What's the fuss about flash?
Stop bluffing and get the facts

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Where and how can flash be deployed?

On our Regcast today

Phil Hooker HP

James Hall HP

Tony Lock Freeform Dynamics

Tim Phillips The Register

What's happening in storage?

More data is being created and stored

The cost of storage is growing and becoming visible to the business

Storage performance and bottlenecks are now recognised as an issue

Storage skills are scarce and human resources are stretched

Customer challenges

- **SLAs are higher**
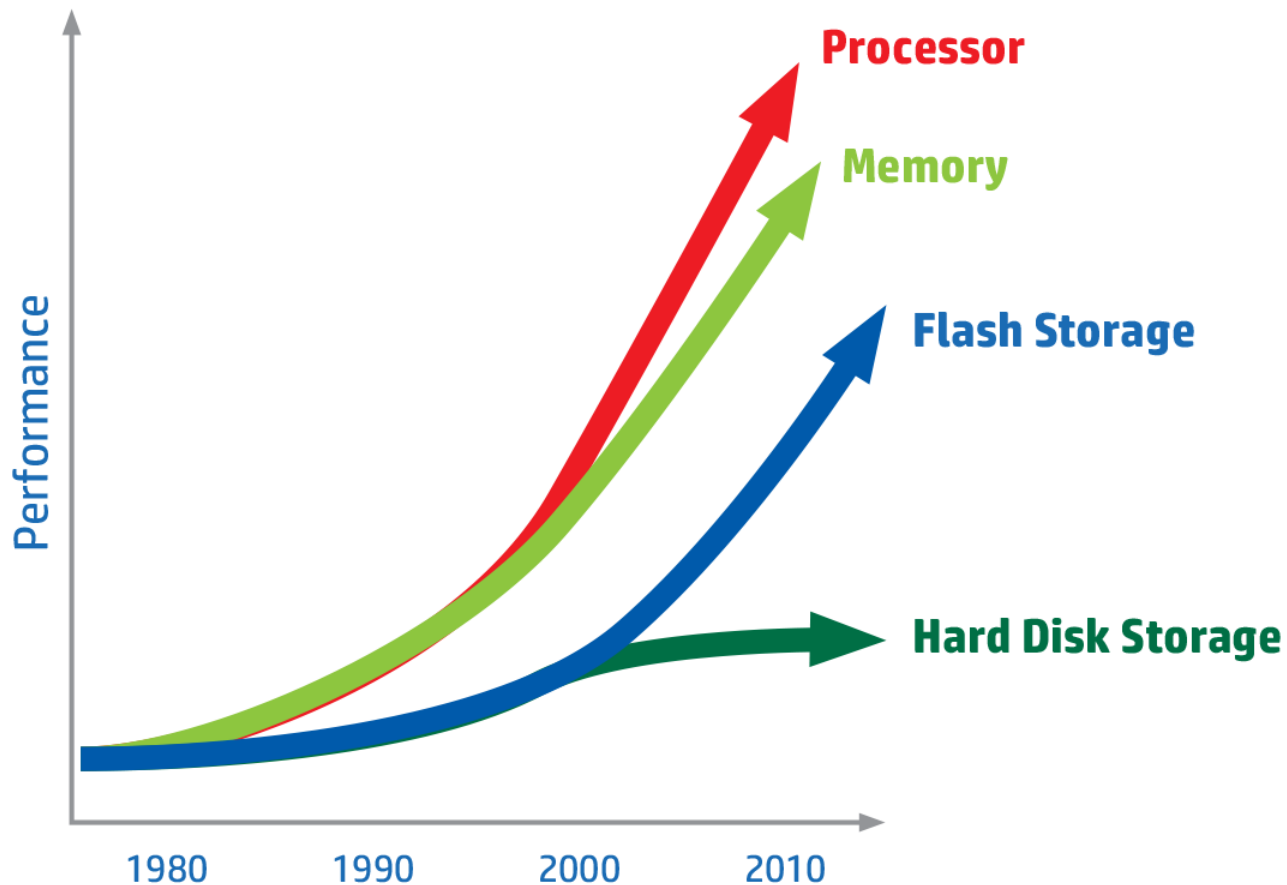- **Performance req increasing**
- **Capacity growth**

Traditional Monolithic and Mid-Tier Storage technologies are **Decades** out of date
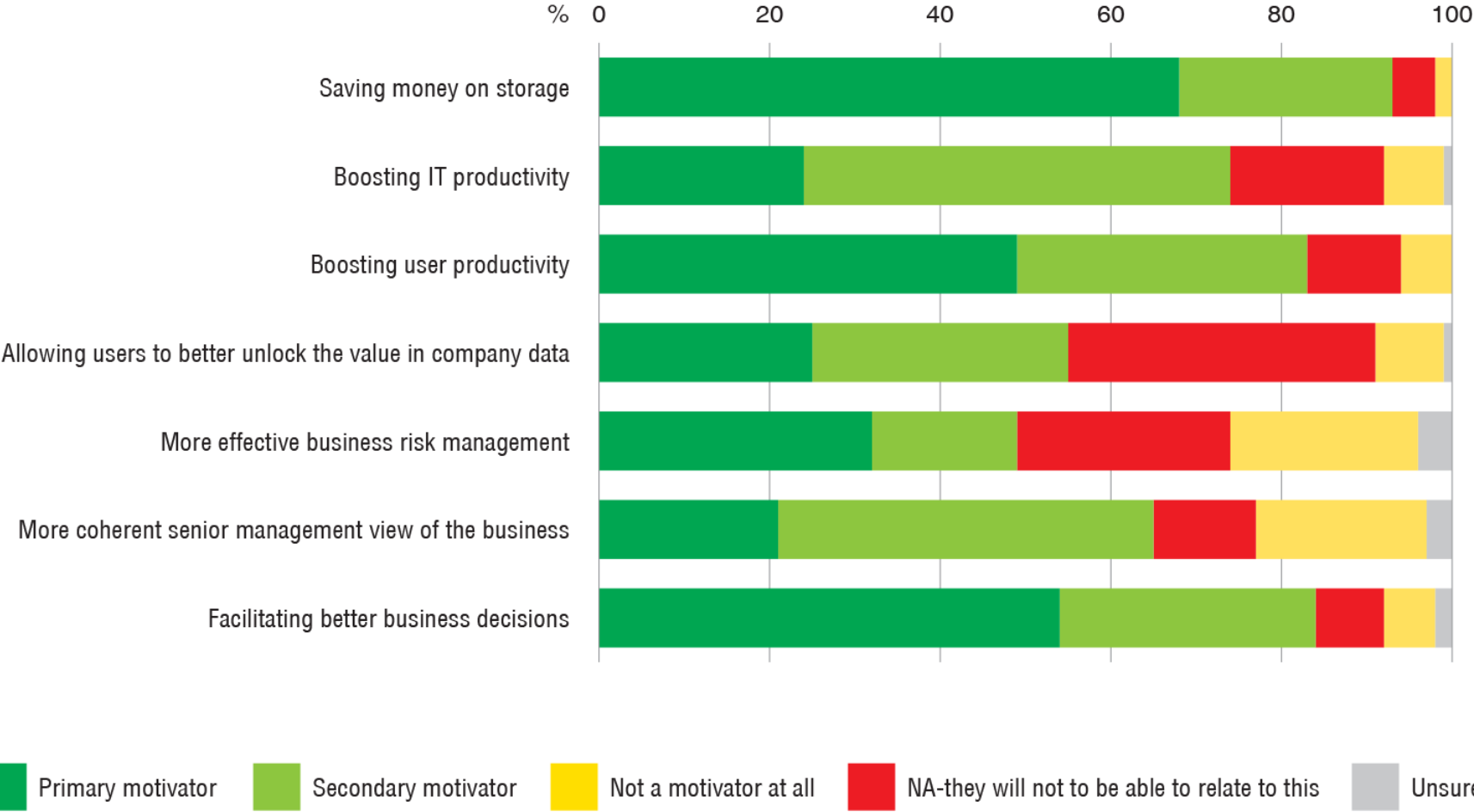
Poor User Experience

Increased Cost

Missed SLAs

What is driving the need for Flash?

Performance

Processor

Memory

Flash Storage

Hard Disk Storage

1980   1990   2000   2010

The Register

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Would you consider the following to be drivers for business stakeholders?

Horizontal stacked bar chart. Y-axis categories (top to bottom): Saving money on storage, Boosting IT productivity, Boosting user productivity, Allowing users to better unlock the value in company data, More effective business risk management, More coherent senior management view of the business, Facilitating better business decisions. X-axis: % from 0 to 100.

Legend: Primary motivator (dark green), Secondary motivator (light green), Not a motivator at all (yellow), NA-they will not to be able to relate to this (red), Unsure (grey).

Understand the basics

Data 'Lifecycle View' over Time

Creation or acquisition → Shorter term relevance, sensitivity and criticality → Longer term relevance sensitivity and criticality → Ultimate disposal
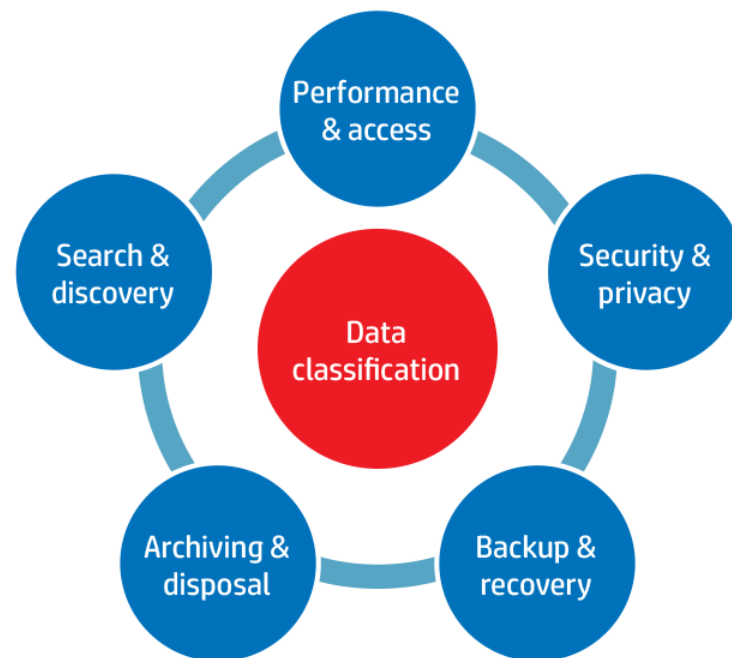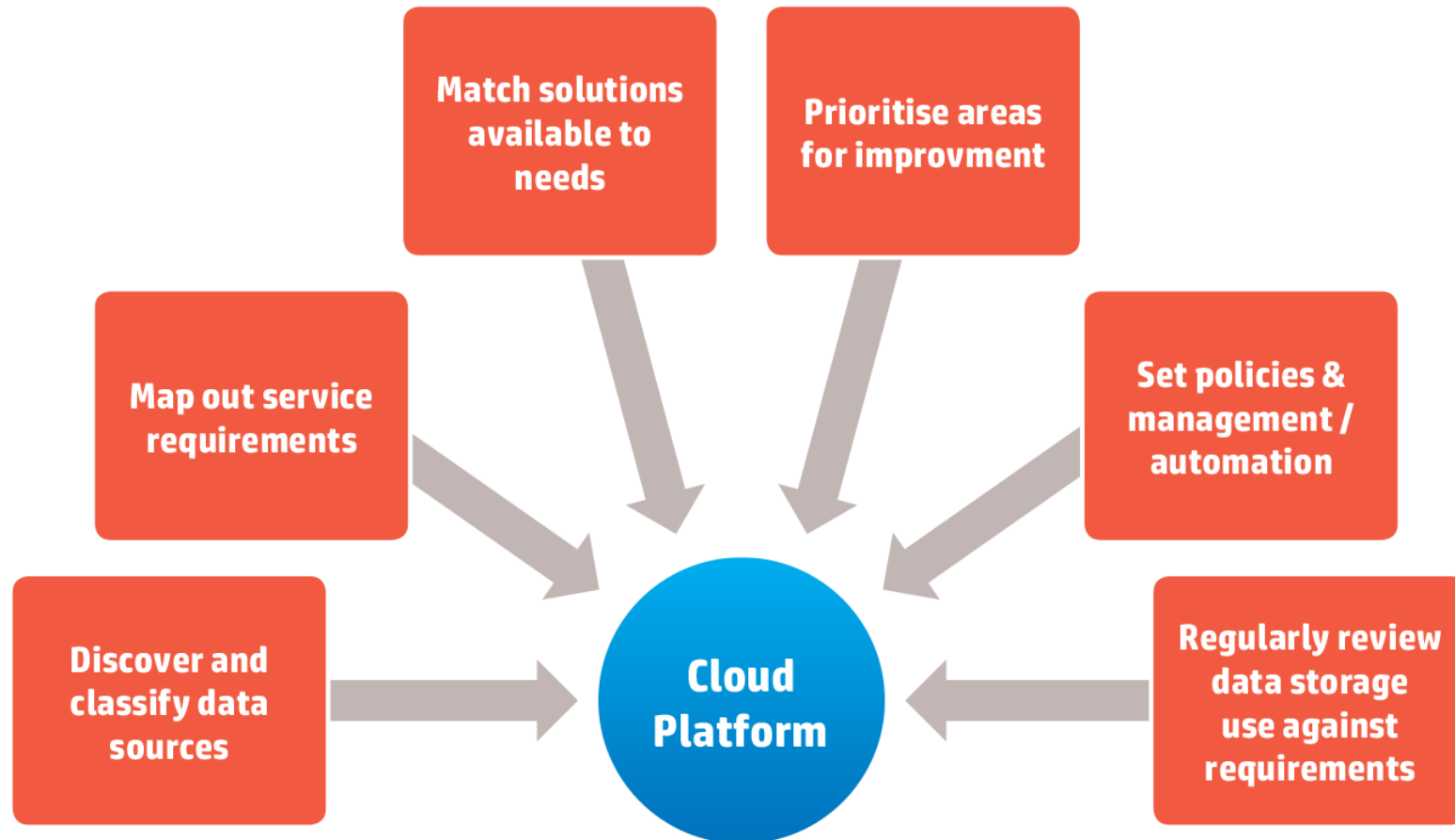
- **Information management needs change over time**
- **Timescales and needs vary by type of data**

Requirements for policies, processes and tools

- Performance & access
- Security & privacy
- Search & discovery
- **Data classification**
- Archiving & disposal
- Backup & recovery

Principles of storage deployment

Match solutions available to needs

Prioritise areas for improvment

Map out service requirements

Set policies & management / automation

Discover and classify data sources

Cloud Platform

Regularly review data storage use against requirements

Flash Perceptions

Expensive

SSD

Needs "active" management

Suited to "read intensive" applications

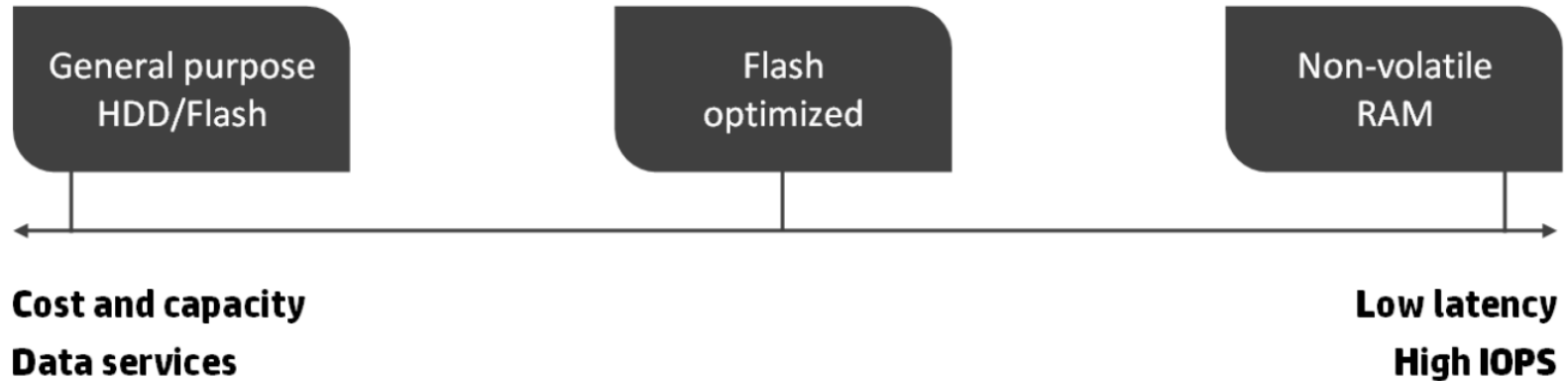Short Life Expectancy / Unrelaiable
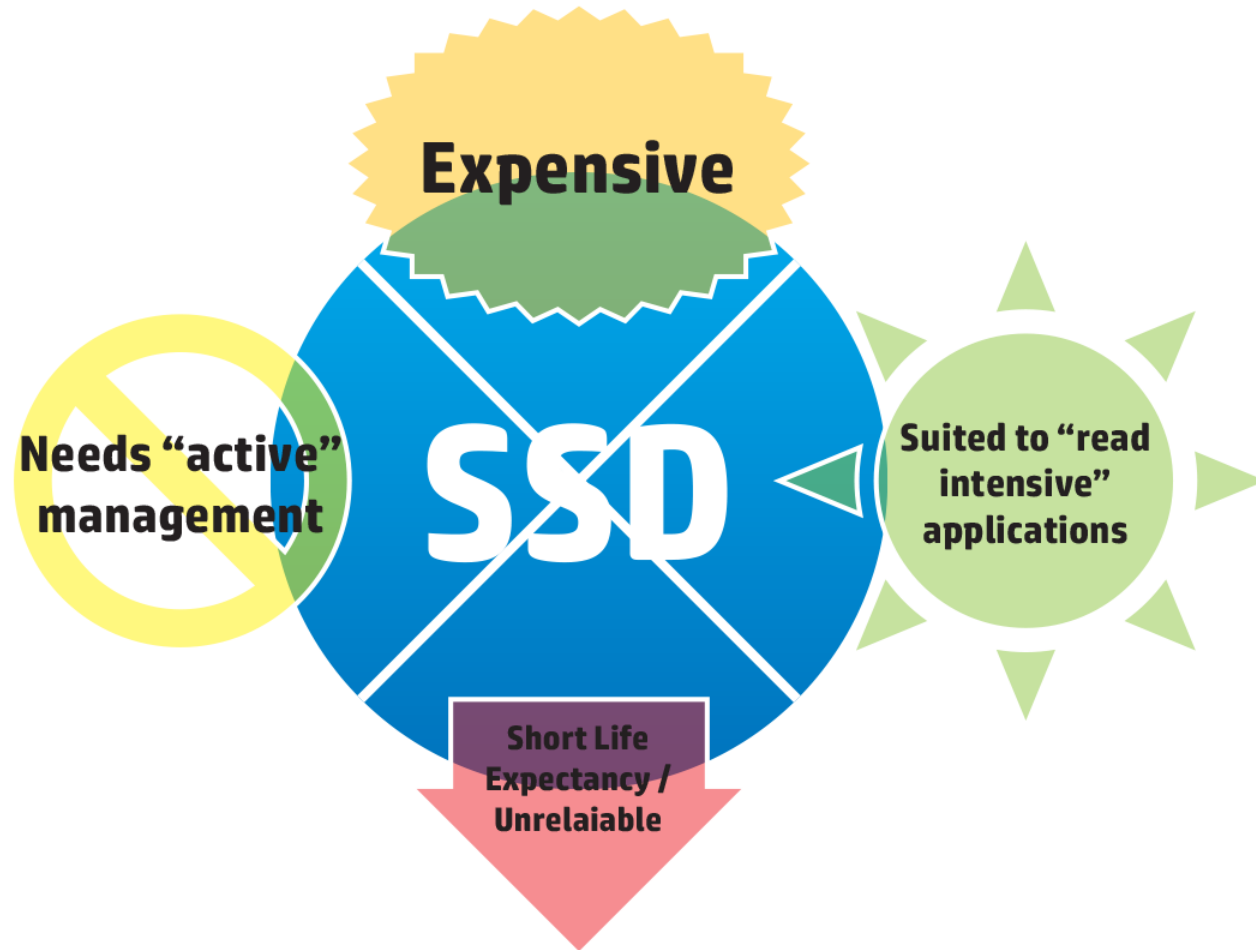
Flash Technologies

SLC Flash   High IOPs, High Wear, $$$

MLC Flash   Medium / High IOPs, Medium Wear, $$

TLC Flash   Low IOPS, Low Wear $

The industry is trying to respond to the new reality

General purpose HDD/Flash	Flash optimized	Non-volatile RAM

Cost and capacity

Data services

Low latency

High IOPS

Assessing their architecture readiness?	Hoping to get or have been acquired	Nascent market

EMC² ? NetApp

IBM DELL

XtremIO NEXGEN STORAGE tms

PURESTORAGE Violin MEMORY WHIPTAIL

skyera SOLIDFIRE FUSiON-iO

Flash Deployment Models

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

What are the day 1 design requirements for flash

Performance

Efficiency

Startups

Resiliency

Functionality

Legacy Tier 1

Data Mobility

Market advantage in flash requires execution across all domains
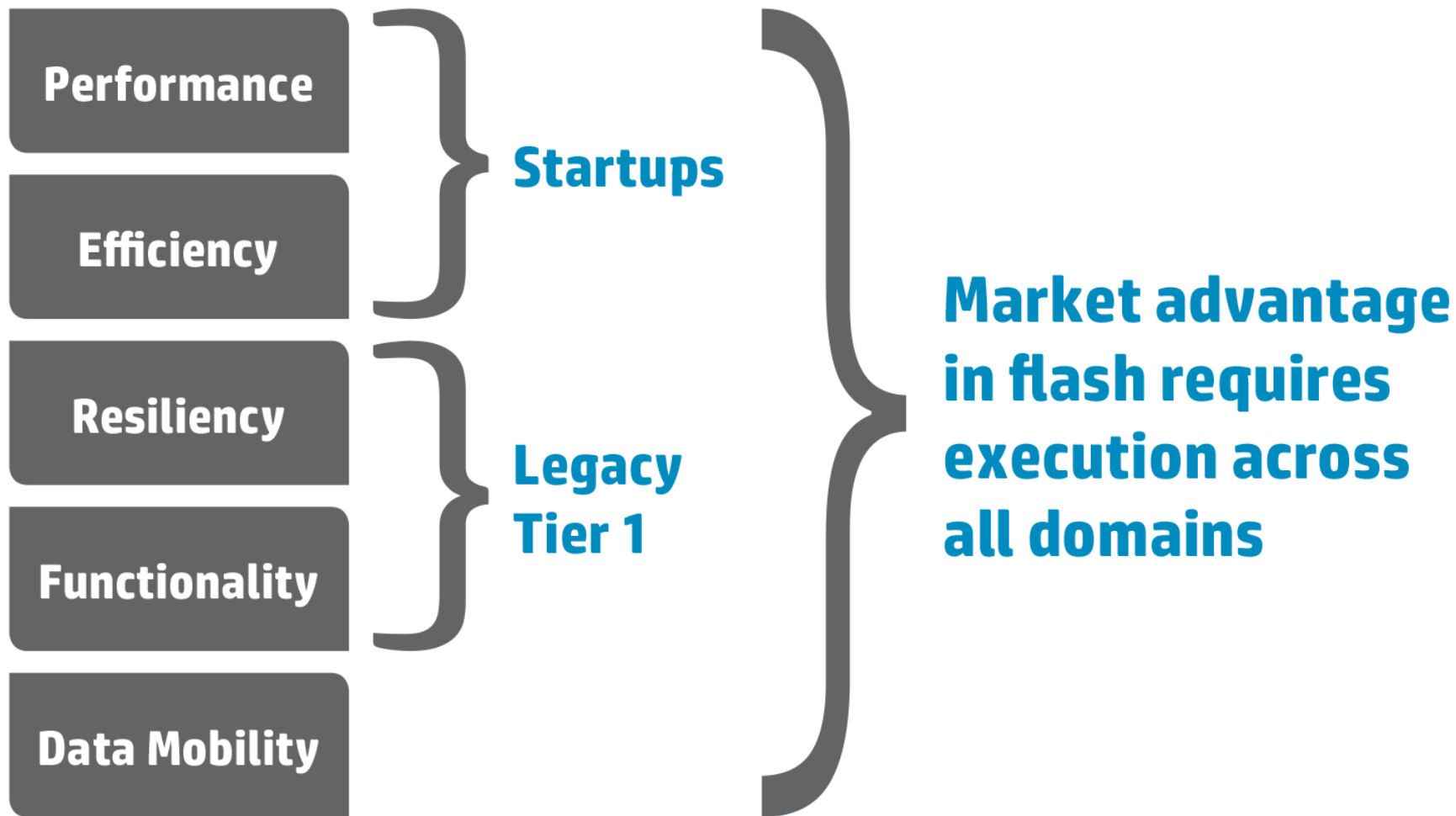
Flash Use Cases

- **All Flash**
  - Desktop Virtualisation
  - Business Critical Databases
  - Data Analytics

- **Tiered Flash**
  - Enterprise Applications
  - Server Virtualisation

Further reading

What you need to know before deploying flash (Infographic)
http://bit.ly/15cATNF

Your guide to choosing the right flash-optimized solution (eBook)
http://bit.ly/152rUkY

Understanding flash-based storage use cases and deployment models (eBook)
http://slidesha.re/15cAXNg

Data Centre Evolution (Analyst report)
http://bit.ly/175qFNX

A Vision for the data Centre (Analyst report)
http://bit.ly/YlhMLS

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Thanks for joining us

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