virtual Desktops

- › Virtual desktops for liberal arts department
- › Previously attempted with 15K rpm disk array
- › Decreased boot times by 82%
- › Achieved less than \$60 per VDI storage cost



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## ▶ HD Image Acquisition

- › Satellite image acquisition for intelligence
- › Requires 6 GBps throughput per system
- › Over 20 Nimbus S-Class systems deployed
- › Mission-critical installation: 99.999% uptime



► Questions?

