Why are we here?

Storage sprawl has become impossible to manage manually. What do you do now?
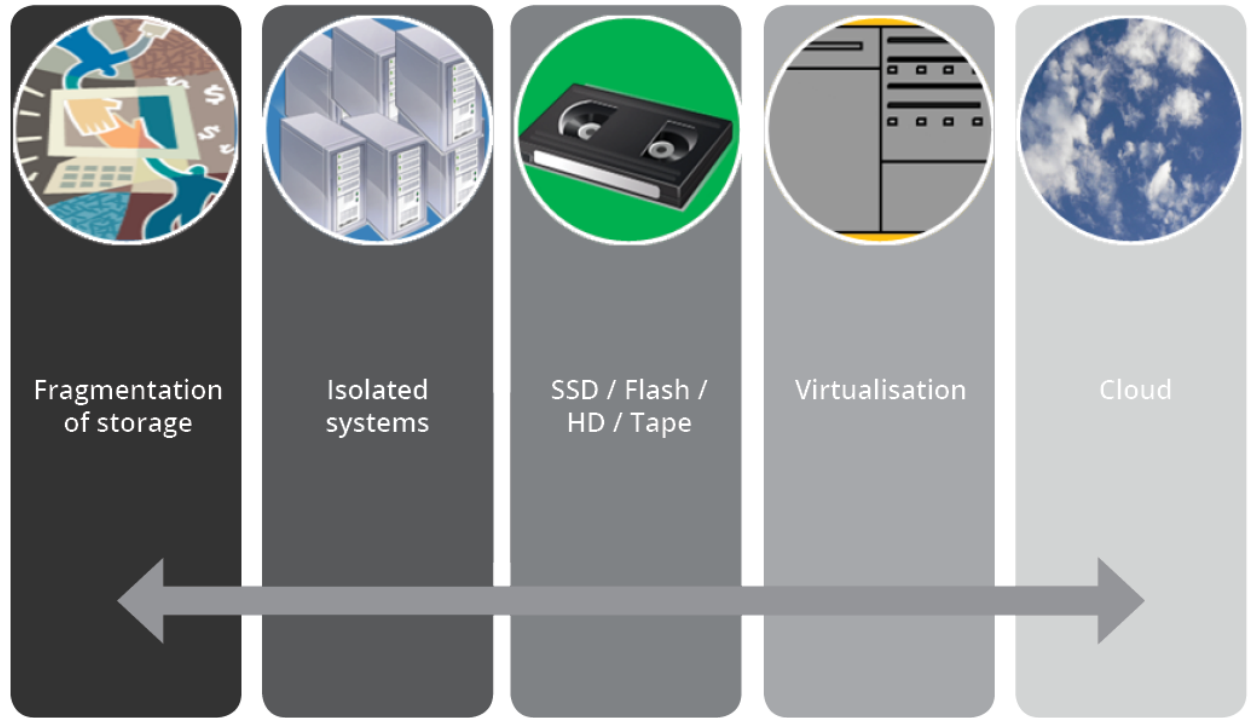
On our Regcast today

James Hall, **HP**

Martin Riley, **HP**

Tony Lock, **Freeform Dynamics**

Tim Phillips, **Reg**

What's out there?

- Confusion

- Lack of accurate information

- Variable utilisation

| Fragmentation of storage | Isolated systems | SSD / Flash / HD / Tape | Virtualisation | Cloud |

Management challenges and skills

More choices, more solutions, more to manage

Server Flash Cache

All Flash array

Tiered Flash array

Storage Flash Cache

| Server Flash | Server | Server | Server |

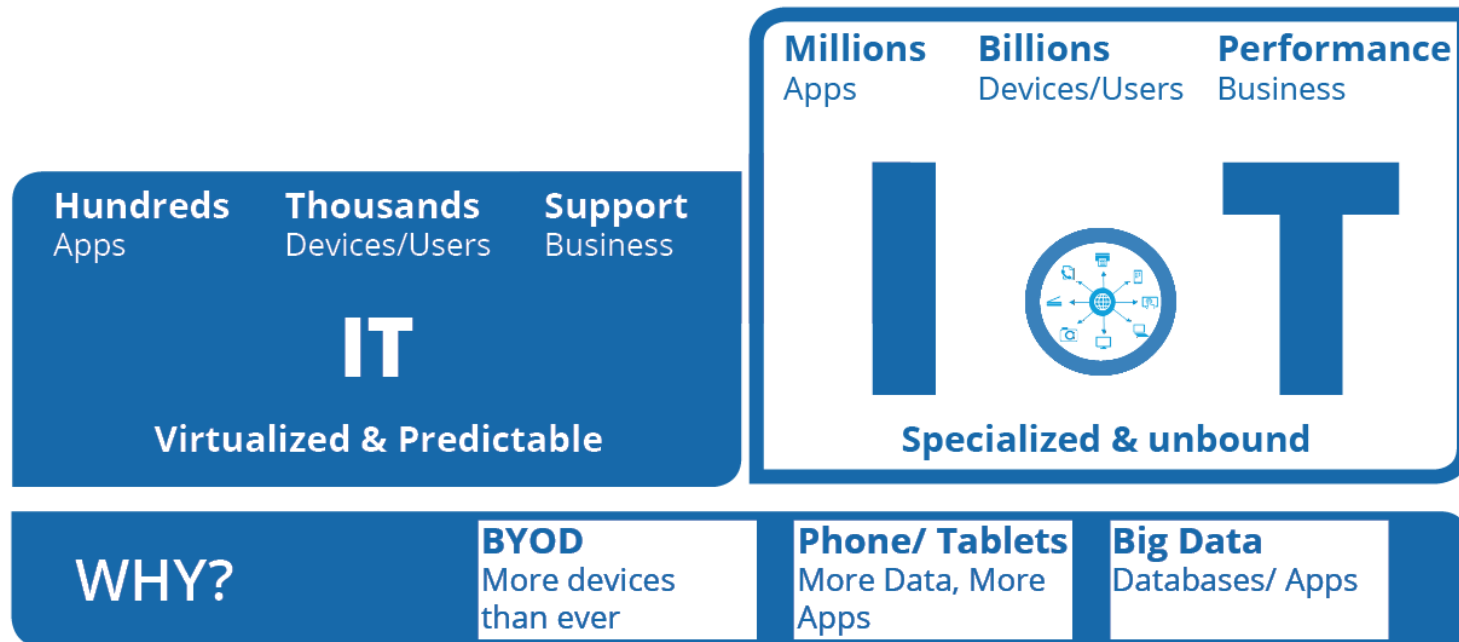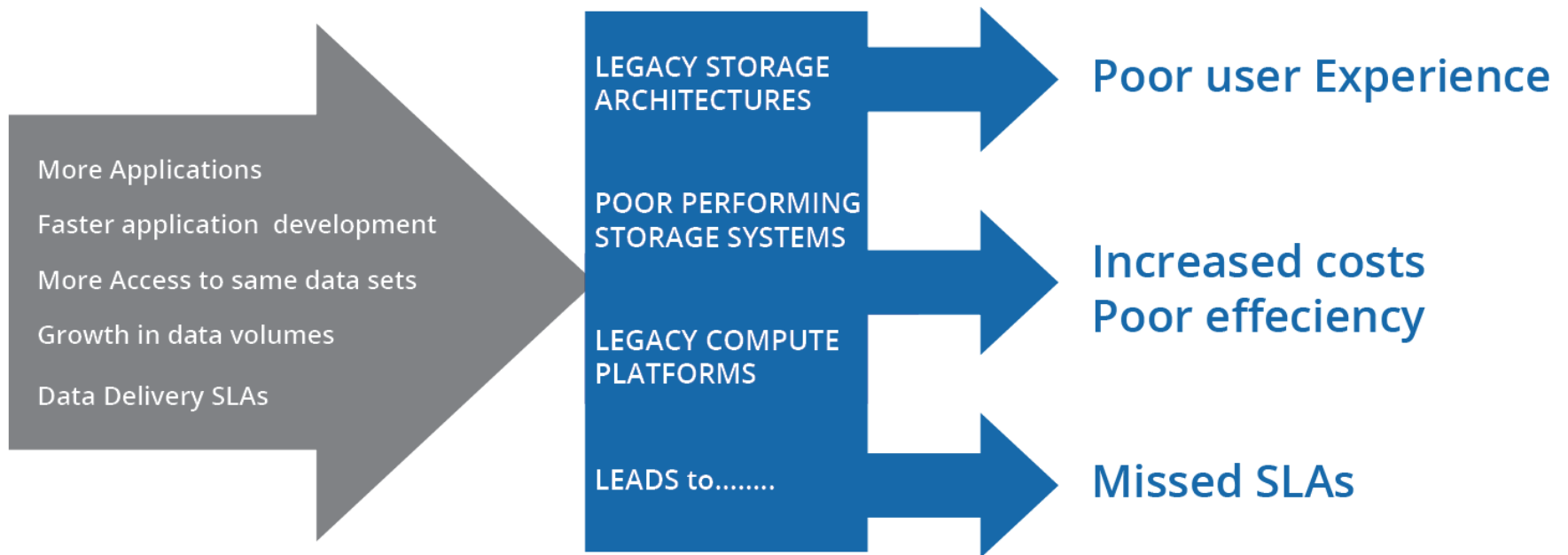| Storage Controller | Storage Controller | Storage Controller | **Storage Controller Flash** |
| Storage | **Flash Storage** | **Flash Storage** / Hard Drive Storage | Storage |

More data, more applications, more performance

Fuelling storage growth and sprawl = Increased management and complexity

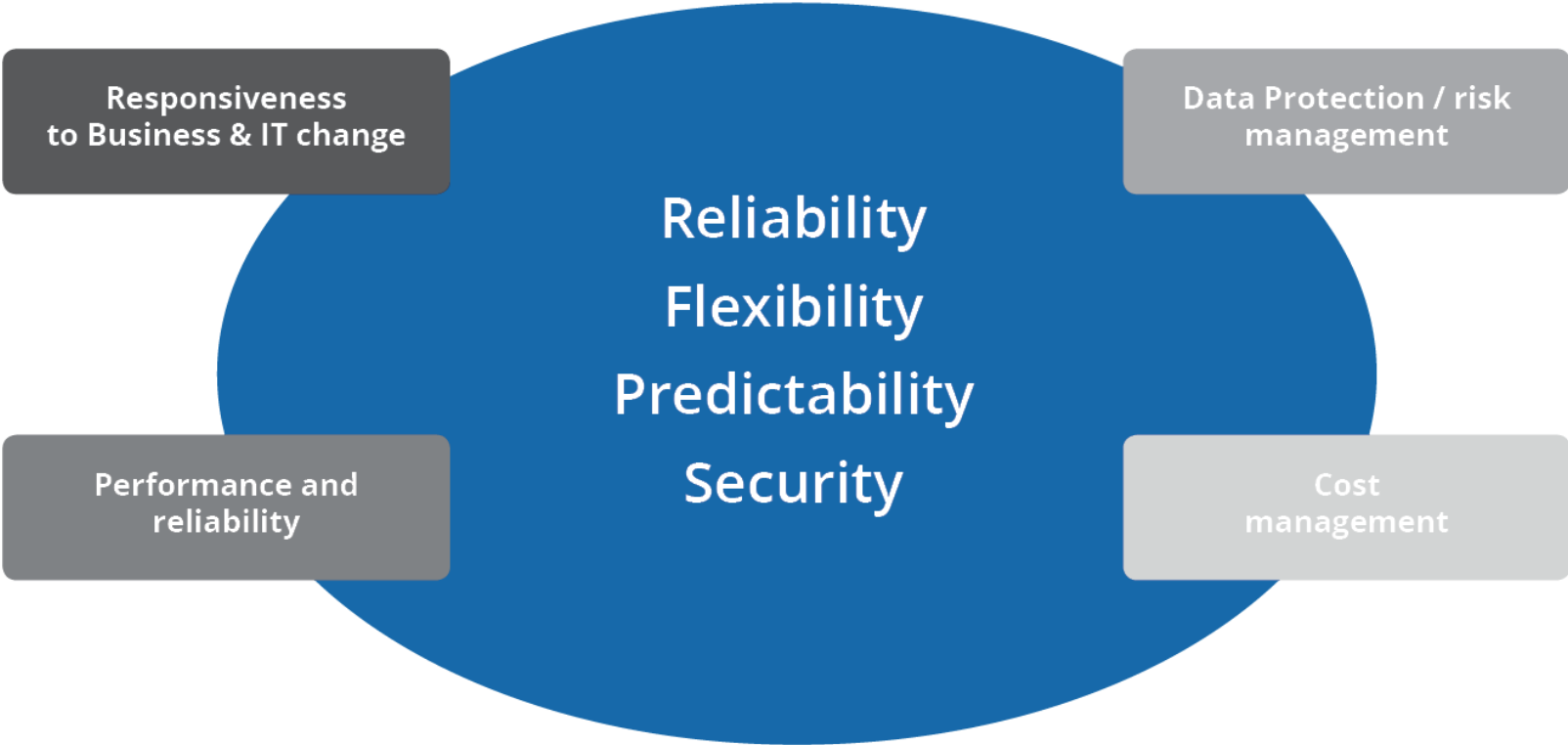| **Hundreds** Apps	**Thousands** Devices/Users	**Support** Business
	IT	
	Virtualized & Predictable	

Millions Apps	**Billions** Devices/Users	**Performance** Business
	IoT	
	Specialized & unbound	

WHY?	**BYOD** More devices than ever	**Phone/ Tablets** More Data, More Apps	**Big Data** Databases/ Apps

Source: HP internal analysis

New challenges compound storage management

More Applications

Faster application development

More Access to same data sets

Growth in data volumes

Data Delivery SLAs

LEGACY STORAGE
ARCHITECTURES

POOR PERFORMING
STORAGE SYSTEMS

LEGACY COMPUTE
PLATFORMS

LEADS to........

Poor user Experience

**Increased costs
Poor effeciency**

Missed SLAs

Business stakeholder demands

Responsiveness to Business & IT change

Data Protection / risk management

Reliability

Flexibility

Predictability

Security

Performance and reliability

Cost management

The IT report card

Generally speaking, how easy or hard are the following in your environment?

Deploying systems fast enough to meet user expectations
Keeping up with routine change requests
Maintaining acceptable operational service levels
Generally keeping IT costs under control
Keeping IT activities aligned with business priorities

■ 5 (Very easy) ■ 4 ■ 3 ■ 2 ■ 1 (Pretty much impossible) □ Unsure or N/A

Storage challenges

Recovery times

Failure rates / data loss

Costs

Service levels

Capacity underutilisation

Data growth

High Management Overhead

Where to start?

Information / Data Management Policy

Data / Storage Classification

Data and Storage Discovery

How to move forwards

Add 'net new' capability

Modernise current capability

Operate, maintain & support

Evolving business needs and working practices

Evolving storage technologies and services capabilities

The need for an autonomic storage architecture
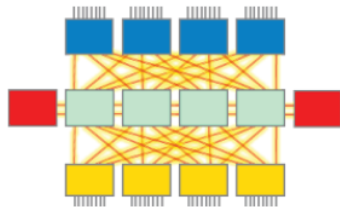
Traditional Modular Storage

Host Connectivity
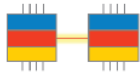
Disk Connectivity

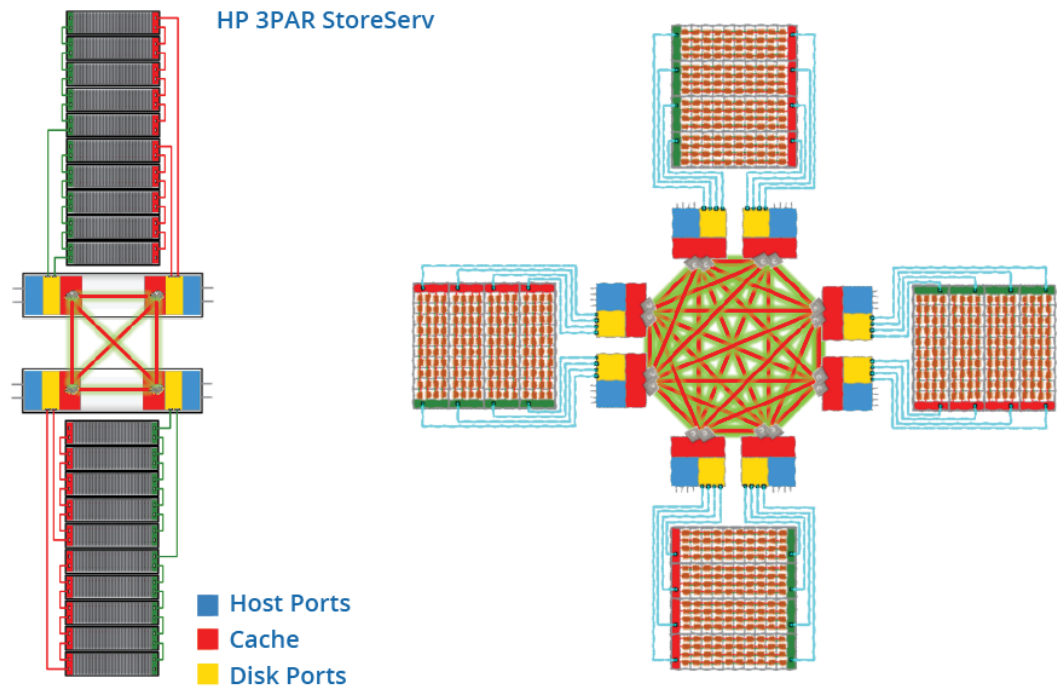Cost-efficient active-passive dual-controller design limited in scalability and resiliency.

## Traditional Monolithic Storage

Host Connectivity

Disk Connectivity

Scalable, resilient and active-active but costly. Might not meet multi-tenant requirements efficiently
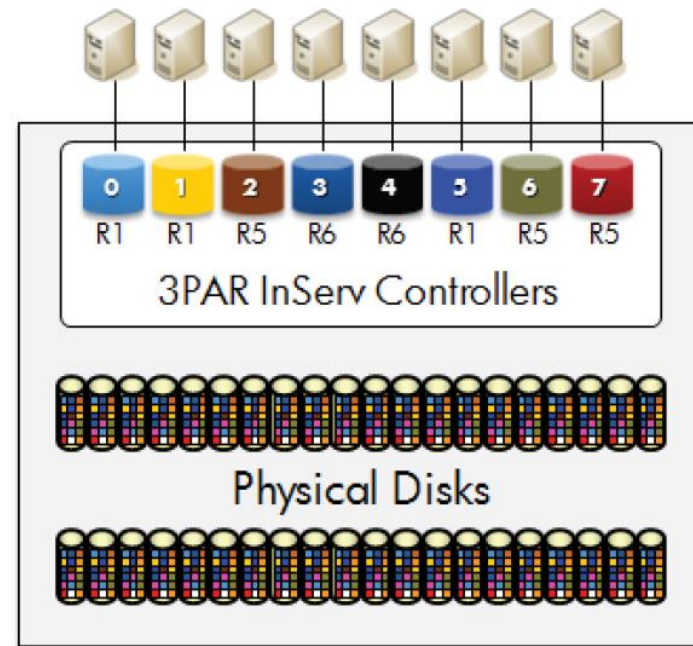
HP 3PAR StoreServ

- Host Ports
- Cache
- Disk Ports

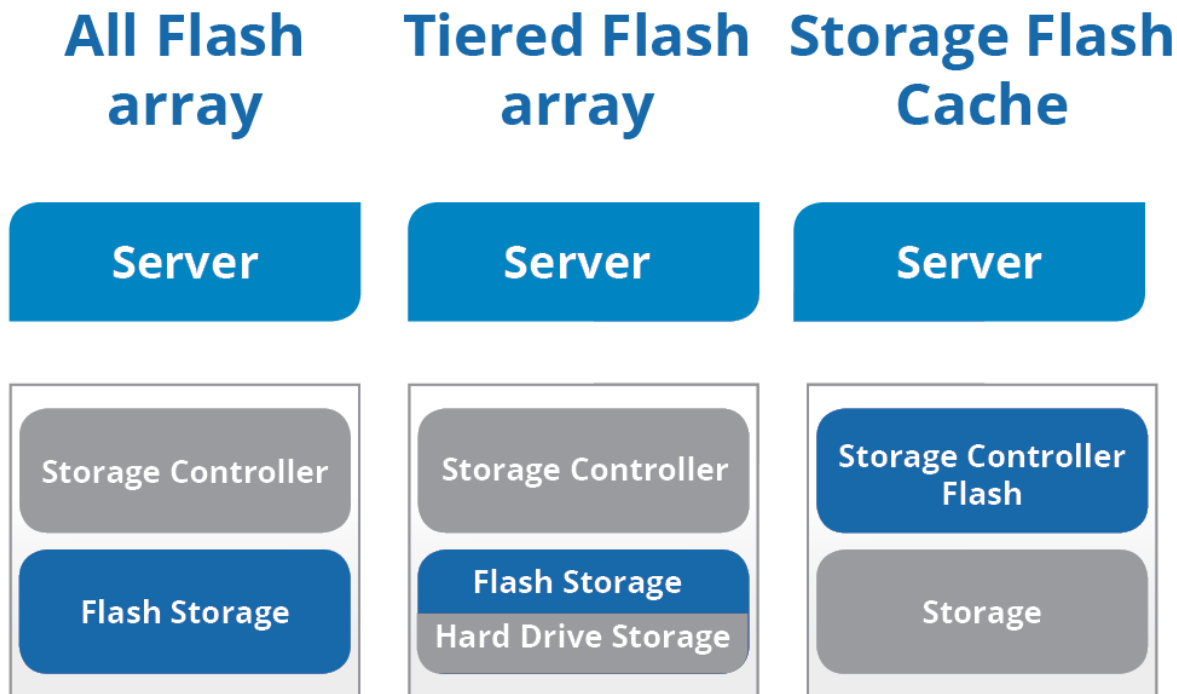# Autonomic storage reduces management and complexity

- Each RAID level requires dedicated disks
- Dedicated spare disk required
- Lilited single LUN performance
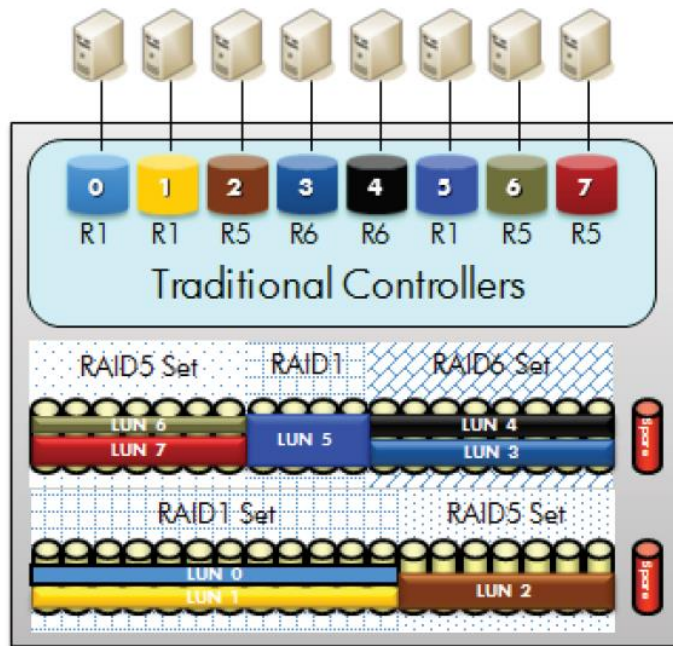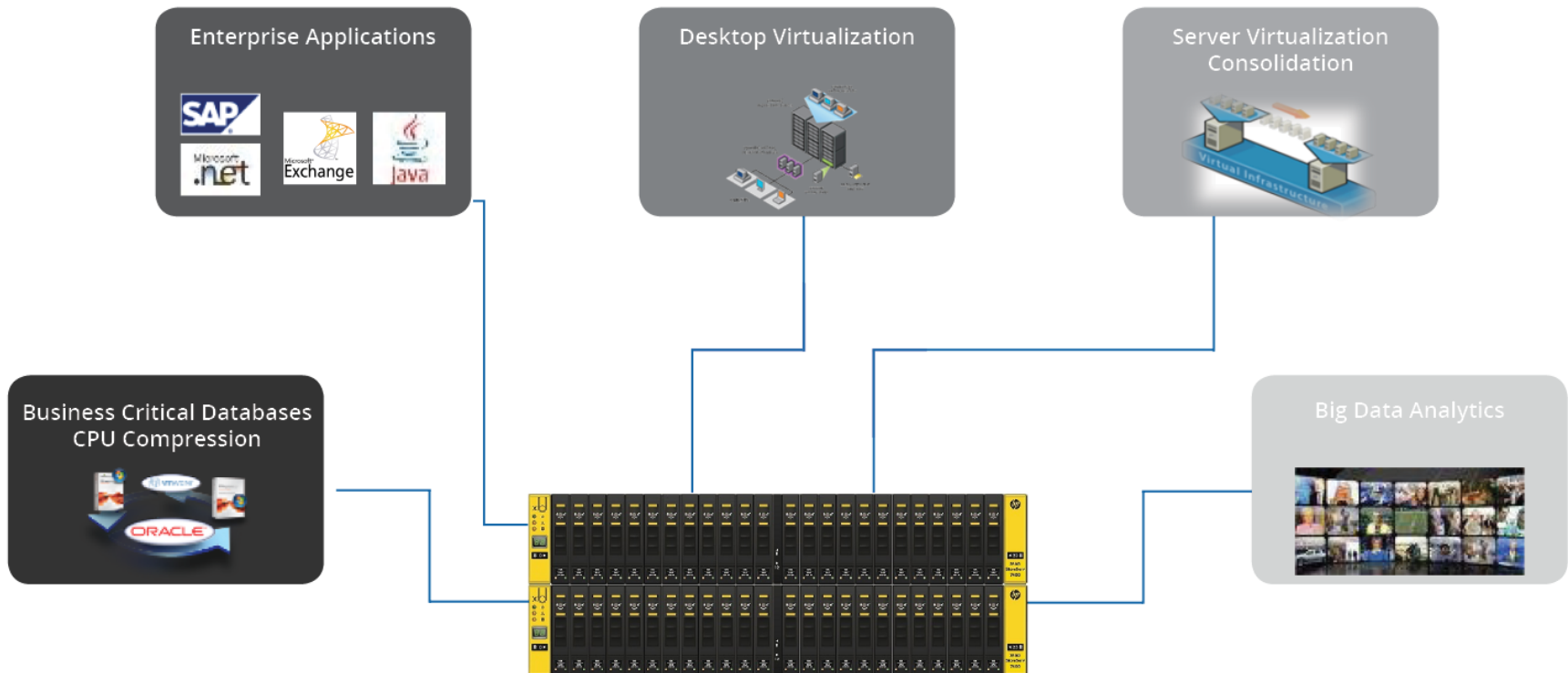
- All RAID level can reside on same disks
- Distributed sparing, no dedicated spare disk
- Built-in wide-striping based on Chunklets

Single architecture and operating system

All Flash array

Server

Storage Controller

Flash Storage

Tiered Flash array

Server

Storage Controller

Flash Storage
Hard Drive Storage

Storage Flash Cache

Server

Storage Controller Flash

Storage

Support multiple use case with one architecture

Enterprise Applications

Desktop Virtualization

Server Virtualization Consolidation

Business Critical Databases CPU Compression

Big Data Analytics

This event is sponsored by HP in conjunction with Intel

Converged and automated

Converged control and orchestration

Federated data services

Standard platform foundation
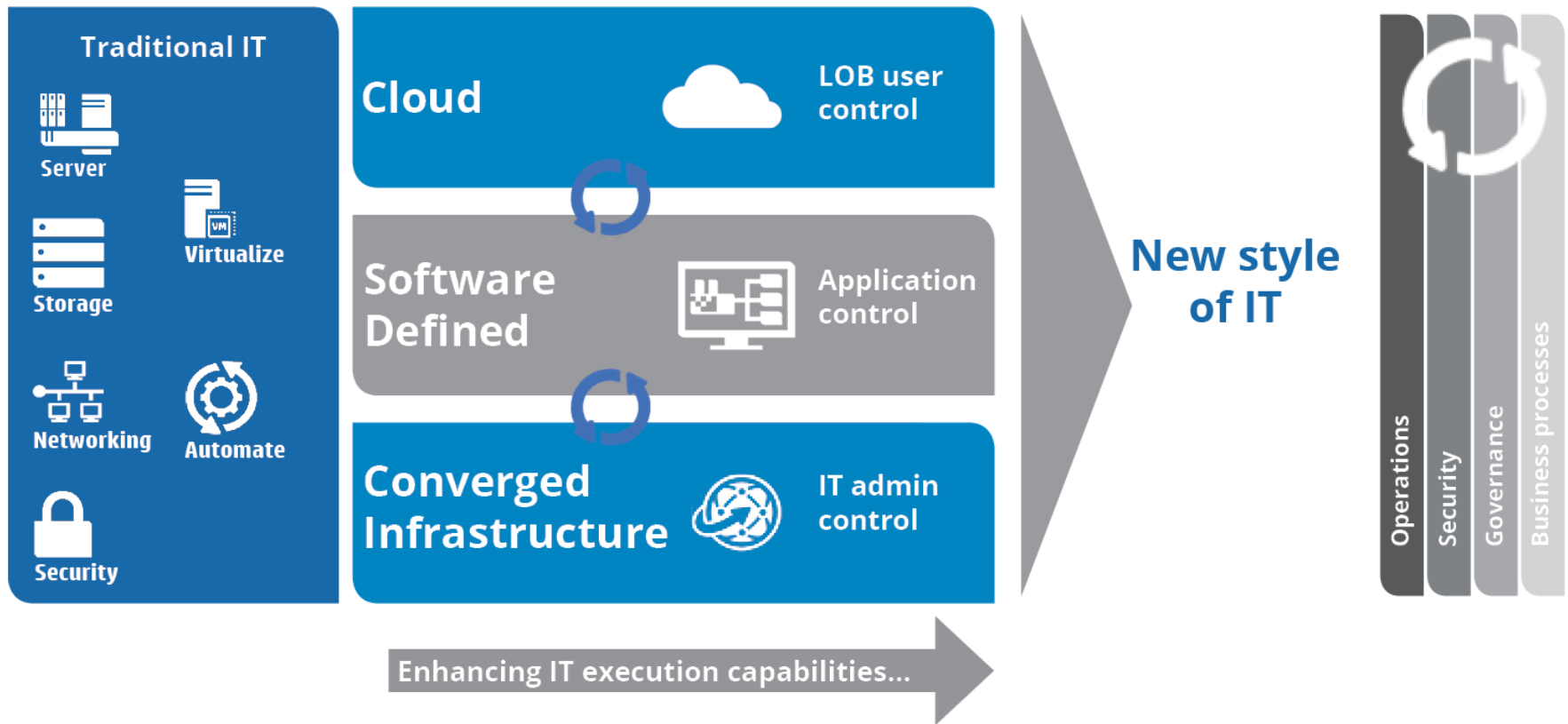
HP Helion &
HP OneView

openstack

Software Defines

TODAY

- Deploy and manage via HP Helion through OpenStack integration

- HP OneView automated provisioning for HP and Hypervisor environments

Further acceleration requires new control options

Traditional IT

Server

Virtualize

Storage

Networking

Automate

Security

Cloud — LOB user control

Software Defined — Application control

Converged Infrastructure — IT admin control

Enhancing IT execution capabilities...

New style of IT

Operations

Security

Governance

Business processes

Further reading

Top storage capabilities needed in 2014   http://reg.cx/2b2W

The business value of HP 3PAR StoreServ Storage systems   http://reg.cx/2b2X

The business value of HP Storage Solutions for
backup, recovery, and archive   http://reg.cx/2b2Y

Video: Backup, recovery and archiving   http://reg.cx/2b2Z

Video: HP 3PAR StoreServ Customer experiences   http://reg.cx/2b31

Thanks for joining us

An archived version of today's event will be made available on The Register in the near future.