



# Cloud Computing and the industrialisation of IT infrastructure

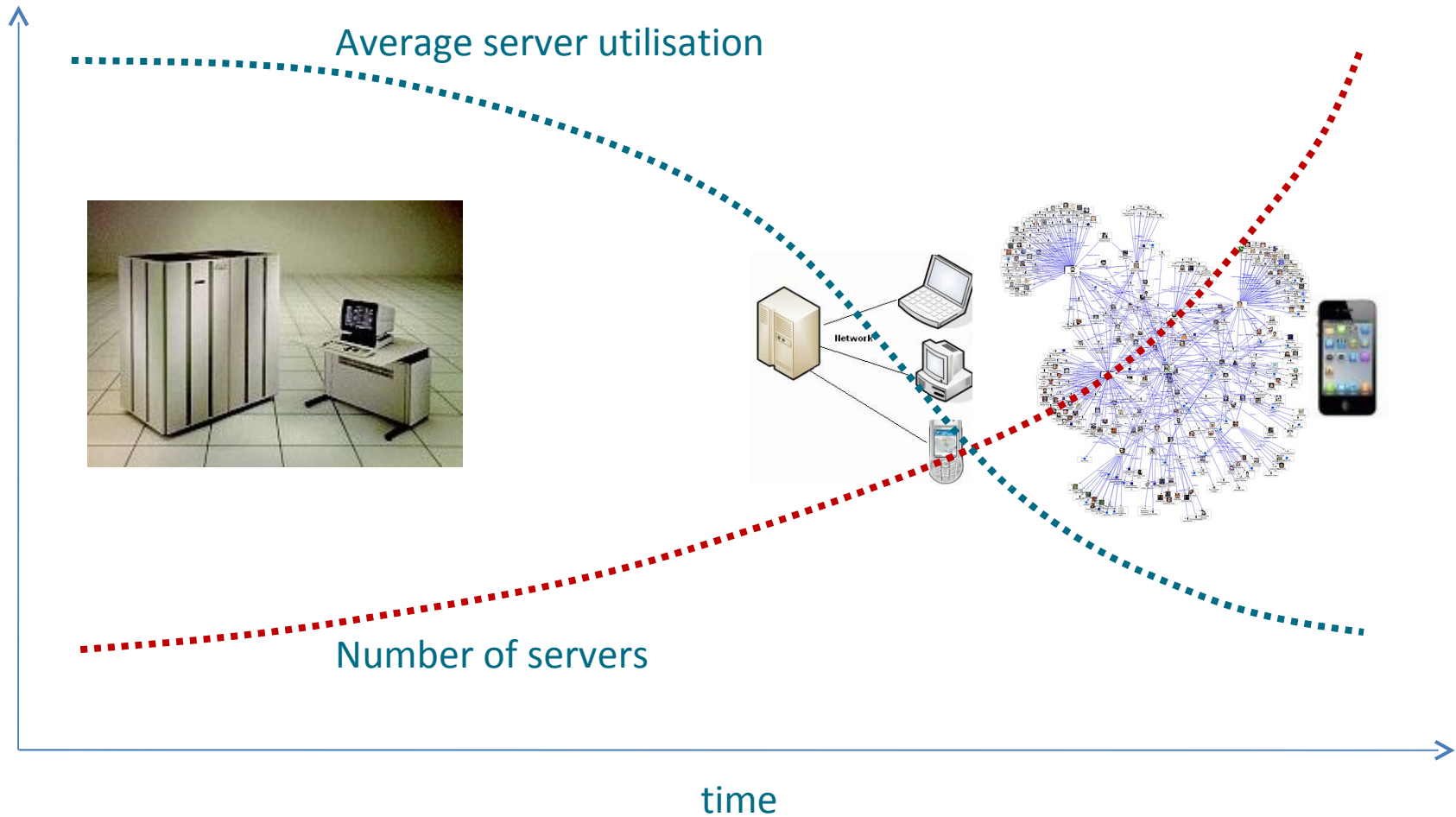
## IBM Cloud Computing roadshow

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helping you create business improvement from IT investment

# A history of IT infrastructure: towards commodity hardware



# Where has commodity hardware got us?



- Vastly improved price-performance per unit
- Improved power consumption per unit
- Improved density



- Extreme server sprawl
- Complexity and risk drive massive over-provisioning
- Overall admin headcount, power, space, cooling requirements significantly greater

Big hardware efficiencies at the unit level; huge inefficiencies in the real world

# Two possible results in reality

Chaos



Rigidity



# The response:

## 2005-2010: a half-decade of virtualisation

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Around 50% of organisations say they have virtualised over half their server estate

Around 20% say they've virtualised nearly all their server estate

# No silver bullet, though!

Virtualisation without the right management practices and tools is like buying a tiger to clear up a rodent problem.



# Enter Cloud Computing: the “plug-in-and-go” vision

Shared philosophy: “plug in and go” service



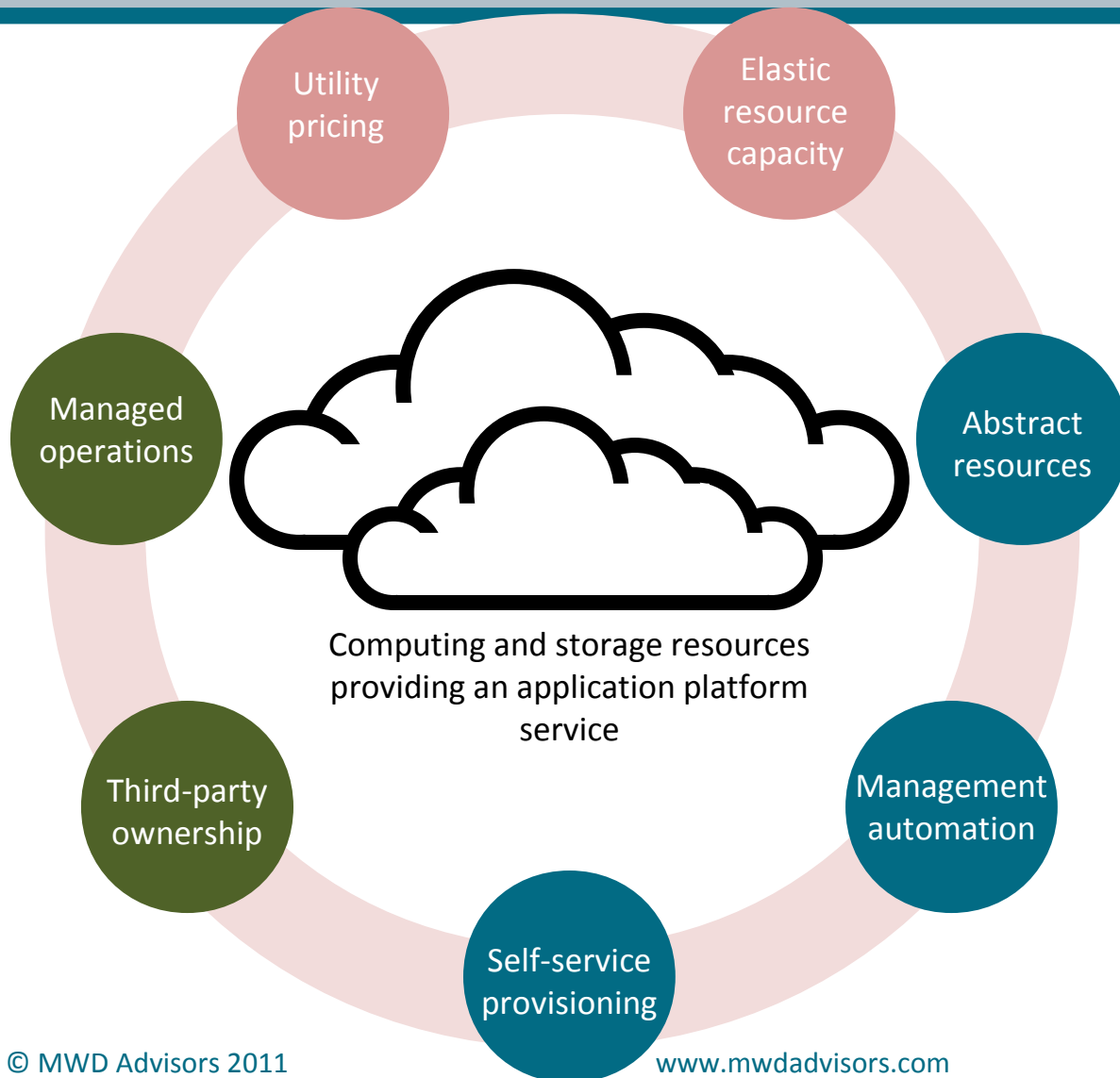
Software-as-a-service offerings (packaged application services)

Cloud Computing platforms (packaged computing and storage services)

“The Cloud” (the Internet)

# Value elements of Cloud Computing

## Architectural, economic, strategic

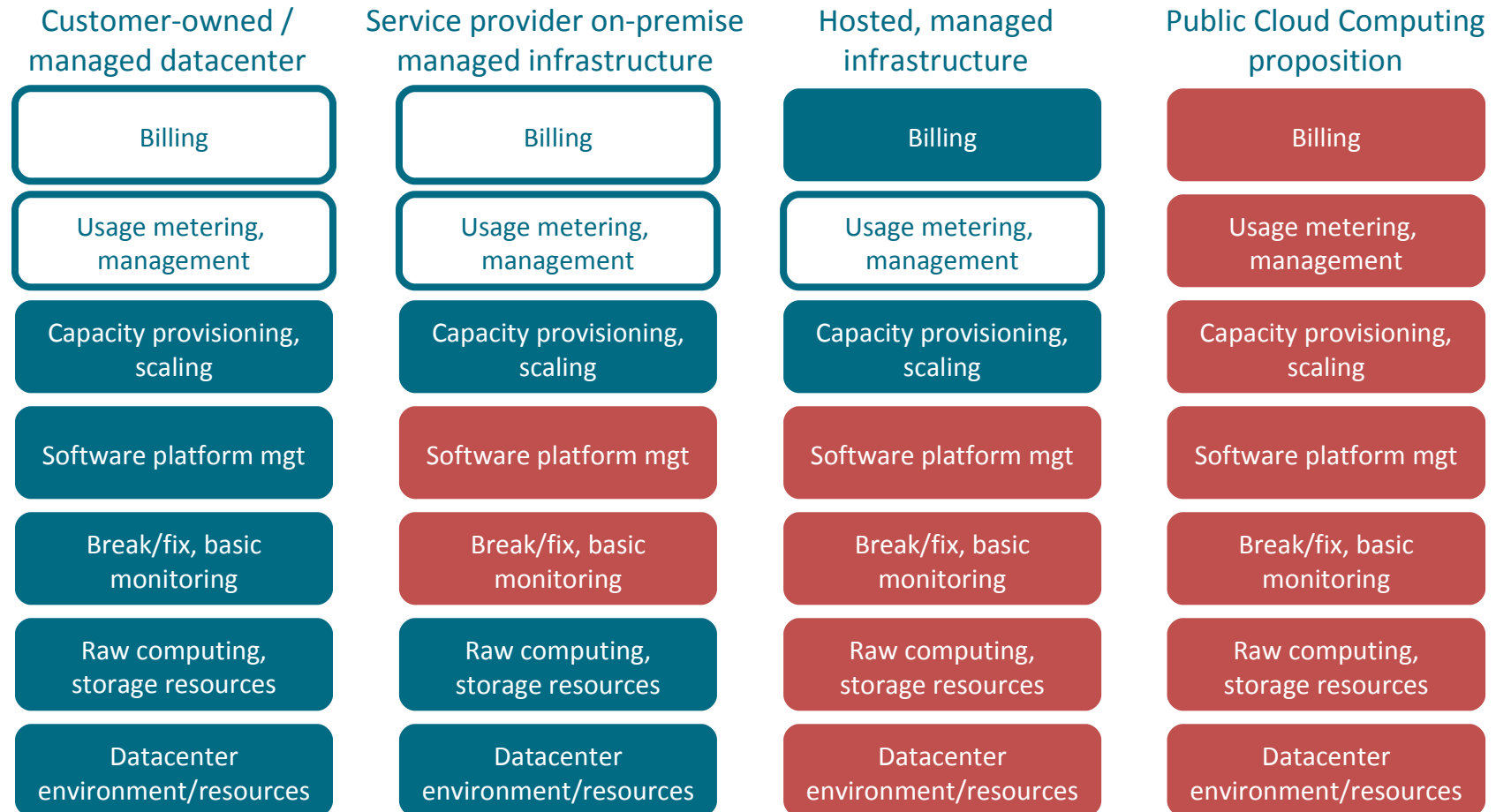


Building on a foundation of virtualisation

- Economic element:** Pay-as-you-go, pay-as-you-grow, no capex
- Architectural element:** Simple, abstract environment for development
- Strategic element:** Focus on what makes you better, leave the rest to someone else



# A sourcing perspective: evolution, not revolution



= customer's responsibility



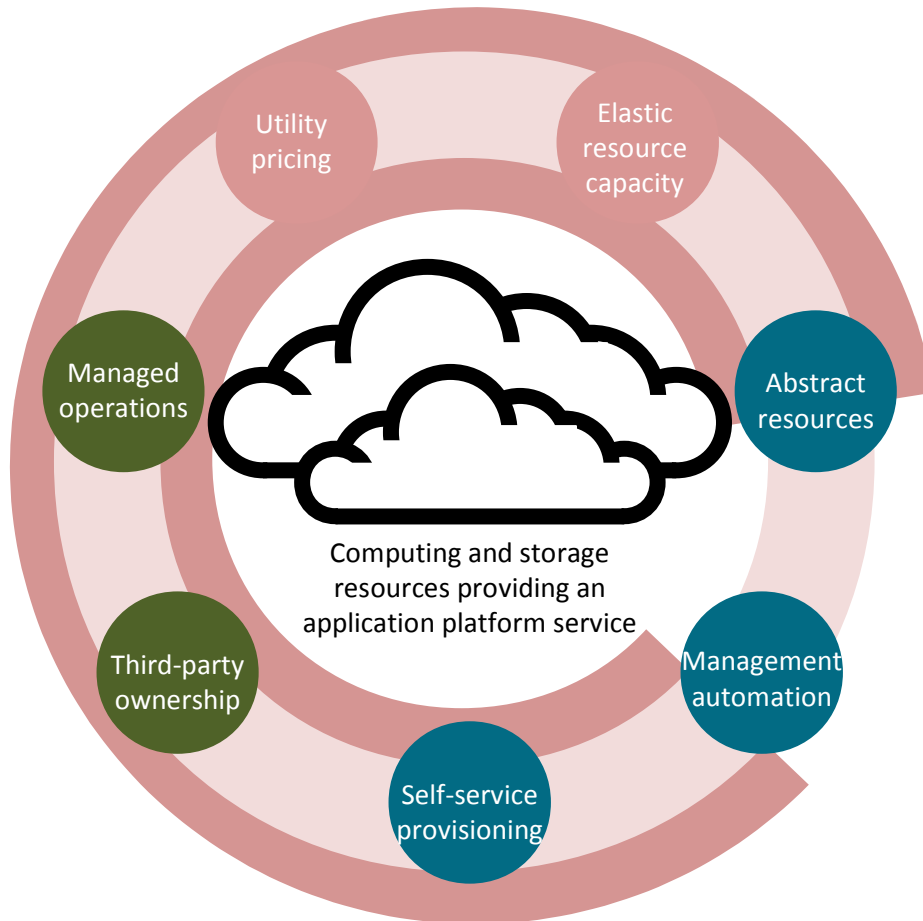
= service provider's responsibility



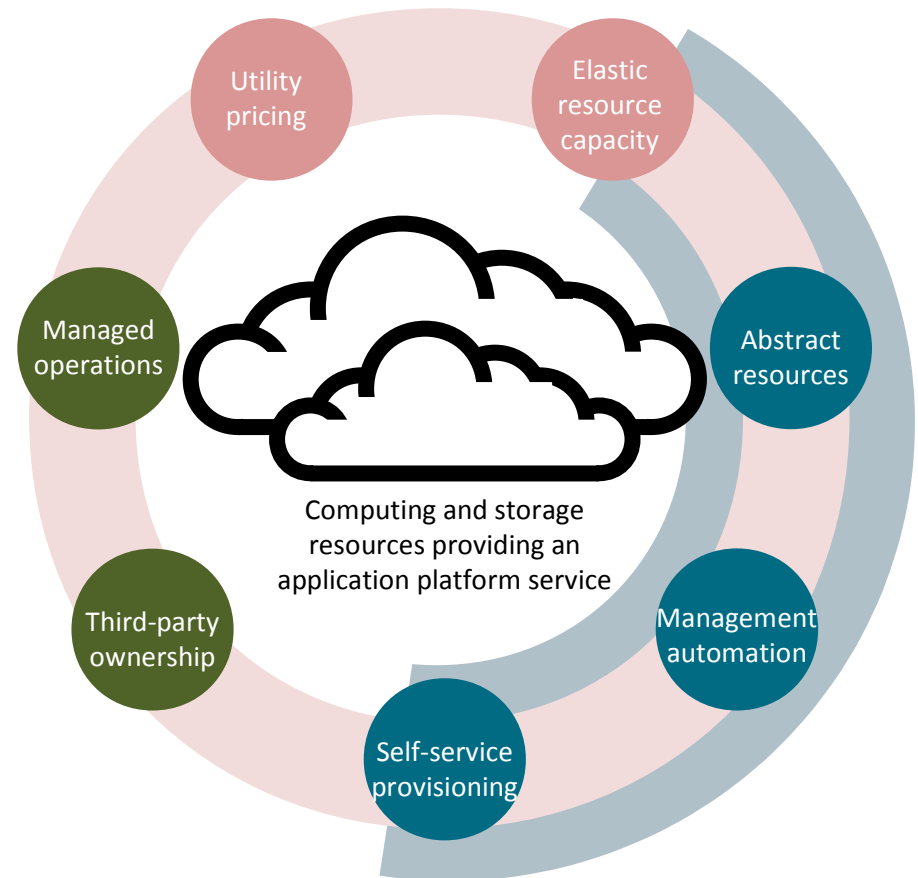
= not a focus

# Private Clouds: complementary to Public Clouds!

## Public Cloud model



## Private Cloud model



# Public Clouds: not for every workload

- Today's public Cloud Computing platforms are not the same as your on-premise platforms
  - Migration of like-for-like functionality is unlikely to be easy or even possible
- For new applications/workloads: look at workloads individually
  - Security / compliance constraints?
  - Integration constraints?

# Case study 1 – Small biotech company

- Small biotech pioneer
- Compute-intensive R&D to search for candidate enzymes
- Needed equivalent of 1k core compute cluster, but only intermittently
  - Estimated \$250k for initial build-out
- Quite large data transfer requirements
  - Tens of MB in; tens of GB out
- First year expenses 13% of on premise estimate
- Some tech challenges: extra infrastructure work to ensure scale-down

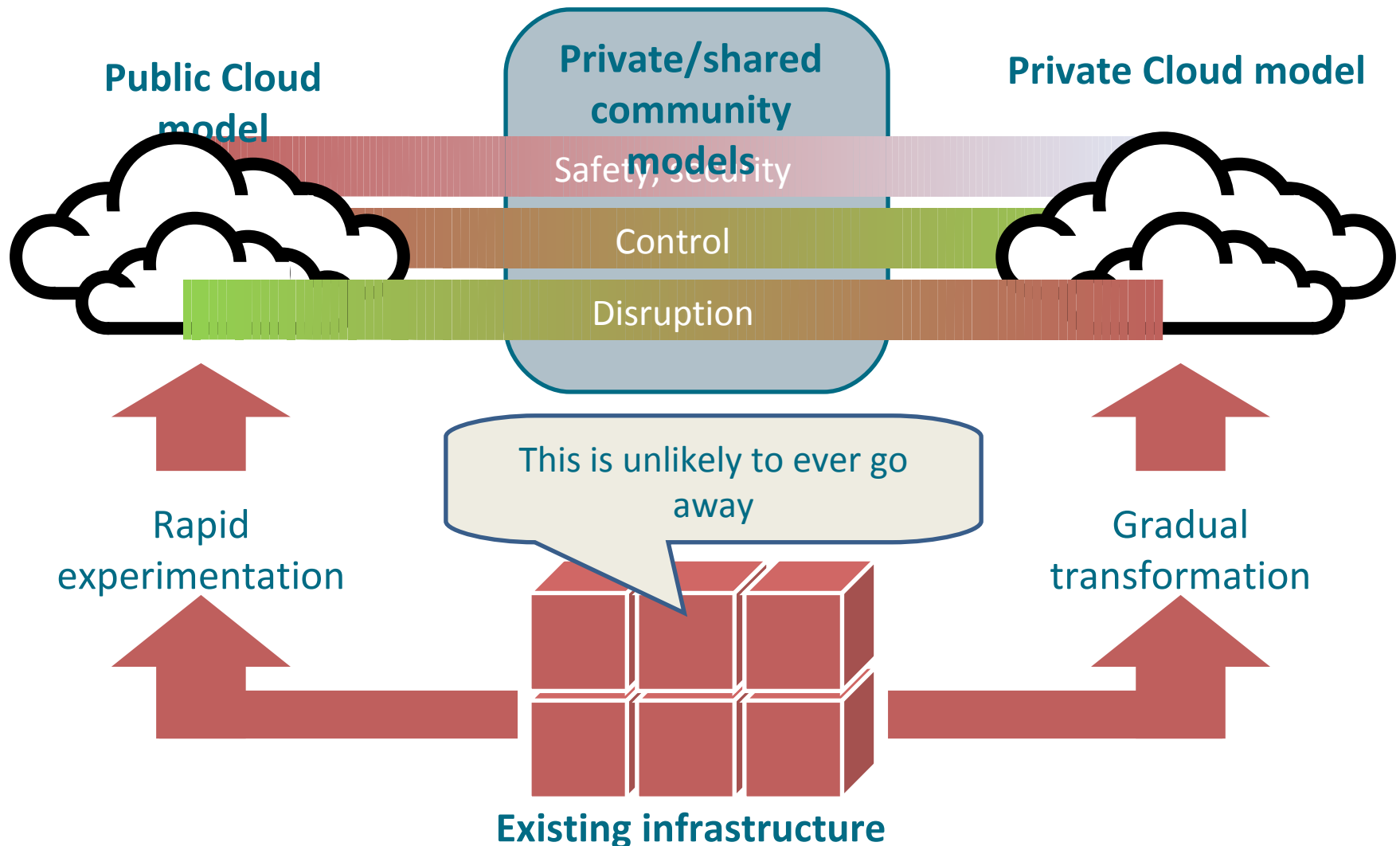
# Case study 2 – Tech provider to air travel industry

- High cost to service customers, competitive challenges
- Switched to centralised Cloud hosting model for two reasons:
  - Lower cost to service customers – easier to manage, less variation
  - Enable salespeople to offer access to demo/PoC resources, not just slideware
- Self-service access to resource catalogue with RBAC, per-customer isolation of deployment environment
- Benefits: quicker sales cycle, higher win-rate, lower cost to service clients

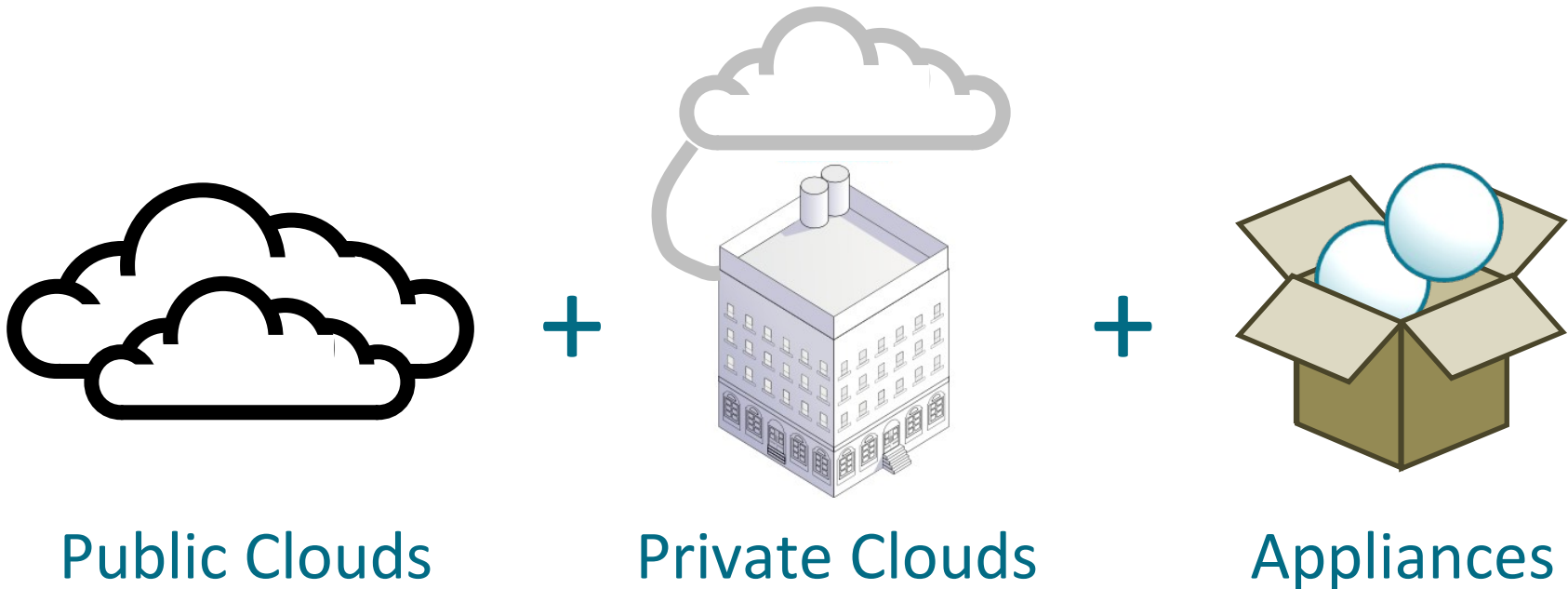
# Case study 3 - Media

- High cost to deliver interactive services created barriers to entry around innovative offerings
- Now host promotional sites, apps using Public cloud platform
- Currently saving around 90% of cost of equivalent statically hosted infrastructure
- Initial challenge: up-front investment to test the capabilities of the infrastructure – was it up to the task?

# Your choice? It has to be about how and where you want to take advantage of the Cloud



# Megatrend: the industrialisation of computing brings business alignment



The true implication of IaaS: the ability to architect and manage infrastructure as a set of technology capabilities that are aligned with business requirements



# Fitting Cloud Computing into your IT strategy

1. Cloud Computing is **not suitable for every workload** or application
2. Cloud Computing platforms are **not all created equal**
3. Different people will try Cloud Computing out for **different reasons** – some because of the financial benefits, some because it helps them do things quickly, and some because it helps them get closer to an outsourced IT capability
4. Cloud Computing, just like virtualisation and SOA, **doesn't eliminate IT complexity** – but it is a tool to help you manage complexity better and reduce it over time
5. Cloud Computing platforms won't replace “traditional” on-premise infrastructure in the short or even medium term; it'll augment it – **nothing ever dies**

Thank you!

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