

A View from Above the Clouds

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Dale Vile

CEO / Managing Director
Freeform Dynamics Ltd

www.freeformdynamics.com

About Freeform Dynamics

- Industry analyst firm
- Focus on use of IT in business
- Staffed by ex-practitioners
- Hard core research approach

Research Approach



Briefings,
evaluations,
consulting

Surveys,
reviews, SIGs,
consulting

**IT vendors,
and service
providers**

**Mainstream
enterprises
and SMBs**



Community Research Programme

High quality
advisory output
free at the point
of consumption

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Topics

- The current state of play
- Cloud perspectives
- Impact on the IT department
- Short to medium term outlook
- Netting it all out

The current state of play

Trends over last decade (or so)

- Commoditisation of hardware
- Virtualisation of IT infrastructure
- Advances in communications
- Evolution of hosting/outsourcing
- Componentised software architecture
- Automated/assisted management
- More dynamic IT environments

The 'real' history of cloud

Bandwagon
started rolling

Frenzy of
unhelpful hype

Emerging clarity
on substance

Vendors, service providers, pundits and press

Mainstream business and IT professionals

General
disinterest

Confusion and
scepticism

Cautious interest
in new ideas

Would you regard the following as legitimate examples of cloud computing?



-100% -75% -50% -25% 0% 25% 50% 75% 100%

Hosted server infrastructure

- Bespoke hosted setup, designed/tailored specifically for you needs, annual contract
- Managed physical server, dedicated to you, fixed fee per month on contract
- Fixed spec virtual server, shared infrastructure, fixed fee per month on contract
- Flexible/scalable/elastic virtual server, paid for by resources used, no ongoing obligation
- Virtualised pool of physical servers, dedicated to you, fixed fee per month on contract

Other infrastructure based services

- Web space from ISP, contract with fixed monthly fee based on storage/bandwidth limits
- Online storage/backup service, contract with monthly fee based on capacity allocated
- Online storage/backup service, paid for by space actually used, no ongoing obligation

Hosted email/messaging

- POP3/Web mail boxes provided as part of a traditional ISP service
- Hosted public email services e.g. Hotmail, Google, etc, monthly subscription or ad funded
- Hosted MS Exchange or Lotus Domino, fee per user per month, 12 month contract
- Hosted MS Exchange or Lotus Domino, month by month fee, no minimum contract
- Mobile operator services for routing messages to/from handheld devices
- Hosted content filtering (e.g. MessageLabs type services, Web filters, etc)

Hosted comms (web conferencing, VoIP, unified comms)

- Subscription based, 'all you can eat' fee per user per month, 12 month contract
- Subscription based, 'all you can eat' month by month fee, no minimum contract
- On demand service, fee per minute consumed, no ongoing obligation

Hosted business apps (e.g. office tools, CRM, project mgmt, etc)

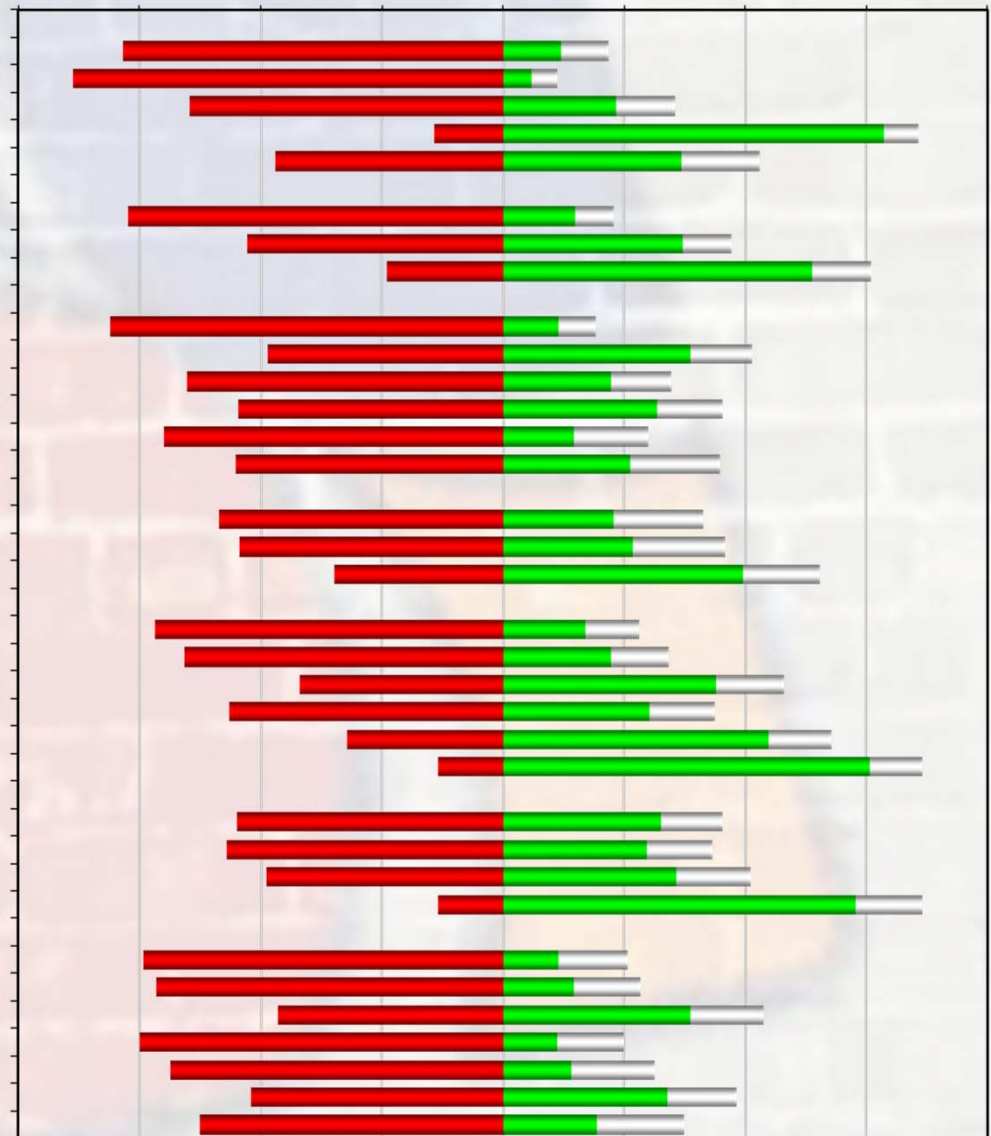
- Bespoke hosting of your application, dedicated setup, annual contract
- Subscription based, fee per user per month, dedicated instance, 12 month contract
- Subscription based, fee per user per month, shared multi-tenancy, 12 month contract
- Subscription based, fee per user per month, dedicated instance, no minimum contract
- Subscription based, fee per user per month, shared multi-tenancy, no minimum contract
- On demand service, fee per resources used, shared multi-tenancy, no ongoing obligation

Other hosted services

- Public social networking services (Facebook, Linked in, Myspace, Twitter, etc)
- Business class social networking/collaboration, fee per user per month, on contract
- Business class social networking/collaboration, month by month fee, no minimum contract
- Hosted Application development/deployment platform with dynamic resource allocation

On premise solutions

- Hardware/software clustering solutions
- Mainstream server virtualisation solutions (hypervisors and associated tools)
- Technology to create/manage virtualised server pools with dynamic resource allocation
- Traditional Citrix-style thin client architecture to centralise desktop app execution
- Modern desktop virtualisation/VDI solutions
- Storage virtualisation solutions for creating flexible pools of storage capacity
- The mainframe as a host for dynamic virtualised workloads



■ No ■ Yes ■ Unsure

Confusion persists

**Infrastructure
as a Service**

**Function as
a Service**

**Software
as a Service**

**Platform
as a Service**

**Telephony as
a Service**

**Service as
a Service**

**Public
Cloud**

**Elastic
Cloud**

**Mobile
Cloud**

**Desktop
Cloud**

**Community
Cloud**

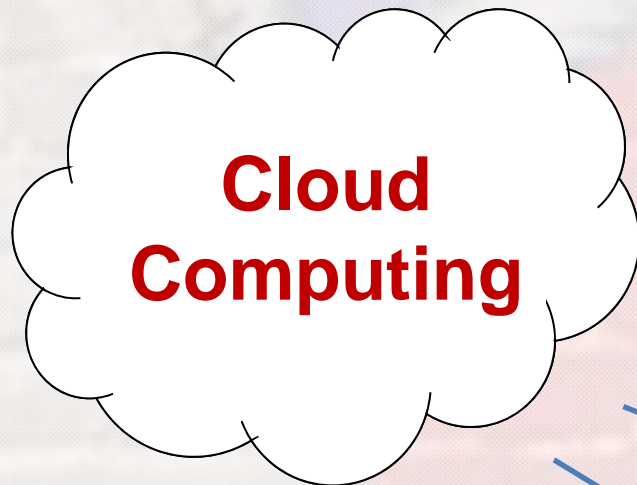
**Private
Cloud**

**Virtual Private
Cloud**

**Hybrid
Cloud**

“Two men say they’re Jesus; one of them must be wrong”

Dire Straits, Industrial Disease



Q. What is cloud?

A. Depends who you ask and what they are trying to sell

It's about services delivered over the internet on demand

It's about infrastructure hosting (i.e. server/storage capacity)

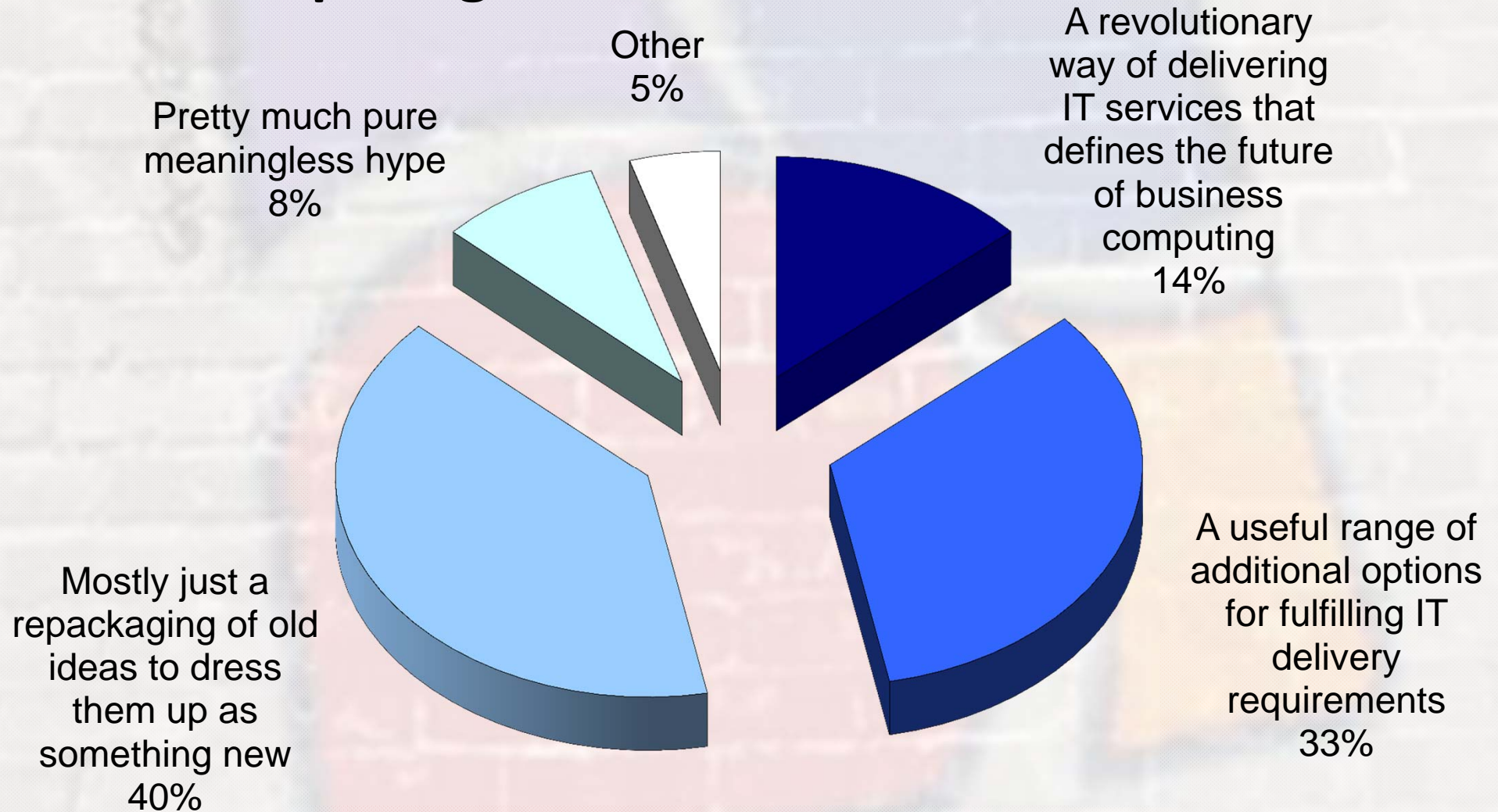
It's about 'elastic' infrastructure services (like Amazon EC2)

It's all about hosted application services (like Salesforce.com)

It's about next gen data centre architecture (i.e. technology)

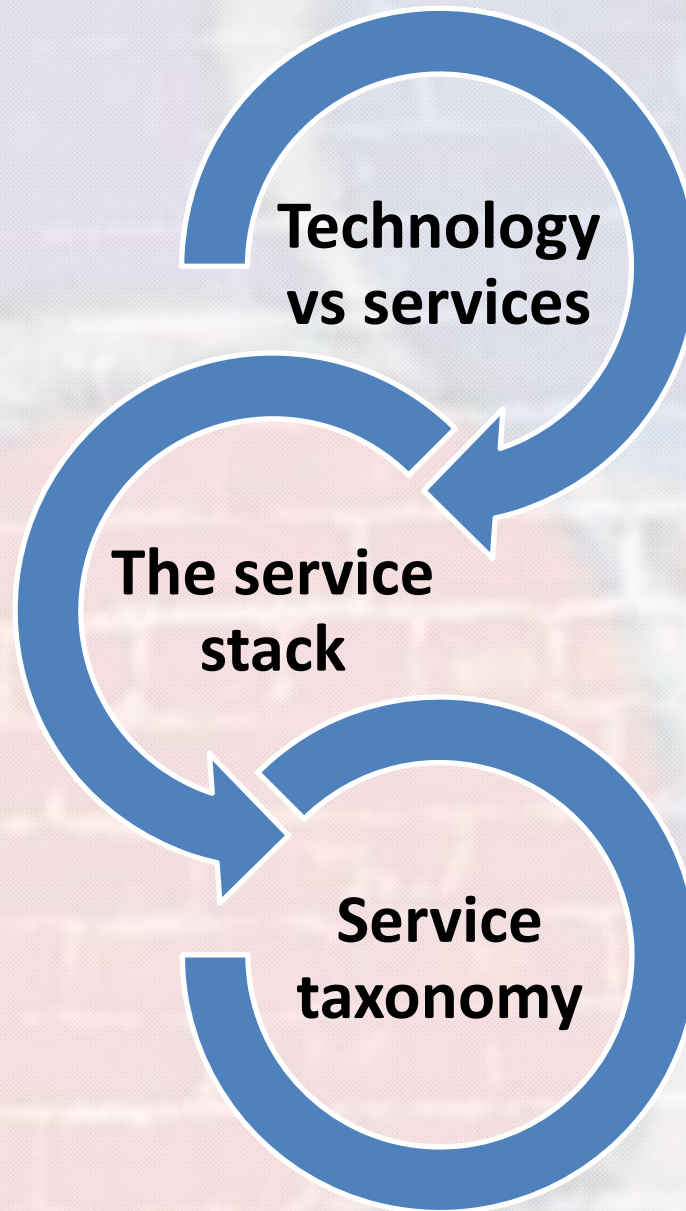
Etc....

Which of the following best sums up your view of 'cloud computing'?

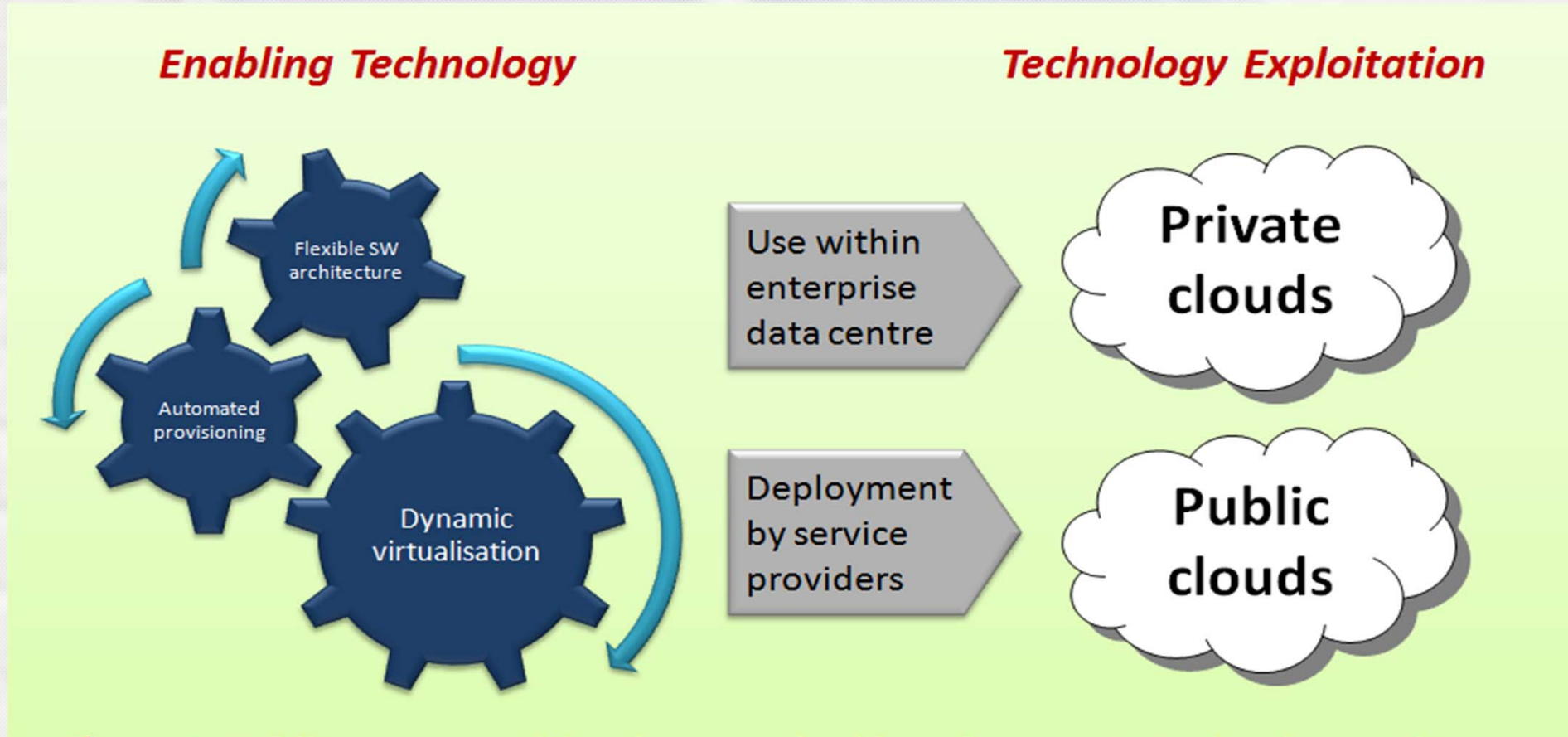


Cloud perspectives

Views of cloud



Cloud technology versus cloud services



- Despite the religious battles, both private and public cloud have a role to play

The stack perspective on cloud

Traditional Systems Stack

Application Software

Platform Software

Servers & Storage

Equivalent On-Demand Services

Software as a Service (SaaS)

Platform as a Service (PaaS)

Infrastructure as a Service (IaaS)

- This nice neat view of cloud looks straightforward, but the real cloud landscape is more complex

Hosted service taxonomy view

ON-DEMAND SERVICE CATEGORIES

Business application services	It is in this area that the term 'Software as a Service' (SaaS) was originally coined. Services at this level are typically focused on the delivery of complete business functionality, e.g. CRM, ERP, etc.
Hosted productivity tools	Services here are more concerned with horizontal capability ranging from desktop suites for end users, through to modelling, development and project management tools for analysts and developers.
Hosted comms/collaboration	Spearheaded initially by hosted email and web conferencing, the number of services offerings in this area has exploded to include full unified communications and/or social media (directories, blogs, wikis, etc).
Trading community services	As supply chain automation has gathered momentum in some industry sectors, services have emerged aimed at facilitating the way in which customers and suppliers collaborate and transact electronically.
Plug-in services	A myriad of services exist which do not provide complete business functionality but 'plug into' existing applications to enhance or extend them. Examples include everything from mapping to credit checking.
Application platform services	As an alternative to consuming pre-built services from external providers, application platform services provide development and runtime environments allowing custom applications to be built and hosted online.
Operational services	This often overlooked but highly important category is where we find services concerned with online backup, archiving, security (e.g. email filtering), etc., and even full blown monitoring and management tools.

Some ongoing debates and discussions

➤ IaaS

- Elastic vs static virtual vs co-lo
- Mega-hosters vs local players vs virtual providers
- Private/public interoperability

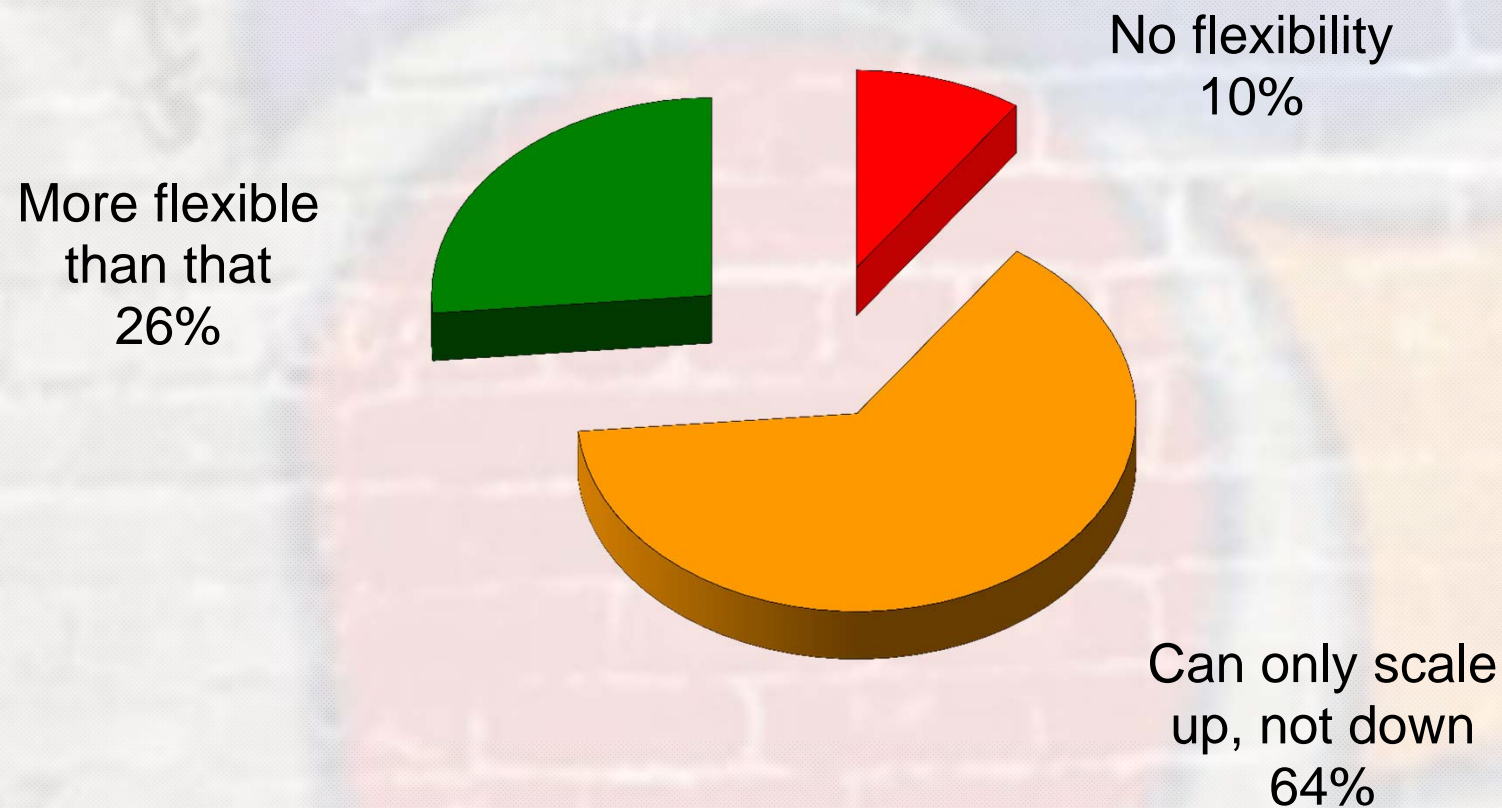
➤ PaaS

- Proprietary vs standard
- General purpose vs SaaS extension
- Portability of applications

➤ SaaS

- Integration, migration, lock in avoidance
- Economics – is it really cheaper and more flexible?

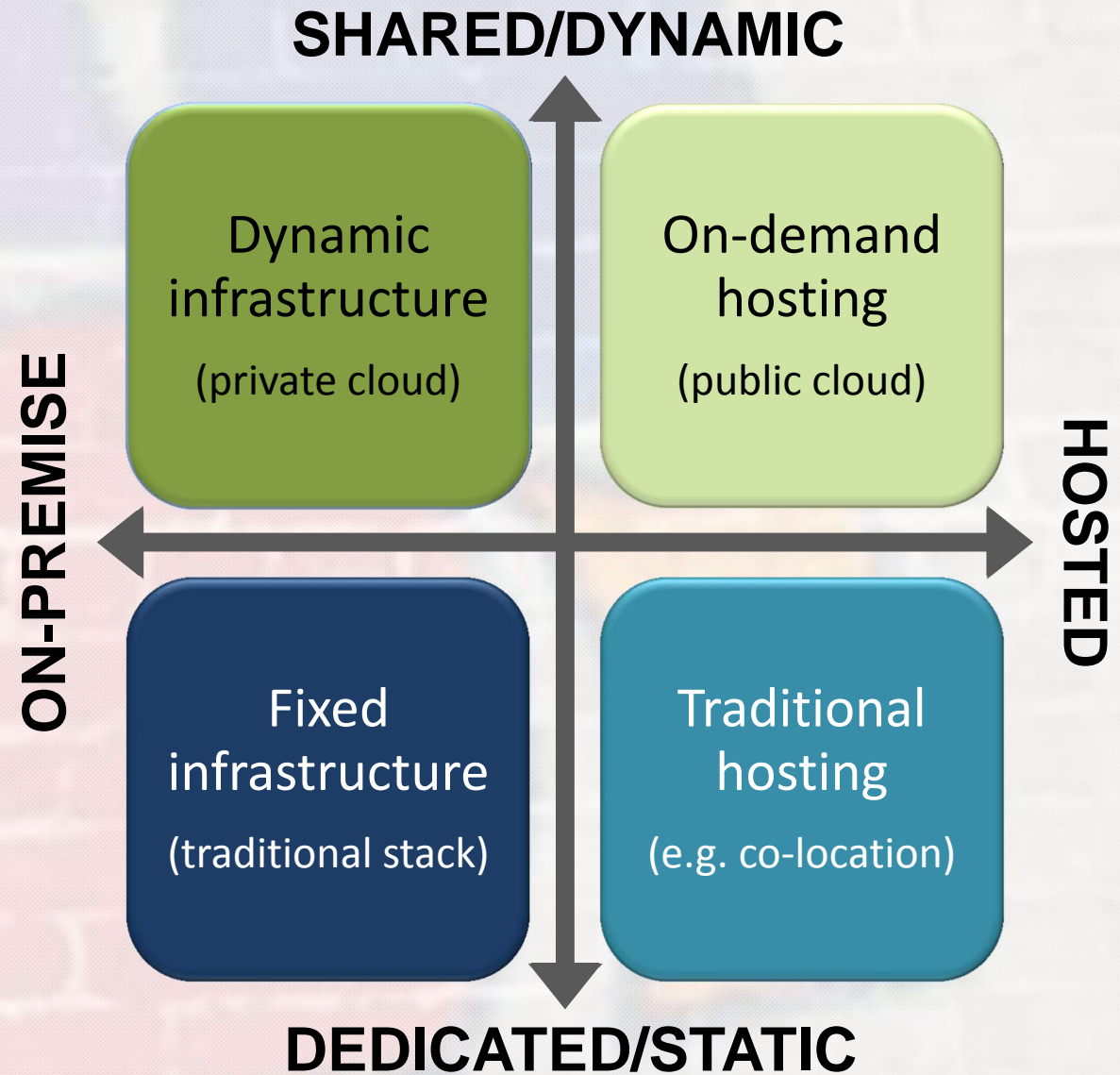
If you utilise SaaS on a fixed contract basis, how much flexibility do your contracts allow within the contract period?



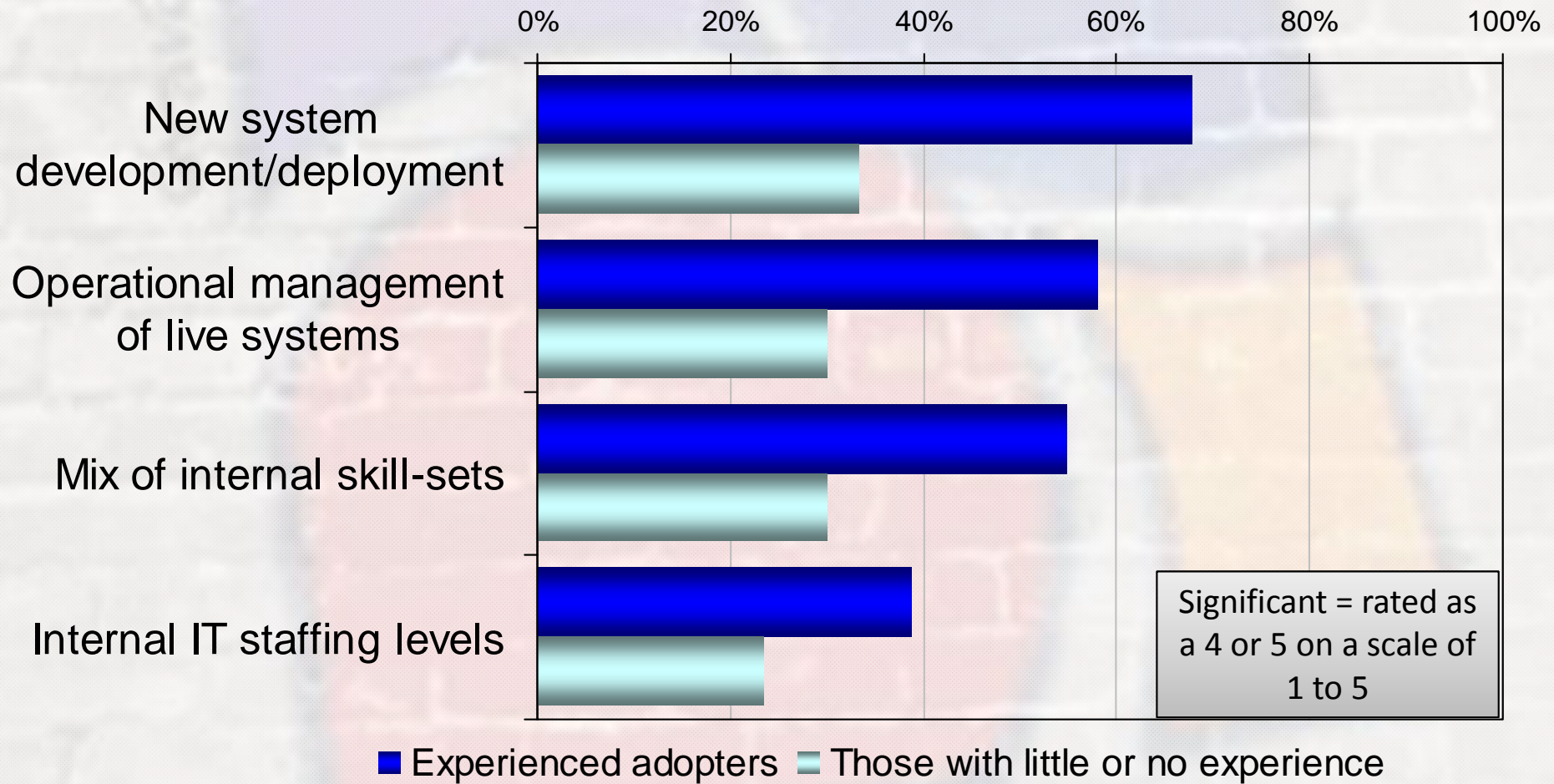
Impact on IT

A hybrid world

- Different applications and workloads will naturally run in different places
- Hybrid and overspill requirements exist
- Bottom line: It doesn't make sense to force-fit all apps into a single deployment model

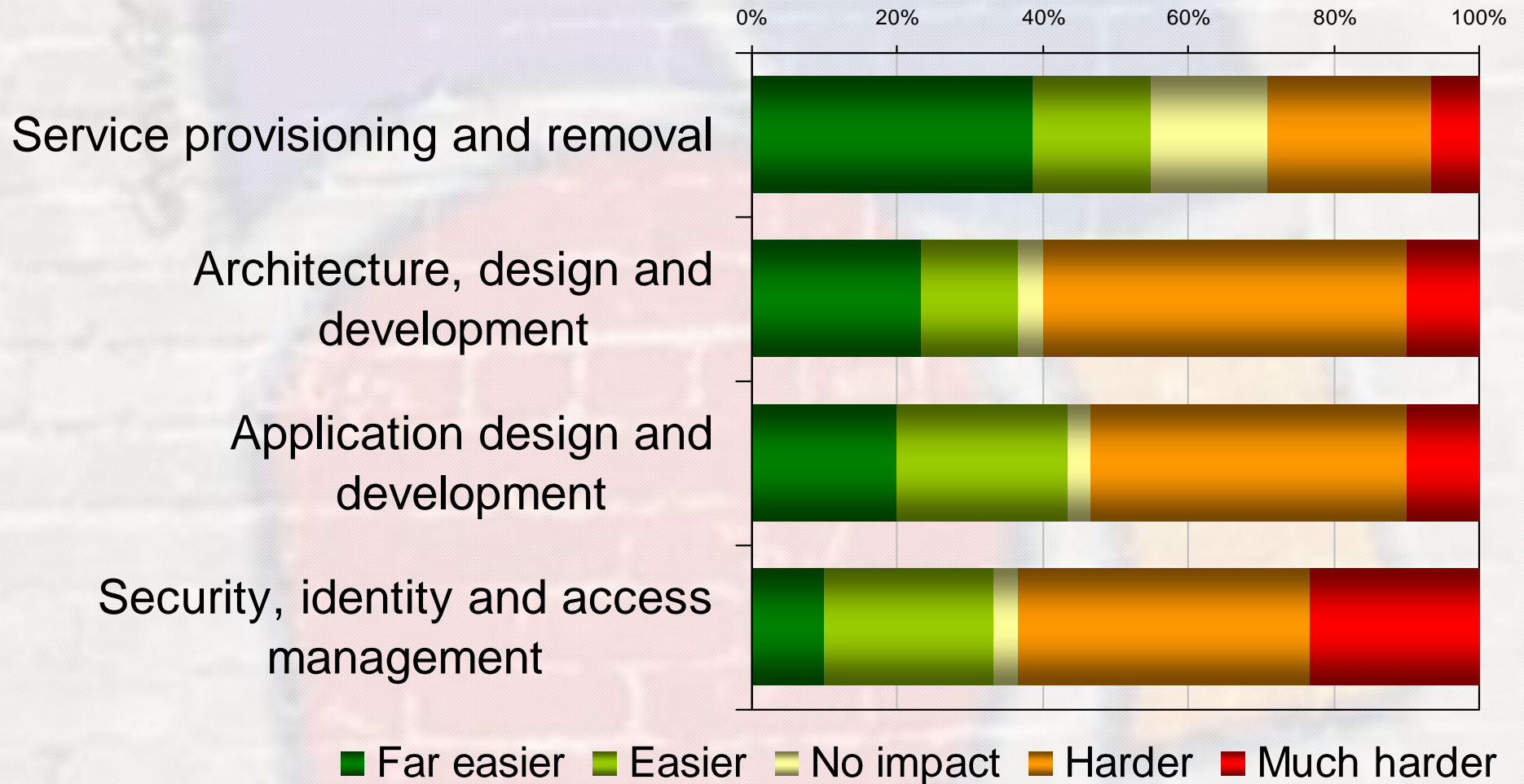


Areas in which cloud is anticipated to have a significant impact on IT delivery and management

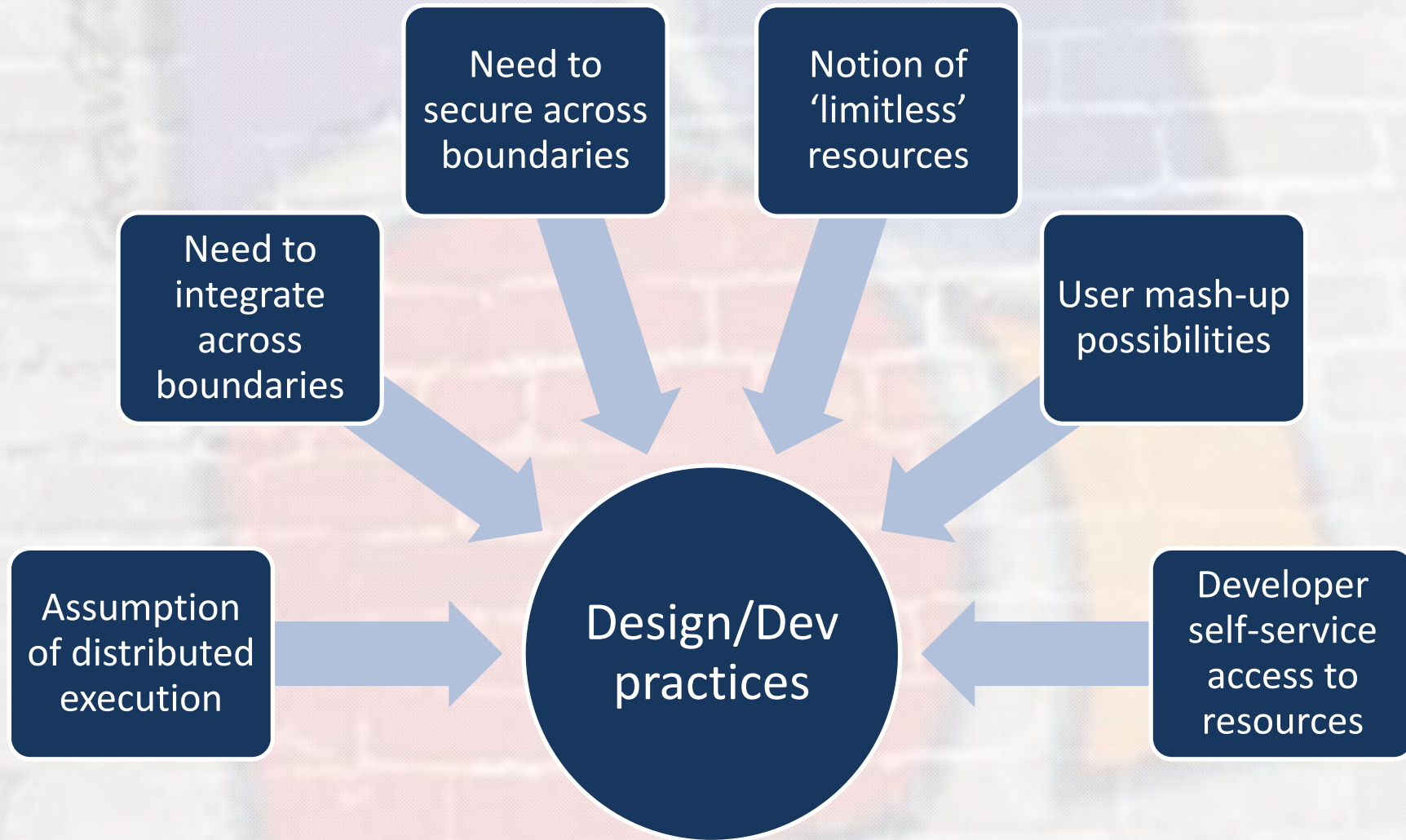


Impact of cloud on core functions

View of experienced adopters



Design all apps to be 'cloud ready'?



Platform as a Service Exploitation

➤ Use cases:

- Prototypes and proofs of concept
- Bursty, batch and HPC workloads
- Workgroup and 'situational' apps

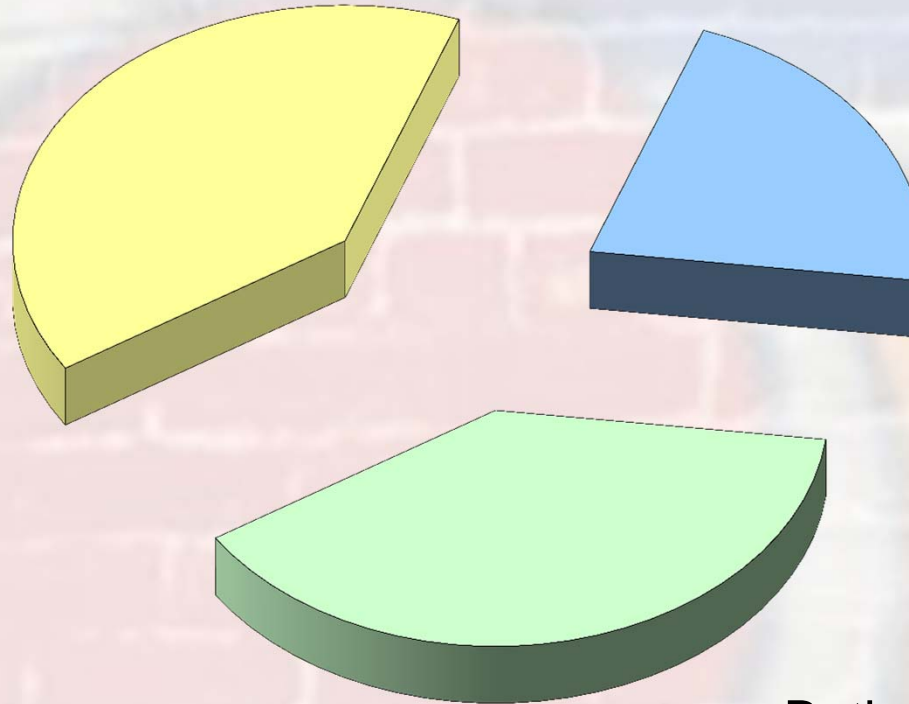
➤ Beware

- It's not all magic – need to understand platform
- Integration, portability, lock in
- Execution costs

Looking to the future

When it comes to IT service delivery, which of the following will you primarily look to over the coming 3 years to drive improvements or cost savings?

Continued
optimisation of
on-premise
systems
40%

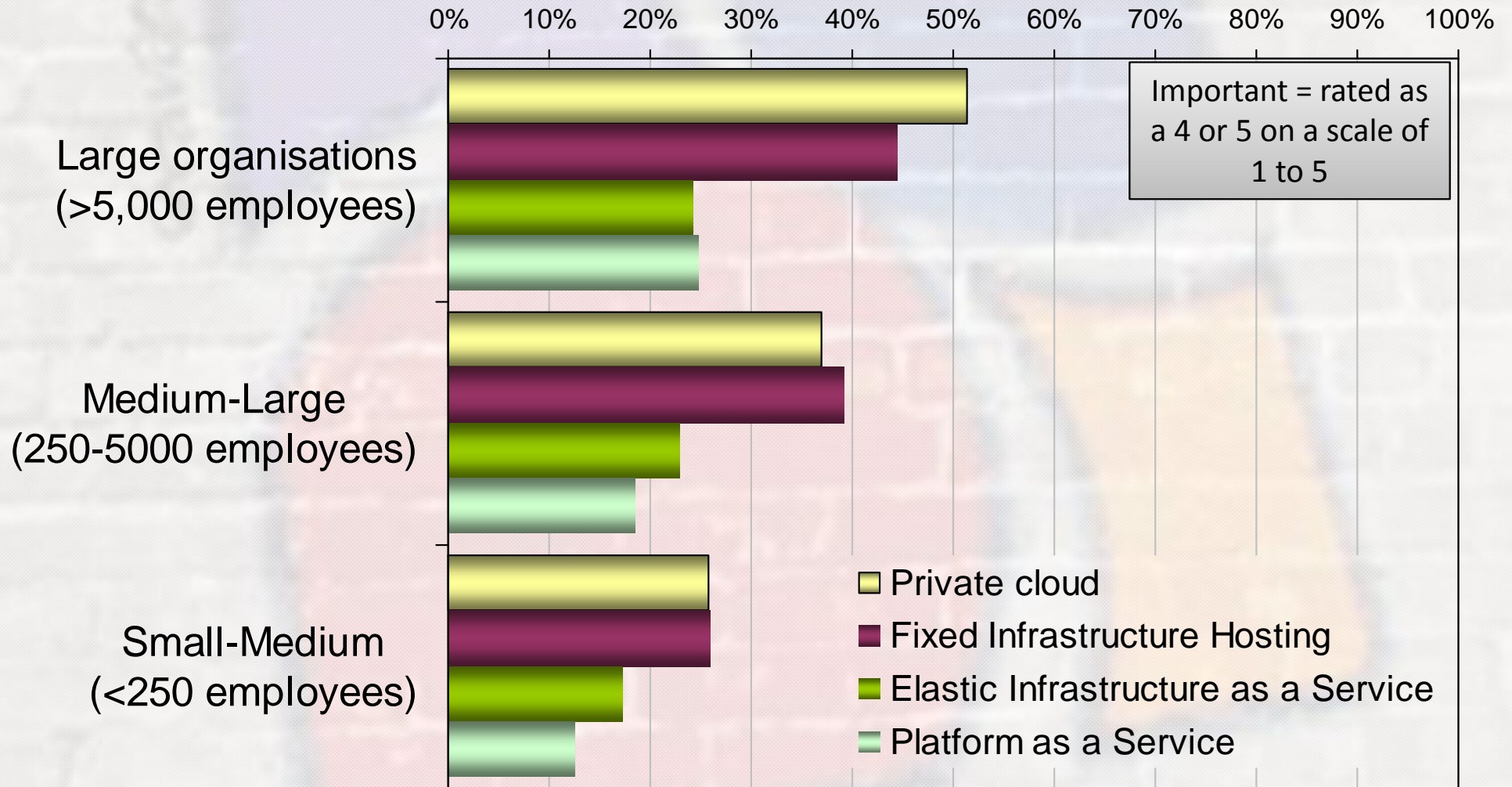


Increasing
adoption of
hosted
services
21%

Both
39%

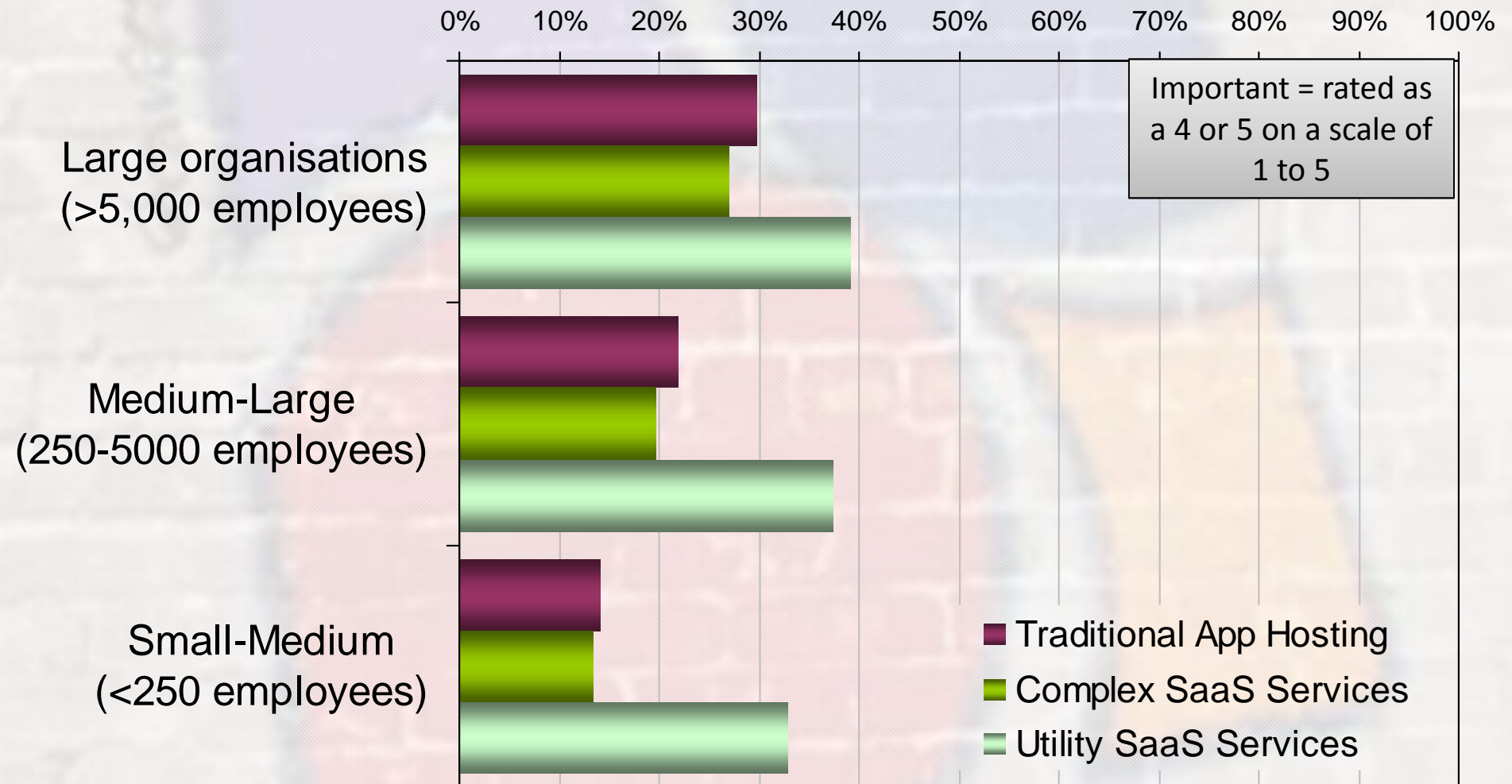
Options regarded as important over next 3 years

(INFRASTRUCTURE/PLATFORM OPTIONS BY ORGANISATION SIZE)



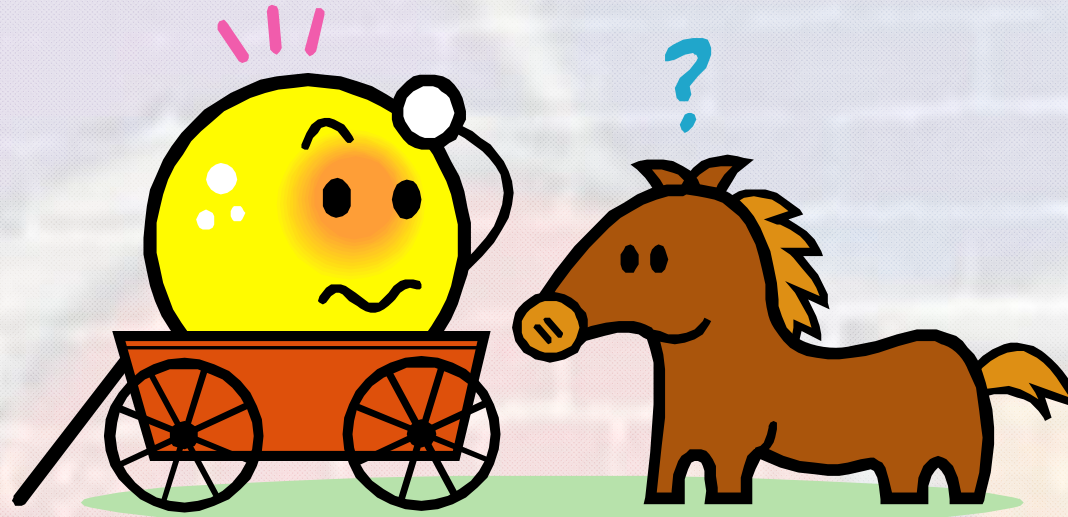
Options regarded as important over next 3 years

(APPLICATION DELIVERY OPTIONS BY ORGANISATION SIZE)



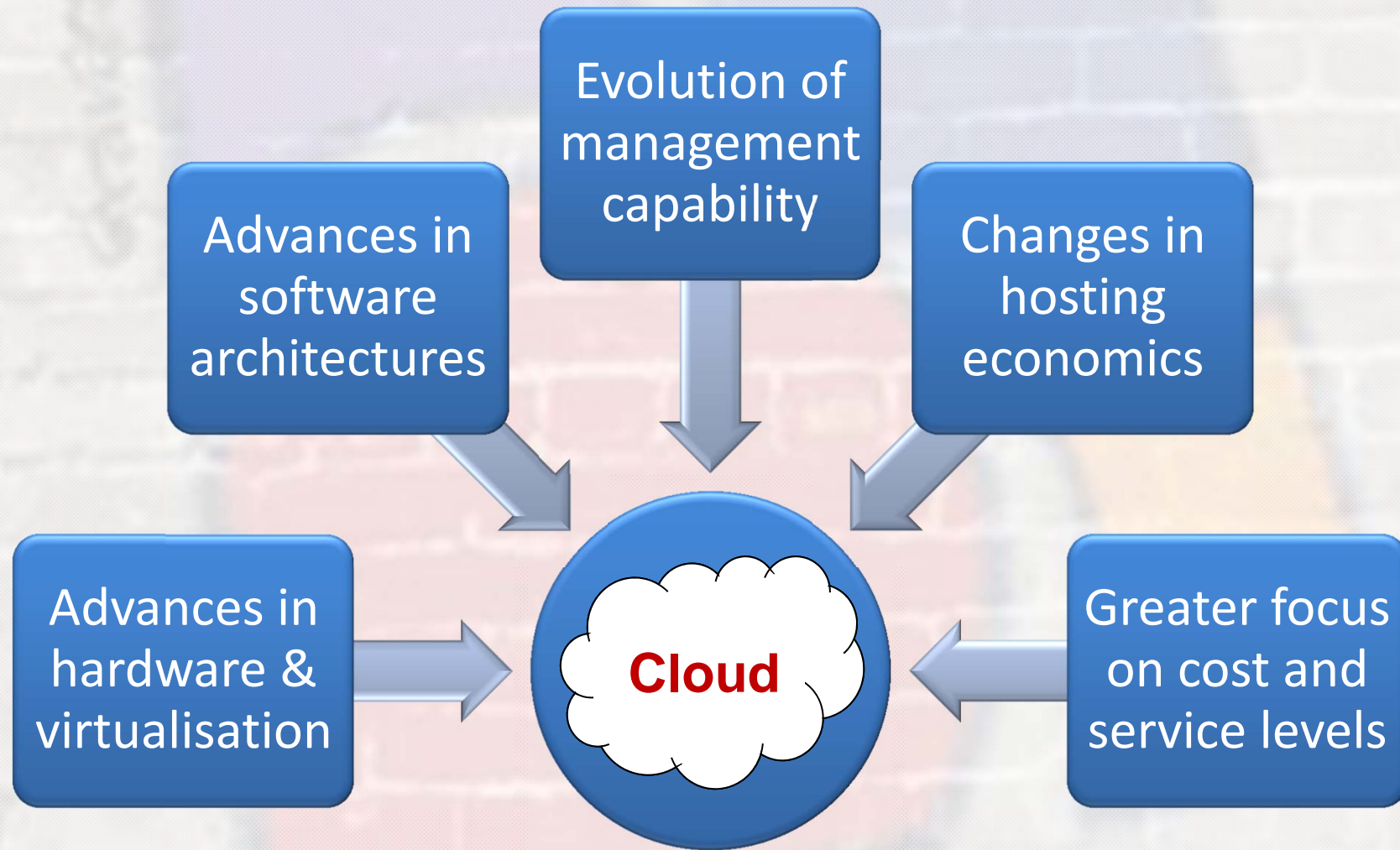
Netting it all out

“How do we make the move to the cloud?”

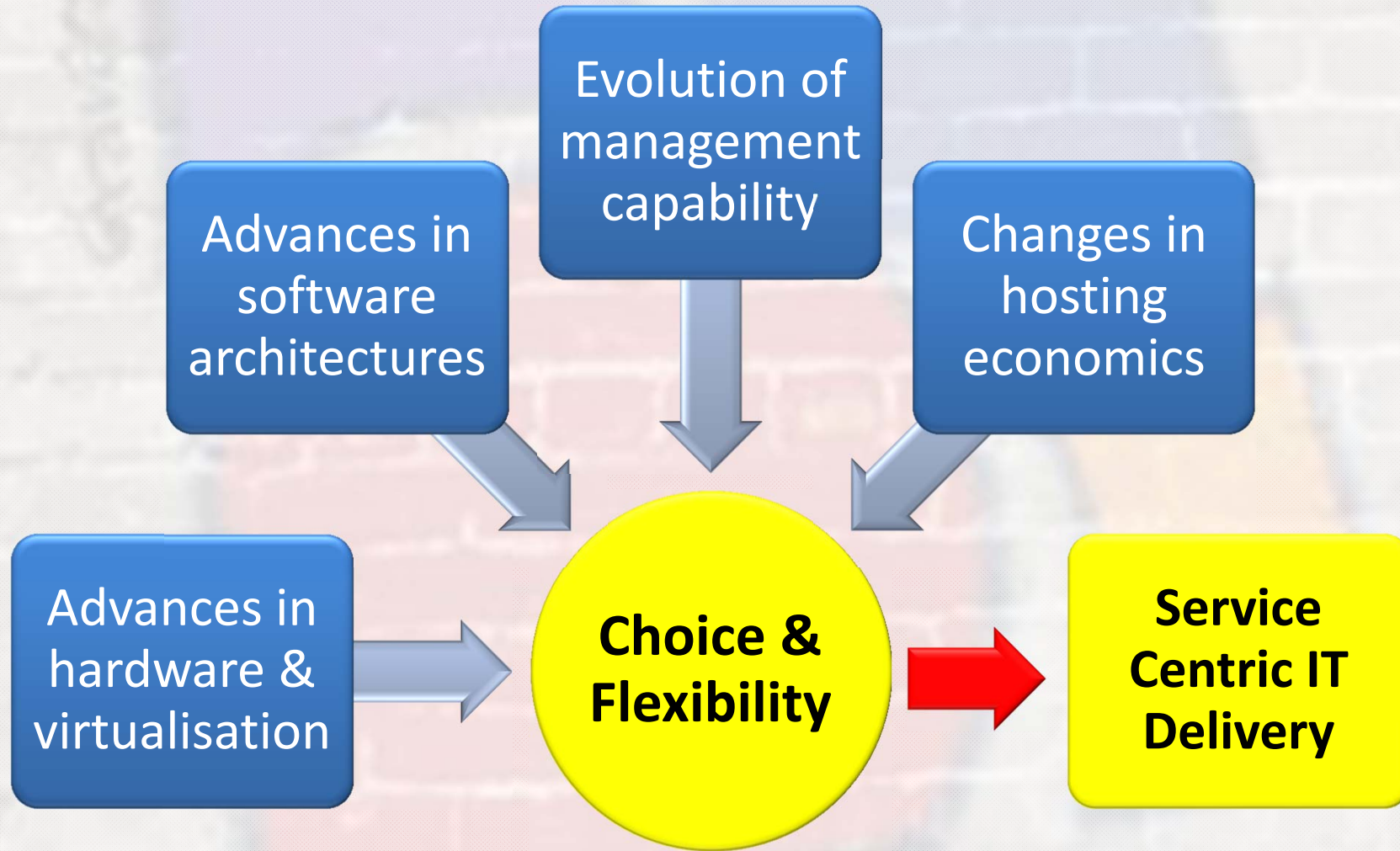


- Putting the cart before the horse
- Cloud is not some kind of ‘end’ to aim for
- Need to think the other way around

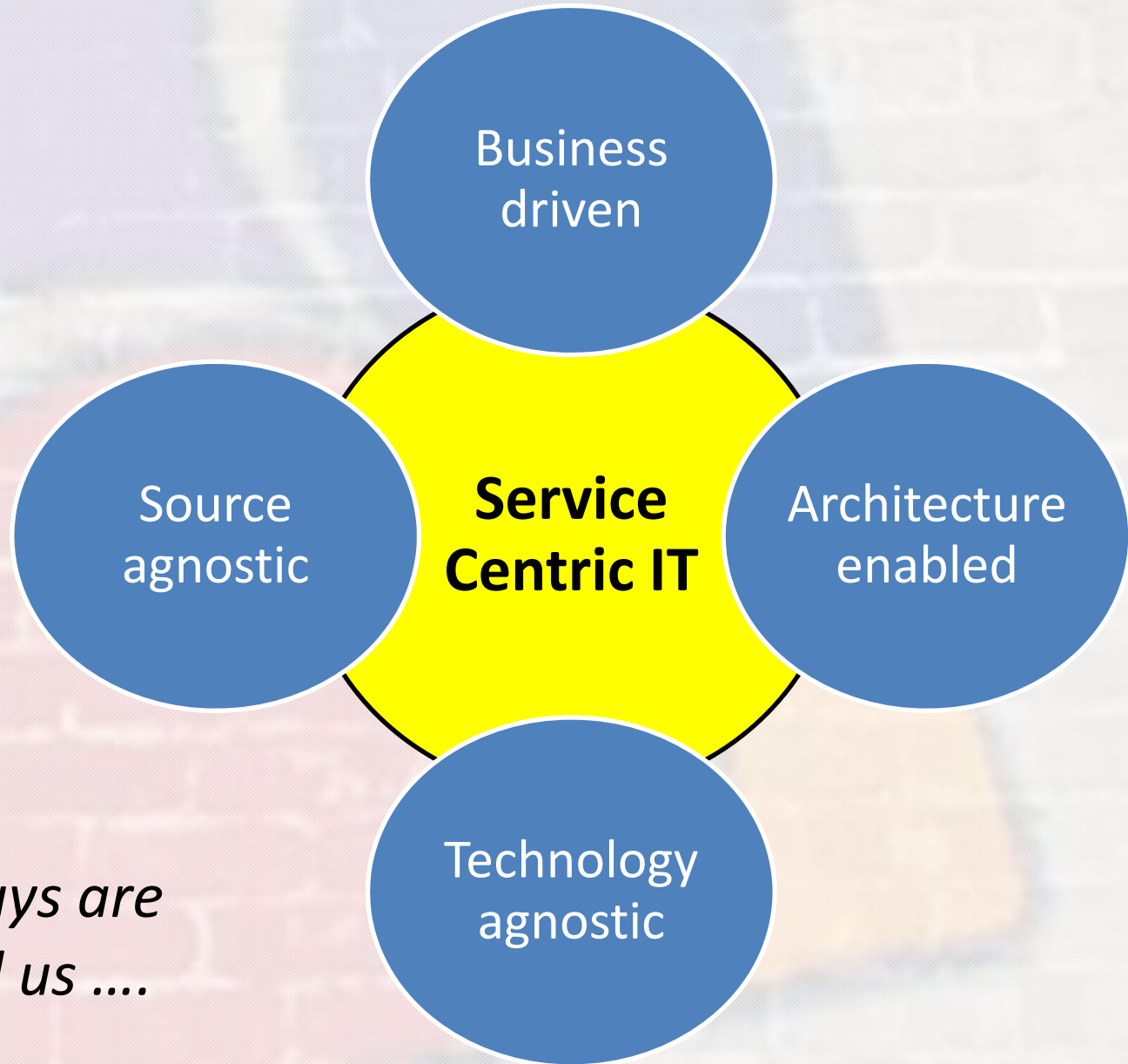
The evangelist view of cloud – the stars are aligning



A more objective way of looking at it ...



IT of the Future



What the cloud guys are really trying to tell us

The long term view

➤ *Question:*

What remains after the marketing people get bored with the word 'cloud'?

➤ *Answer:*

A shift in emphasis from the 'systems' view to the 'business services' view of IT delivery

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