Oracle Storage

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IT Challenges Have Not Slowed

Increasing Demand for Storage Capacity and Performance

2010 New Digital Data
(¼ Created, ¾ Replicated)

2006 New Digital Data
(Created, Captured, Replicated)

6X Growth
emerging economies
growing 30-40% faster
than mature economies

70% created
by *Individuals*

95% Unstructured

161 Exabytes

988 Exabytes

Enterprises responsible for
85% of this new data
(Security, privacy, reliability,
compliance)

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Source: IDC, The Expanding Digital Universe,
2007

Oracle's Storage Strategy

Keep our **#1** market position in **Tape** by focusing on technology innovation, product reliability/availability and quality service delivery

Lead the Open Storage Revolution!

Radically simplifying the way you manage your storage, with breakthrough cost, performance and scale.

Continue to Deliver a Best-in-Class traditional Storage Portfolio

Continue our **strong growth** in the **Disk Array** market by differentiating in software, services, and system design and packaging

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Tape Portfolio

The Industry's Strongest Tape Portfolio

Tape Drives and Media

T10000

T9840

LTO

Media (T10000, T9840, LTO)

Tape Automation

SL8500

SL3000

SL500

SL48

SL24

Software

Tape Virtualization	Device Management
Data Deduplication	Hierarchical Storage Management
Encryption Key Management	Reporting and Analytics

Services

Remote and On-site Management Services	Infrastructure Integration Services
Multi-vendor Support Services	Educational Services

Virtual Tape

VSM

VTL Plus

VTL Prime

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Oracle's Continued Investment

Key Product Announcement – Last 2 years

Enterprise

VSM5

T9840

T10000

SL8500

SL3000

Encryption – KMS

VTL

IAS

SL500

Entry   LTO
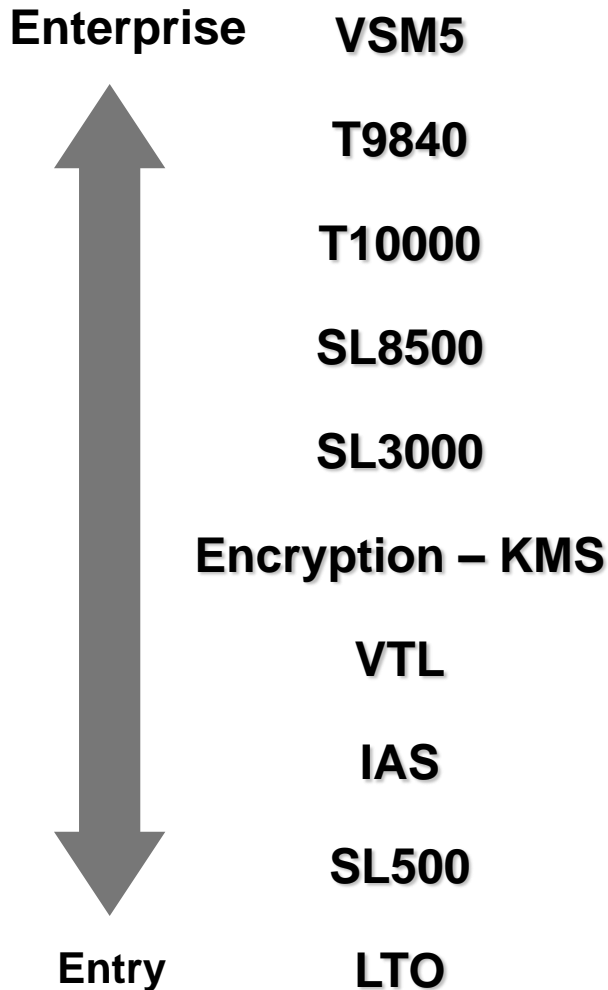
- IBM LTO4 Encryption – October 2009
- IAS 1.1 – October 2009
- ACSLS 8.0 – October 2009
- IBM LTO4 Dual Port – July 2009
- T10000 FIPS Certification – July 2009
- SL3000 Enhancements – May 2009
- SLC Enhancements – May 2009
- VSM Enhancements – April 2009
- ELS 7.0 – April 2009
- KMS 2.1 – March 2009
- T10000B FICON – September 2008
- VTL Prime – September 2008
- T10000B FC – July 2008
- SL500 Capacity on Demand – July 2008
- T9840D FC – June 2008
- HP LTO Encryption – May 2008
- T9840D FICON – February 2008
- KMS 2.0 – March 2008
- VTL Plus 2.0 – January 2008
- SL8500 – Multi-TCP/IP – January 2008

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Oracle's Best in Class Library Portfolio

Entry   Distributed   Midrange   Enterprise

SL24/SL48

SL500

SL3000

SL8500

24	48

30	SL500	575

200	SL3000	5000+

1000	SL8500	70,000

20   50   100   200   500   1,000   1,500   3,000   10,000+

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Cartridge Slots

Oracle Tape Automation
Reduce costs with the SL3000 and SL8500

- Designed for tape consolidation

  - Any Cartridge Any Slot mixed media technology ◉

  - Open systems and mainframe connectivity

  - SL3000 dynamically manages partitions and supports non-contiguous resource assignment

- Highly efficient designs reduce power and floor space costs

  - SL8500 is 25% more efficient and 25-50% smaller than PowderHorn ◉

  - SL3000 is 50% more efficient and 60% smaller than other solutions ◉

◉ **Oracle Differentiator**

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Oracle Tape Encryption
Simple, Secure, Networked, Automated

⊙ Oracle Differentiator

- Oracle's Sun StorageTek Crypto-Key Management System
  - A simple, secure and scalable solution with a single crypto key management station ⊙
  - T10000A and T10000B
  - T9840D
  - LTO4 from HP and IBM

- WORM technology
  - T9840 and T10000 VolSafe

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7000 Systems

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Introducing the Sun Storage 7000 System...

Radically SIMPLIFYING the way you manage your storage with breakthrough SPEED, SCALE and COST SAVINGS

Speeding Up, Simplifying, and Cutting Costs for Thousands

- Shipped more than 54PB of storage to date

- Achieving broad market adoption across multiple industries

- One of the fastest ramping Storage products ever from Sun

Sun Storage 7000 Systems
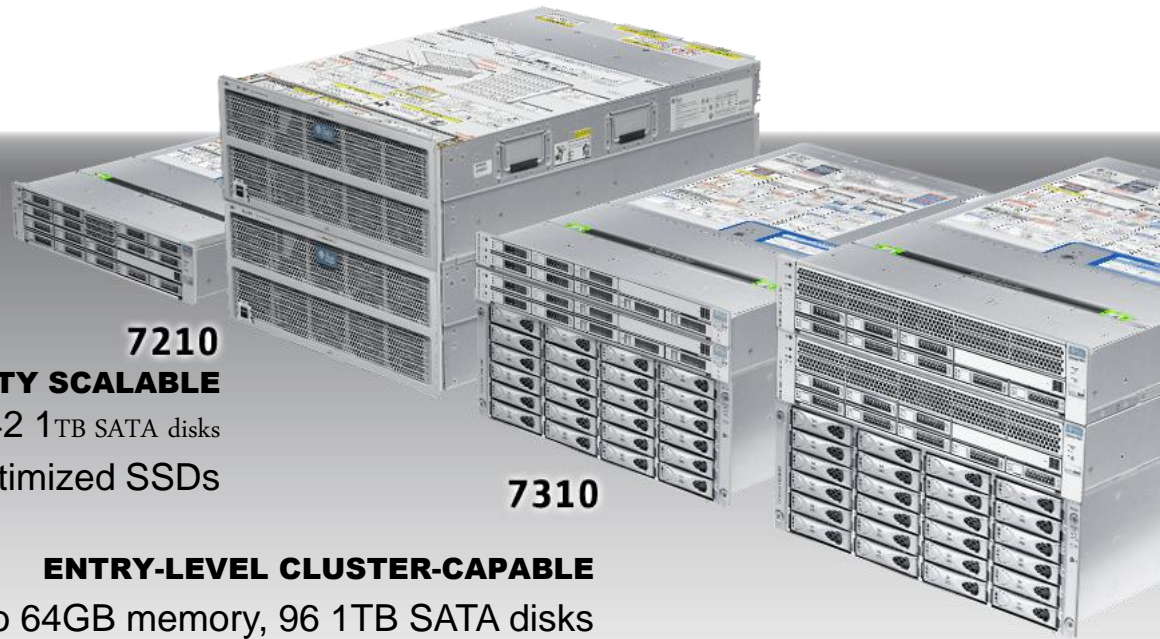
7110

ENTRY-LEVEL STANDALONE

8 GB memory • 14 300GB SAS disks

7210

HIGH-DENSITY SCALABLE

Up to 64GB memory, 142 1TB SATA disks

Up to 2 18 GB write-optimized SSDs

7310

ENTRY-LEVEL CLUSTER-CAPABLE

Up to 64GB memory, 96 1TB SATA disks

Up to 6 100GB read/16 18GB write SSDs

Active-Active Clustering for H/A

7410

SCALABLE CLUSTER-CAPABLE

Up to 256GB memory, 288 1TB SATA disks

Up to 6 100GB read/16 18GB write SSDs

Active-Active Clustering for H/A

STANDARD FEATURES (ALL MODELS)

All Data Protocols and Data Services Included

(Analytics, Snapshots, Replication, Compression, NFS, CIFS, iSCSI…)

Built-in 4 1 Gb Ethernet ports

Remote Console (Serial or Ethernet)

Lights-out Management

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Full Complement of Storage Software
Included with the System at No Additional Cost

Data Protocols

- NFS v2, v3 and v4
- CIFS
- ISCSI
- HTTP
- WebDAV
- FTP/SFTP/FTPS
- NDMP v3/v4

Data Services

- Flash Hybrid Storage Pool
- RAID-Z (5)
- RAID-Z DP (6)
- Mirroring
- Striping
- Active-active Clustering
- Remote Replication
- Antivirus via ICAP Protocol
- Snapshots
- Clones
- Compression
- Thin Provisioning
- End-to-End Data Integrity
- Multi-Path I/O
- Fault Management
- Microsoft VSS/Shared Folders

Management

- DTrace Analytics
- Dashboard
- Role-Based Access Control
- NIS LDAP & AD Alerts
- Phone Home
- SNMP
- Scripting
- Upgrade
- Hardware View
- Advanced Networking
- Workflow Automation

Providing Unprecedented Storage Analytics

- Automatic real-time visualization of application and storage related workloads

- Simple yet sophisticated instrumentation provides real-time comprehensive analysis

- Supports multiple simultaneous application and workload analysis in real- time

- Analysis can be saved, exported and replayed for further analysis

- Built on DTrace instrumentation

  - NFSv3, NFSv4, CIFS, iSCSI, NFS over RDMA (Infiniband)

  - ZFS and the Solaris I/O path

  - CPU and Memory Utilization

  - Networking (TCP, UDP, IP)

Instant Visibility into Key Questions

"What is CPU and Memory Utilization?"

"How much storage is being utilized?"
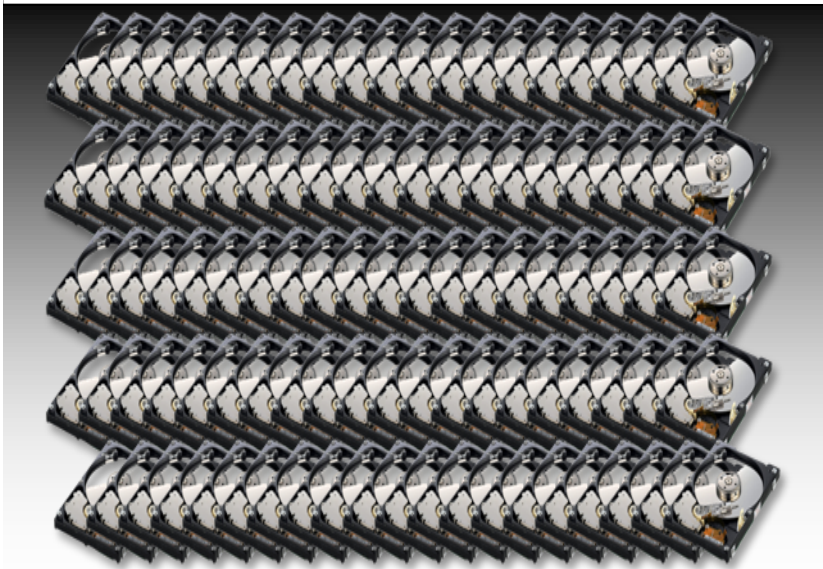
"How is disk performing? How many Ops/Sec?"

"What Services are active?"
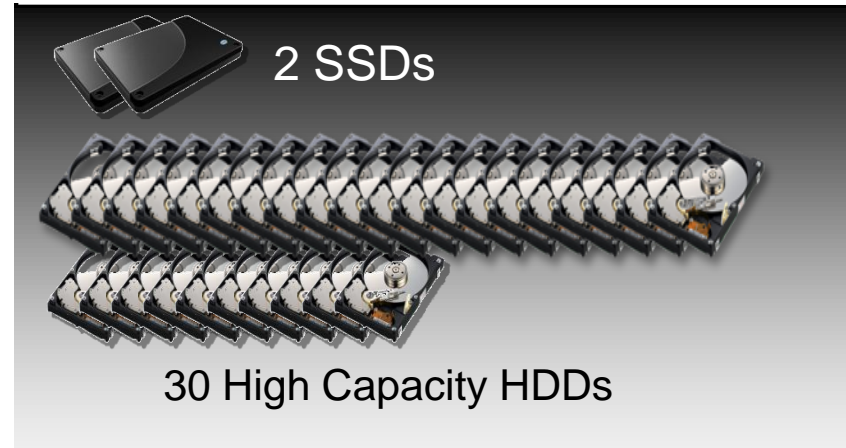
"Which applications/users are causing performance issues?"
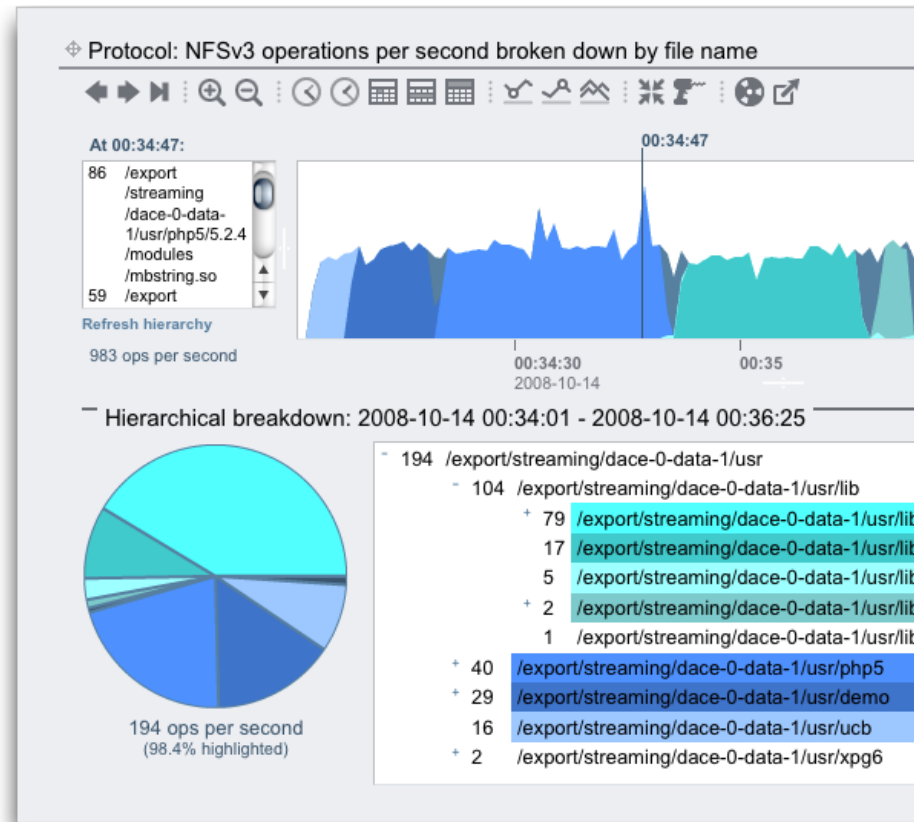
Hybrid Storage Pool Benefits

100 Enterprise HDDs

Capacity: 30TB
Performance: 30K IOPS
Power: 1,750W

Hybrid Storage Pool

2 SSDs

30 High Capacity HDDs

1/3 the cost!

Capacity: 30TB
Performance: 40K IOPS
Power: 392W

Breakthrough Storage Economics

- Gain up to 75% cost savings
- No additional software license fees
- 3x less power consumed
- Reduce break/fix calls and enjoy a Single Point of Contact (SPOC) with Oracle Services

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The Ideal Storage Platform for a Wide Range of Infrastructure Solutions

For More Information

search.oracle.com

or

oracle.com