

Redefining the Economics of Enterprise Storage

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Storage Industry Trends

1. Budget constraints continue
2. Growth in unstructured data
3. Technology dramatically changing traditional storage architectures
4. Seeking to build upon virtualization for incremental efficiency
5. Need to leverage data to make better business decisions



Complex and costly legacy

1. Fixed and predictable Storage array upgrade & migration cycles
2. Software re-licensing required with each upgrade or usage change
3. Data rigidly coupled to hardware
4. Capacity overprovisioning required to meet SLA's
5. Storage not part and optimized for a broader datacenter/cloud ecosystem



“We stand on the cusp of the next technological revolution.

The forces of cloud, big data, mobile and security
are changing the way people live, businesses operate and
the world works, just as the PC did.

Now it's time to do what Dell does best

Makes these innovations simpler, more affordable and
more accessible, putting more power into the hands of more people than even before.”

-Michael Dell

Economic control

Operational Efficiency

The new proprietaries

Expensive solutions where operational savings are consumed by high costs with a lock-in penalty

Initial Cost



Ongoing Cost



Legacy systems

Complex and costly monolithic systems that lock in and don't scale

Initial Cost



Ongoing Cost



Redefined economics



Open systems and solutions that are delivering superior value with clear customer benefits

Initial Cost



Ongoing Cost



Commodity systems and services

Low-cost commodity components with no solutions value-add

Initial Cost



Ongoing Cost



Performance/Value





Dell is a **committed partner** as we embarked on a journey to create a new storage foundation

Modern Storage Architectures

- Designed from the ground up to be flexible and agile
- Uncoupled from the limitations of any legacy architecture

Deep Integration

- Offering customers easy access to new, sophisticated technologies
- Deploying common technologies across a family of storage products

Design philosophy

- Easy to use
- Fully virtualized
- Intelligent tiering
- Highly Scalable
- No forklifts upgrades
- Innovative licensing





Customer benefits

A

Acquire, **deploy**, and **grow** Storage on demand

B

Adapt **seamlessly** to changing business needs

C

Intelligently **manage** data assuring business continuity

Delivering superior value

Dell Storage strategy

1

Harness **state-of-the-art** technologies to deliver **innovative**, **simple** and **affordable** solutions

2

Deliver **workload-driven** architectures that are **flexible** and **modular**

3

Accelerate **software** and **service** integration

Redefining the economics of Enterprise storage

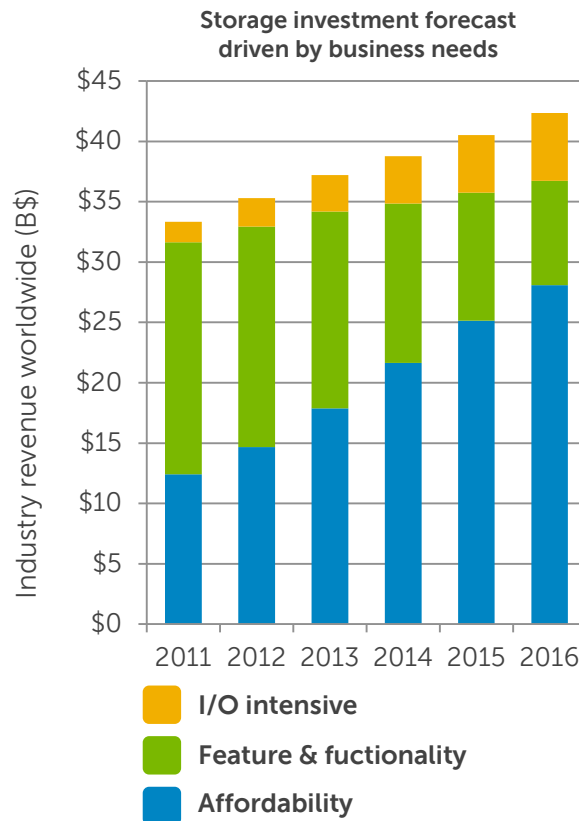




1

Harness state-of-the-art technologies to deliver innovative, simple and affordable solutions

Industry storage trends are changing traditional storage architectures



Solutions offerings

Performance Optimized

Price / Performance

Cost Optimized





2

Deliver workload-driven architectures that are flexible and modular

Right architecture for right workloads



Big Data



VDI



Traditional IT



Cloud

Business Critical Workloads

- I/O intensive workloads
- Leverage flash storage
- Server-side cache
- Business critical

- Oracle
- SAP
- SQL Server

Collaboration & Infrastructure

- Optimized for virtualized environment
- Price/performance
- Traditional IT workloads

- Exchange, Lync
- SharePoint
- File, print, web
- VMware, Citrix, Hyper-V

Non-Mission Critical Workloads

- Focus on \$/TB
- Lowest TCO
- Dense enclosures
- Server-side storage

- Cold data archive
- Image archive
- Data dump





Full E2E integration for solving top pain points



3

Accelerate software and service integration

Leading multi-cloud management software

Open Industry standard x86 technology

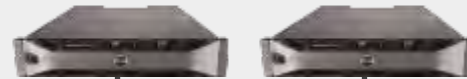
Data Center Networking

Unified & Scalable file system

Multi-protocol, enterprise class



Hypervisors



Servers

Networking



Storage

Intelligent Tiering

Industry leading Hypervisors

Next-generation datacenter automation

Ensuring Business Continuity

Easy to use

Virtualized Storage





Dell's Storage design philosophy

Easy to use

Enterprise power with everyday simplicity

Streamlines management

Management costs associated with comparable vendors are up to **60% more affordable** with Dell Storage

Integrates easily

Approximately 89% of Dell Storage customers use their arrays in virtualized environments

- Enterprise features that IT generalists can use
- Designed to scale performance and capacity linearly without disruption
- Automation to optimize resources and performance

- Tight integration with common application environments
- Environment flexibility that allows mix-and-match arrays to build tiered storage
- Designed to support virtualization

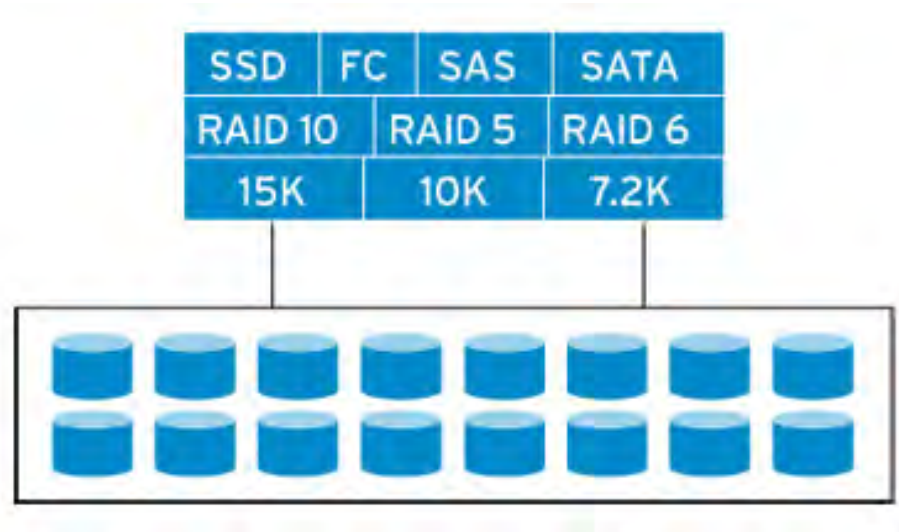




Dell's Storage
design philosophy

Fully virtualized

Reduce storage costs up to 80 percent



Dell Storage virtualization complements any leading virtualization environment. Storage is presented to Virtual Machines as a single, virtualized pool of capacity, regardless of disk type, RAID level or server connectivity. This can help you can optimize efficiency, agility and resiliency.

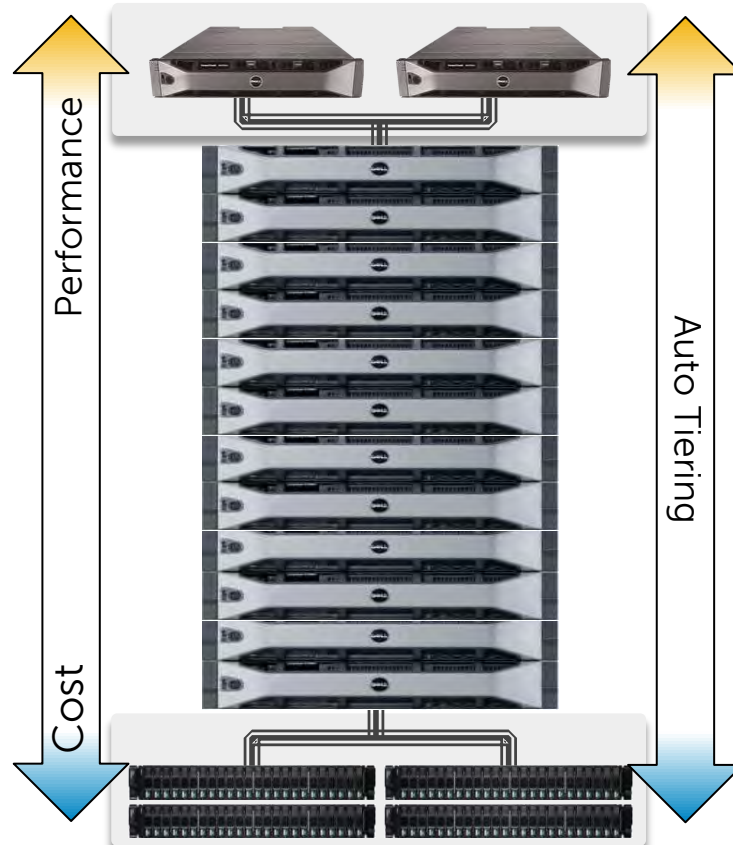




Dell's Storage design philosophy

Intelligent tiering

Up to 70% reduction of tier-1 Storage capacity



Tier 1 storage can be reduced by 70 percent by moving infrequently accessed data to lower storage tiers.

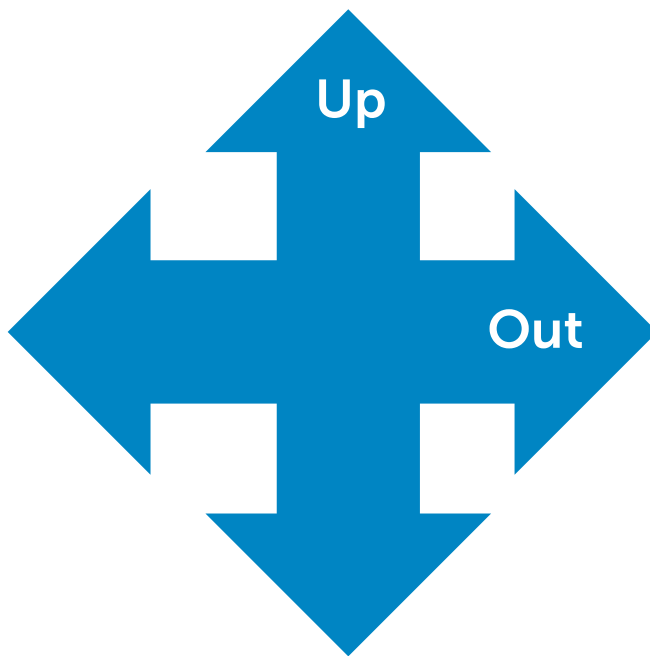
This speeds up your infrastructure and eliminates spending more money in your most costly tier



Dell's Storage
design philosophy

Highly Scalable

Removing barriers to grow



Dell allows you to purchase only the storage you need when you need it, knowing you can grow your infrastructure with your needs.

Through Scale-out and Scale-up architectural designs we offer linear capacity and performance scaling for any business.

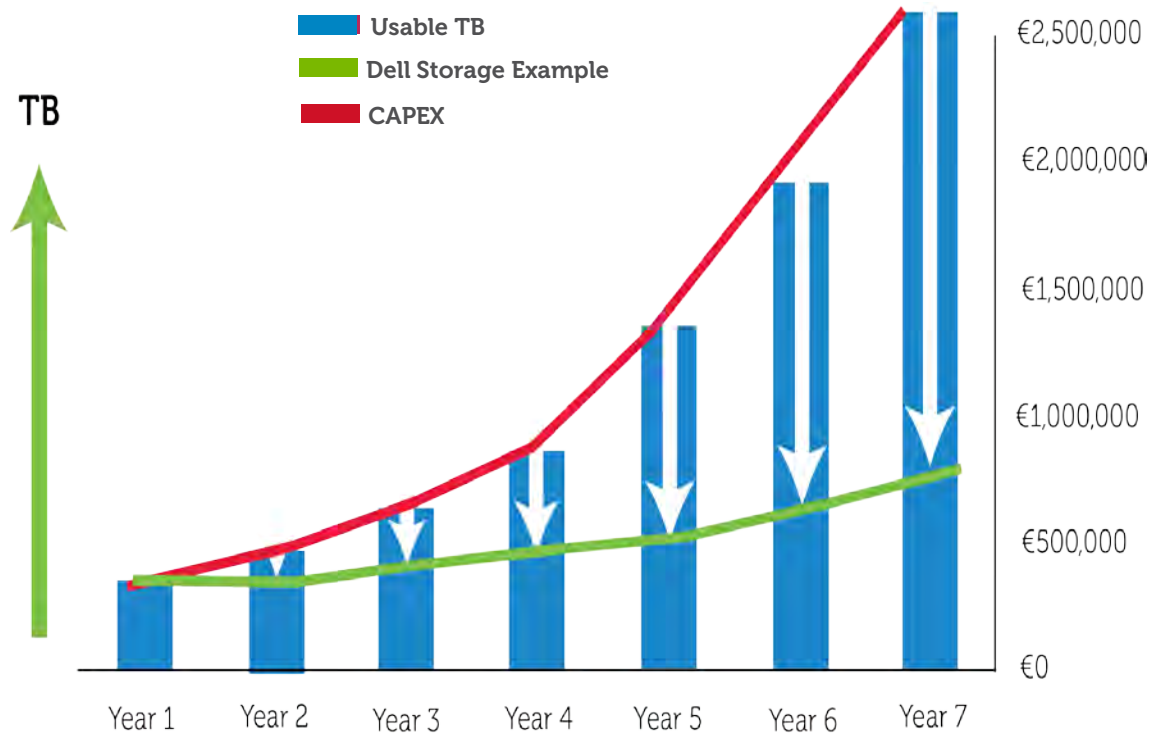




Dell's Storage design philosophy

No forklifts upgrades

The architecture that saves money over time



Eliminating fork lift upgrades has a tremendous positive impact on capital and operating expenses.

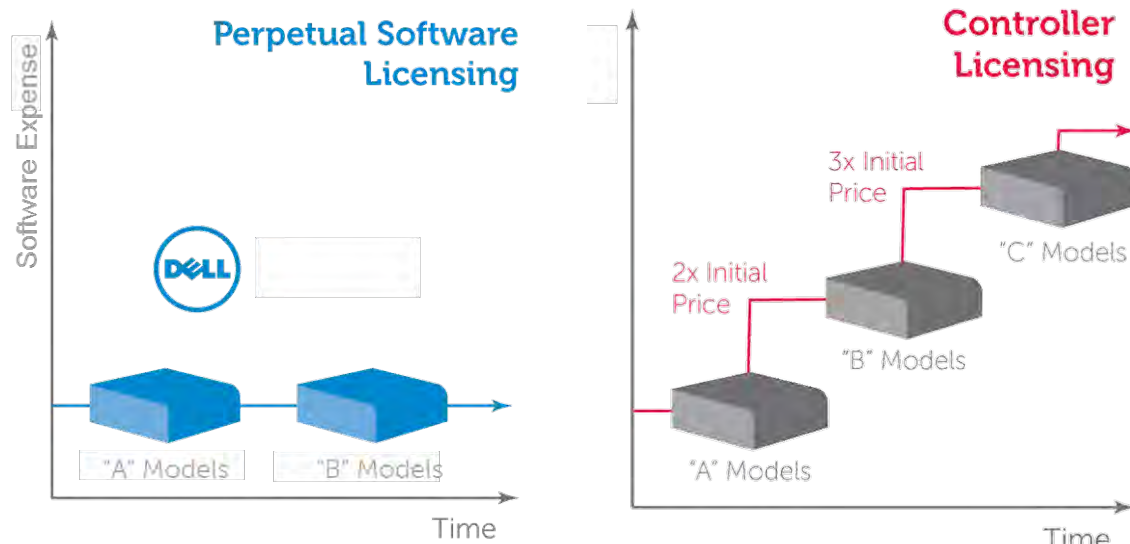




Dell's Storage design philosophy

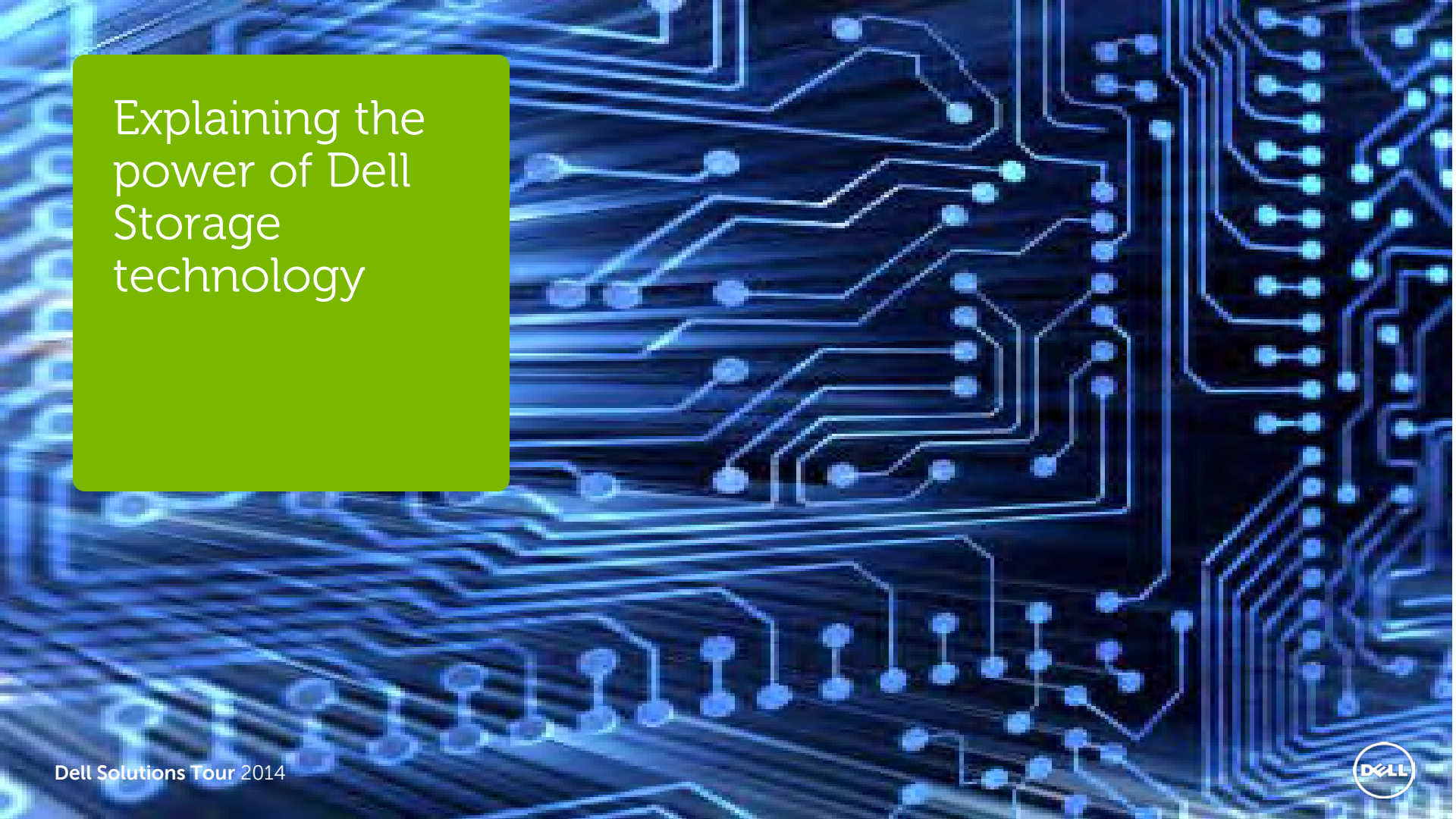
Innovative licensing

No hidden cost on software licensing



All-inclusive & perpetual software licensing is eliminating hidden cost by making software all-inclusive lets your data grow without the need for extra software licensing



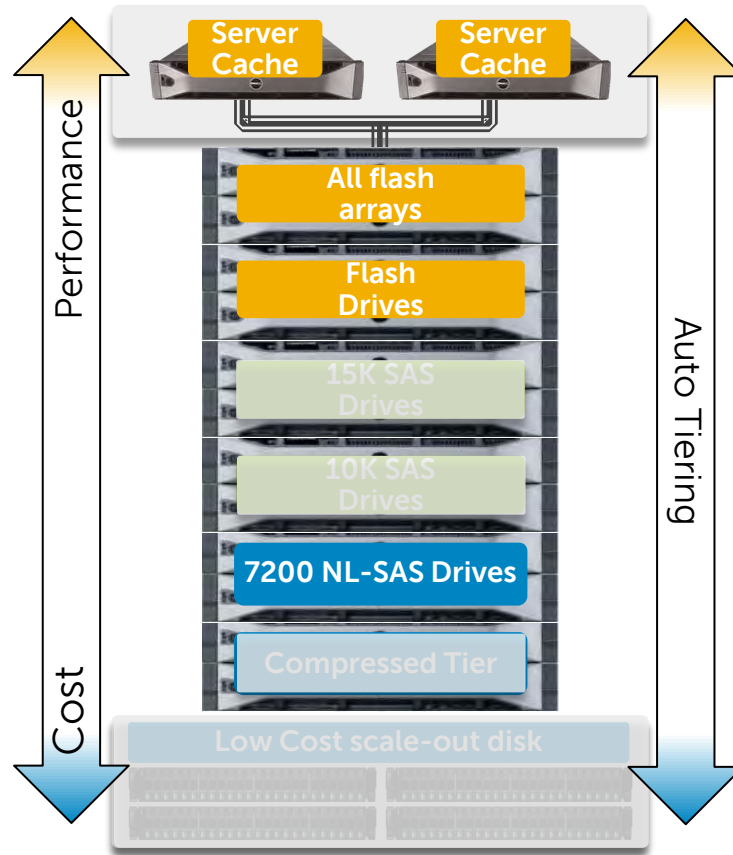


Explaining the
power of Dell
Storage
technology



Performance optimized storage architectures

A single architecture serving customer who need high performance Storage solutions



Dell Delivers:

- High performance through full Flash technology
- End-to-end Storage architecture that includes Server based cache (vSAN)
- Single, simple but powerful management framework

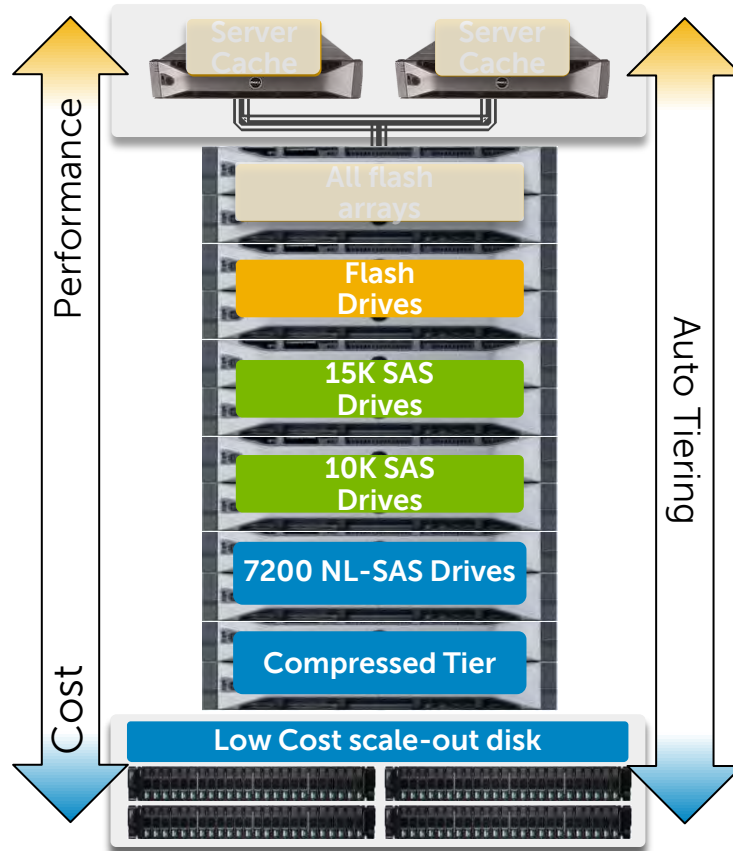
Storing the right data, at the right place, at the right time for the right cost





Price/Performance optimized storage architectures

A single architecture serving customer who want to balance performance and technology



Dell Delivers:

- Best performing configurations for highly virtualized environments
- Fast deployments through automated setups
- Ready for full Unified Storage implementations

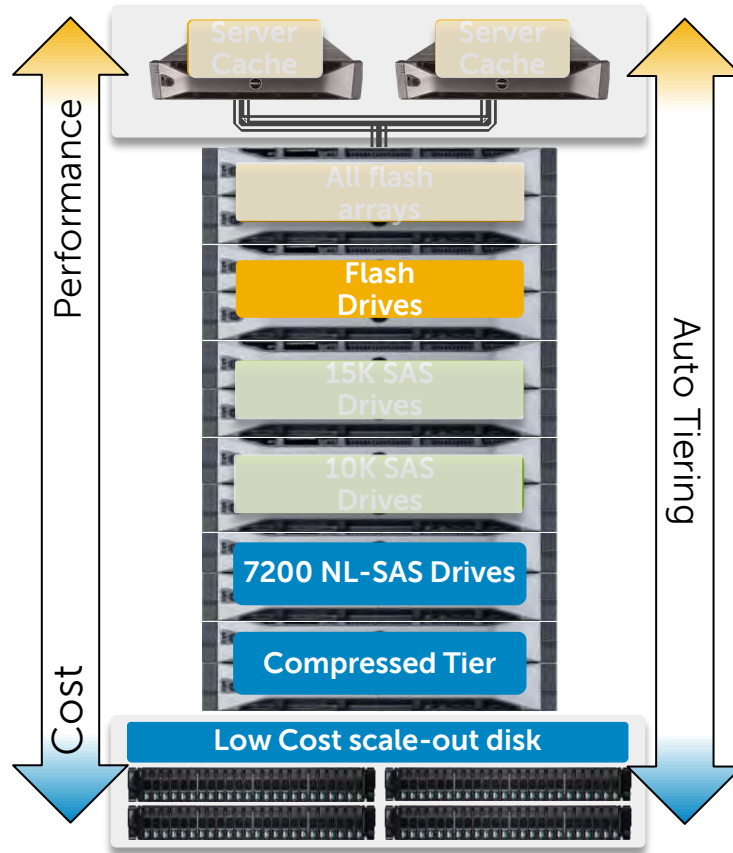
Storing the right data, at the right place, at the right time for the right cost





Cost optimized storage architectures

A single architecture serving customer who need the right balance between technology and performance



Dell Delivers:

- High performance through full Flash technology
- End-to-end Storage architecture that includes Server based cache (vSAN)
- Single, simple but powerful management framework

Storing the right data, at the right place, at the right time for the right cost

A photograph of a server room with several rows of Dell server racks. The racks are black with silver vertical accents. A purple rectangular box is overlaid on the left side of the image, containing white text. The floor is dark grey with light grey grid lines.

Explaining the Dell Storage Solution Portfolio



Storage offering that
accelerate your business

Dell portfolio
differentiation



Big Data /
Data Insights



VDI



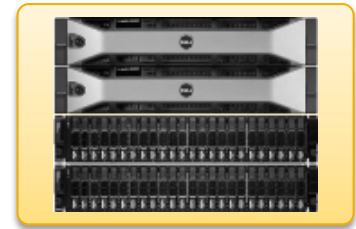
Traditional IT



Cloud

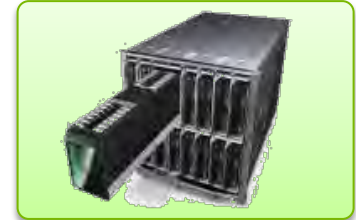
Flash at the Price of Disk

Flash: 56% lower cost with
90% latency reduction



Flexible Form-Factors

Double the useable capacity of
competitive solutions



Optimized for Virtualization

Industry leading VMware
vSphere & Hyper-V certified
server and storage solutions



Dense Enclosures

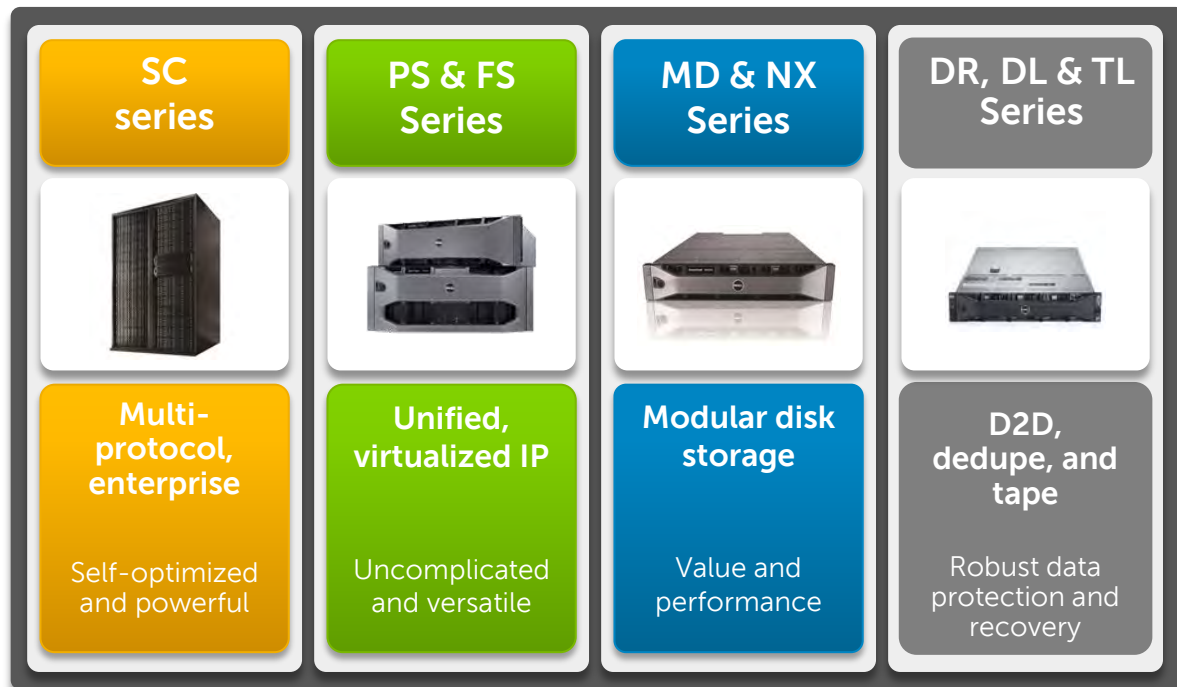
Highest capacity footprint in
the market through
ultra high dense enclosures





Workload-optimized
solutions for any size
enterprise

The Dell Storage Portfolio





Our strategy in action

-

Flash for the price of disk

Redefining the Economics of
Enterprise Storage

Dell Solutions Tour 2014

- **56% lower cost on disk**
- **90% latency reduction**
- **75% lower cost versus the competition**

- Dell moves hot data to Flash with industry's first MLC/SLC intelligent tiering

- It improves performance for data-intensive applications and OLTP workloads

- It gives you the best performance at lowest cost





Dell is your **most reliable Storage partner**

>\$1B

Storage revenue

Gartner

Leader in General Purpose
Disk Arrays MQ

#1

Vendor of choice for Flash

#1

iSCSI Market Leader

#1

Cloud Infrastructure
provider

4.900+

Patents on granted or
pending

41.000+

Service Professionals

140.000+

Channel partners
worldwide

#1

Midrange Storage Arrays
by Storage Magazine



**Customers should
not worry about
building the ship,
but about sailing
to the right
destination**



Redefining the economics of Enterprise Storage



The power to do more