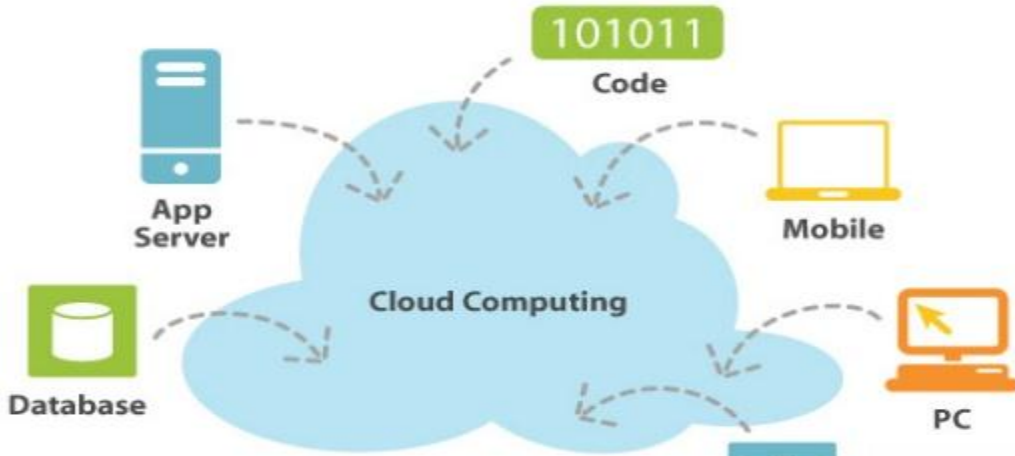


Cloud Computing- Maximizing Business Agility

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Evolution of Computing



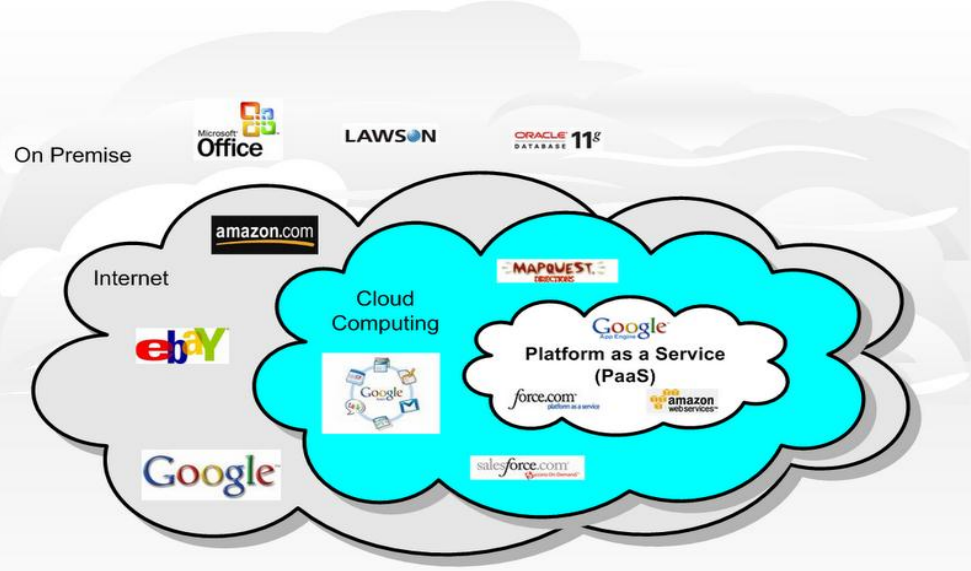
Cloud Computing
everything and the kitchen sink

Kitchen Sink

Virtualisation



Client – Server
(Dumb Terminal)



Global Economic & Industry Pressure



- Attracting and retaining key skills in a global marketplace
- Challenges with knowledge transfer and expertise transition
- Increasing personnel costs
- Unpredictability of projects
- Demands of doing more with less



How can cloud computing assist?

- Factors driving progression to “Cloud”
- Benefits of Cloud Computing
- Understanding costs
- ROI & Payback

Some Driving Factors



EMAIL REACHES MIDDLE AGE

The image shows a screenshot of a Facebook news feed. A blue pacifier-shaped USB drive is overlaid on the right side of the page. The news feed contains several posts, including one from 'Rideshare Staffordshire' and another from 'Polly McGovern is playing Scrabble!'. The Facebook interface includes a search bar, navigation links, and a 'Get Started Now' section for Facebook Ads.

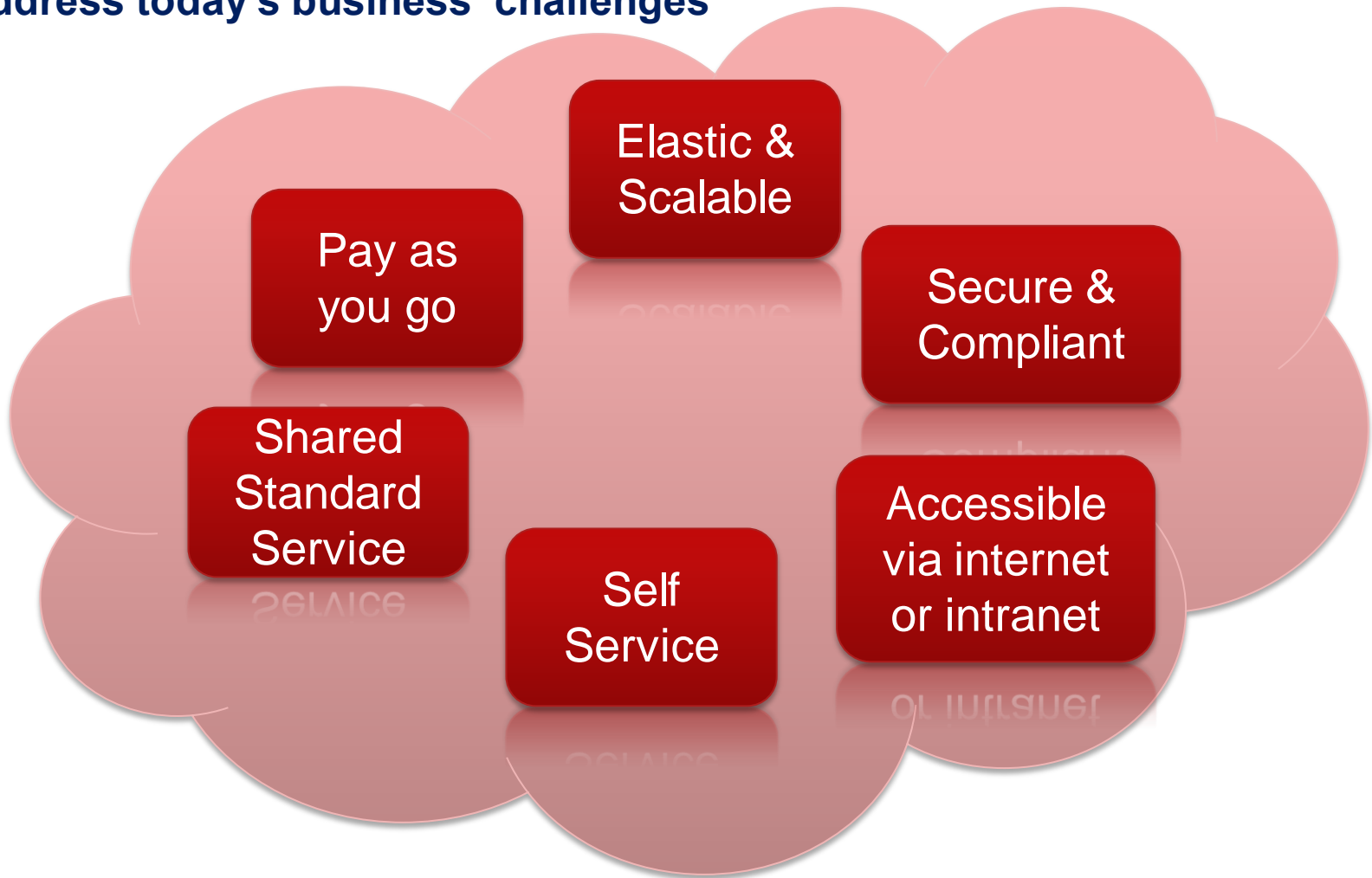
DEVICE MULTIPLICITY - VDI AN ANSWER?

The image shows a Windows desktop environment with a blue background. Numerous application icons are scattered across the screen, representing various IT and cloud services. The icons include 'Nearshoring', 'Offshoring', 'Social Networking', 'Long Tail Economics', 'Global Services', 'Green Data Centre', 'Dislike Commodities', 'Blogging', and 'Social Networking'. The taskbar at the bottom shows several open applications, including 'Internet Explorer', 'AutoCAD', and 'Microsoft Office'.



What is Cloud Computing?

**A delivery and consumption model
to address today's business challenges**



Different kinds of Clouds....



...and the Glue that holds them together

Consultancy

Matching workload characteristics to appropriate IT resources.

Private Cloud

Designed for single enterprise

Internal shared resources

IT organization sells services to rest of company

On-site or off-site

Outsourced or in-house management

Community Cloud

Designed for members

Resources shared safely among group members (individual, government or businesses)

Customized for specific business need

Public Cloud

Designed for general market

Open to all

Resources shared safely among group of companies

Very little customization

Hybrid Cloud

Both public and private

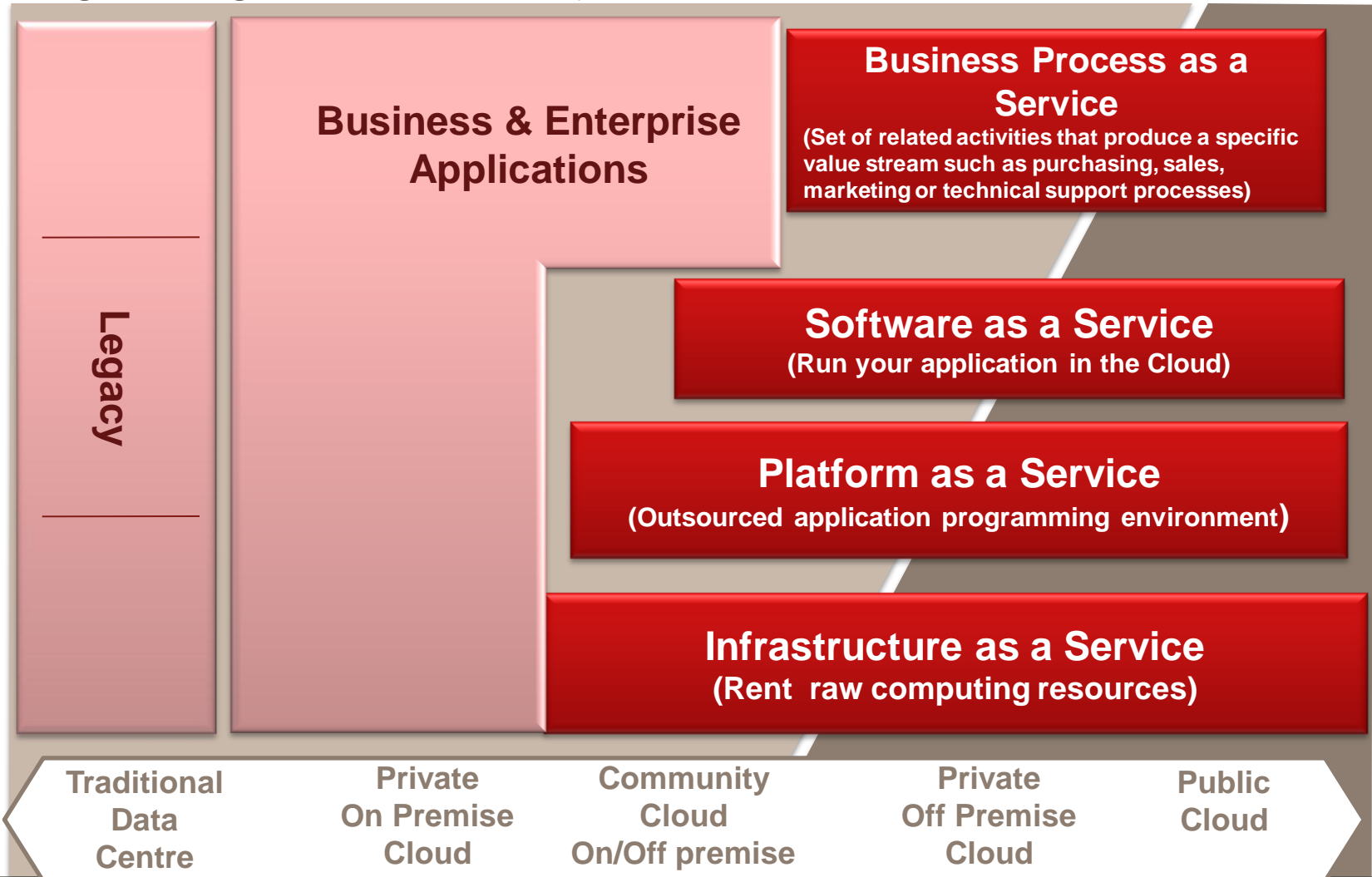
Utilizes best capabilities from public and private to meet business needs

Allows for bursting to public cloud

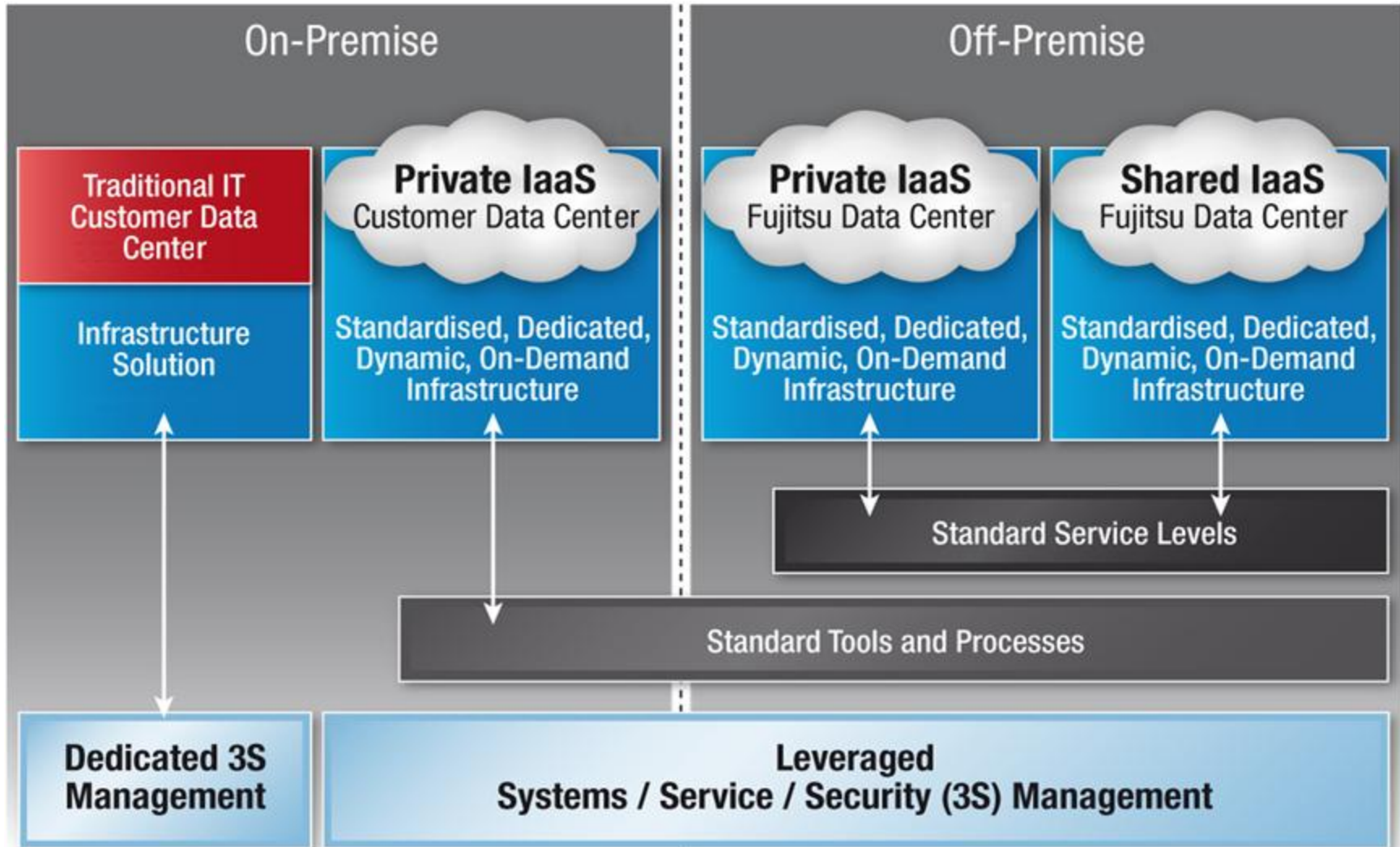
End to End Service Management for Enterprise Cloud

Vision for the cloud

■ Integrating Cloud into your IT value chain



The Approach to IaaS



Infrastructure-as-a-Service (IaaS)

- Data Storage and Management
 - Short and Long term retention & Archiving
- On-Demand ICT Provisioning
- Disaster Recovery and Back-up Planning
- Reduce costs and Manage risk of short term ICT operations requirements
- Outsource ICT infrastructure and Operations

Benefits that make CFOs smile



Infrastructure-as-a-Service (IaaS)

- Reduce capital expenditure budget - IT purchase & data centre premises
- Lower IT operating costs
- Convert fixed cost base to flexible costs
- De-risks investment & growth
- Commodity advantages



Benefits that make CIOs smile



Significantly lower costs

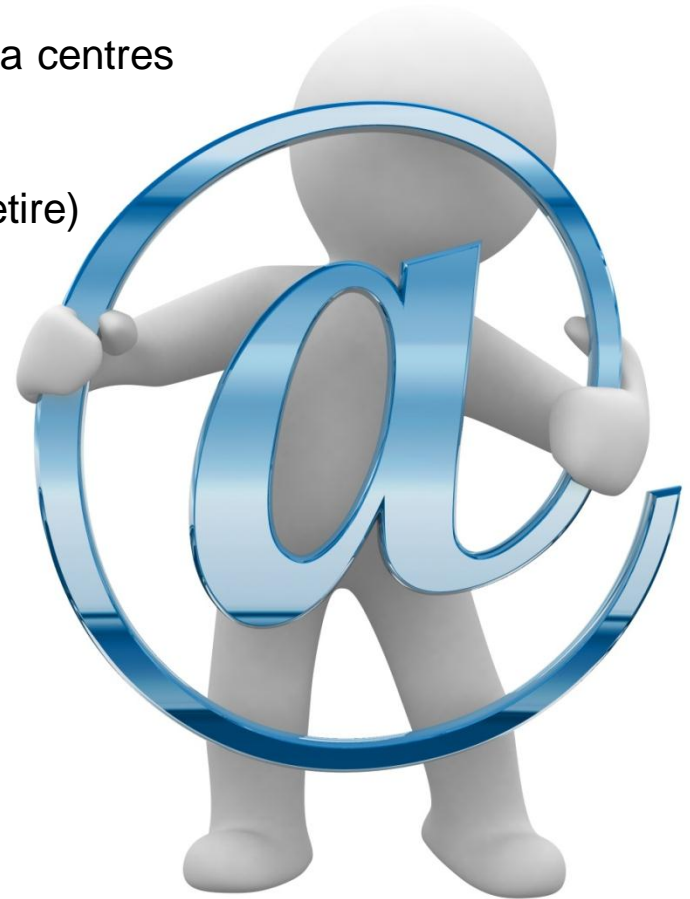
- Eliminates over & under provisioning IT infrastructure
- Higher IT utilisation
- Eliminate uneconomic equipment rooms, close old data centres

IaaS eliminates costs:

- IT Asset Management (purchase, manage, operate, retire)
- IT infrastructure – design & validation
- Data centre hosting & operational tasks
- Infrastructure management activities
- Maintenance & incident tasks

Plus benefits

- Greater operational flexibility
- Compliance with legislation, regulation
- Release IT staff for more important work
- Lower carbon footprint



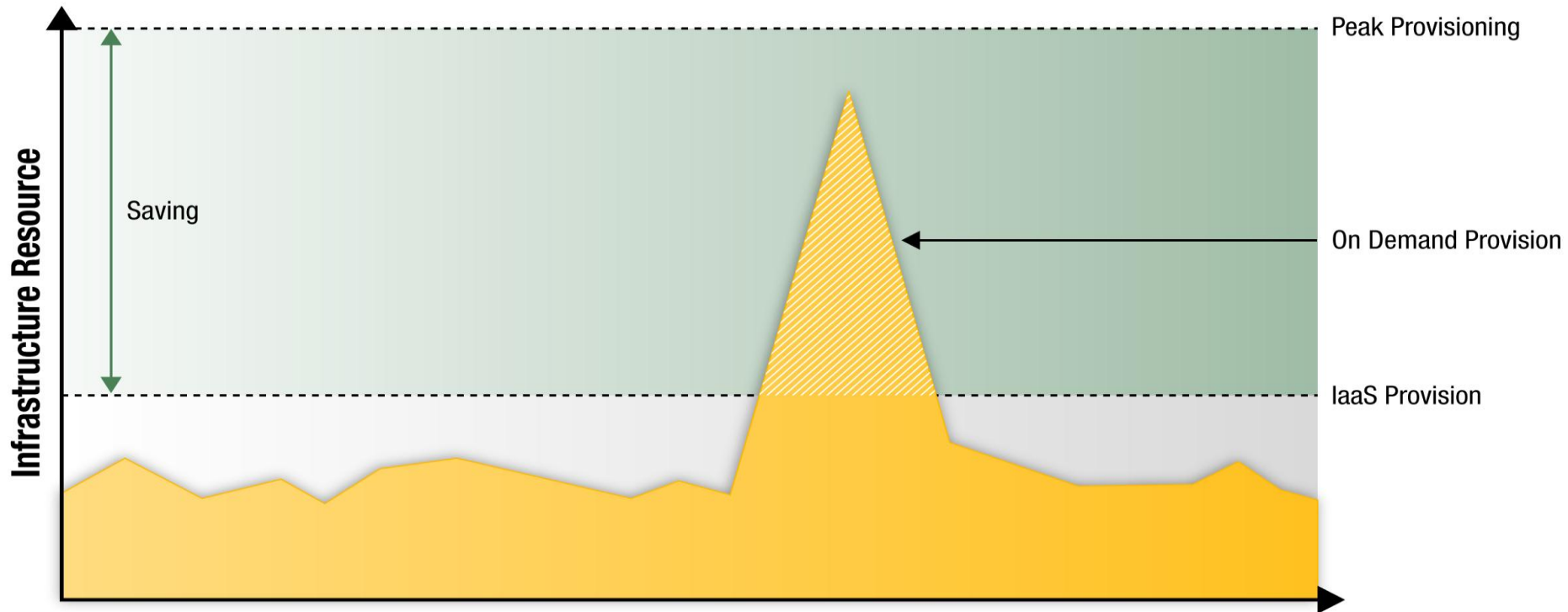
How Cloud computing can save 20% - 40%



1. High Infrastructure utilisation through virtualisation
2. Closer Infrastructure alignment to requirements
3. Fast provisioning reduces IT provision for future demand
4. IT capacity provisioned for peak demand
5. Realise savings from tiered storage
6. Shared server and storage resource pools



Save capacity reserved for peak demand



- Monthly events - billing, payroll, reporting
- Quarterly events - accounts, statements, reporting
- Annual events - Annual Report, business planning, Tax return
- Ad hoc events - product launch, business projects, special offers, website traffic

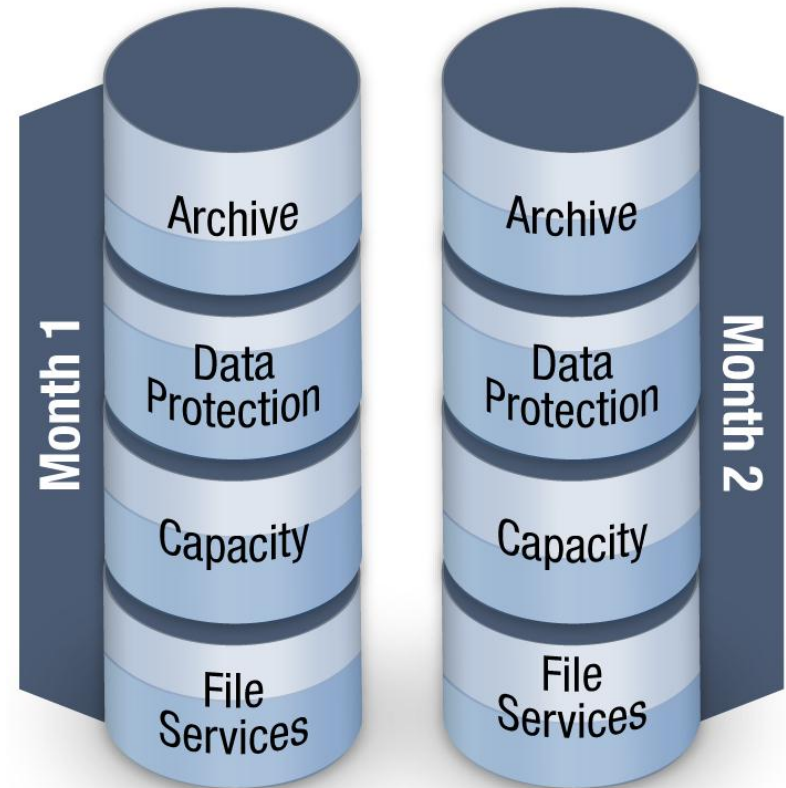
IaaS – flexible tiering for data storage



Storage tiering reduces costs

- **Difficult to realise savings with traditional IT**
 - Unpredictability of capacity required in the Tiers
 - Cost of managing additional Tiers
 - Cost of too much storage capacity in each Tier
- **IaaS solution**
 - Full flexibility – as much or little at each Tier
 - Lower cost storage management
 - Change Tier capacity to match changing needs

Lowers storage costs by up to 20%



Additional benefits & non-tangibles

Quantifying benefits for business and IT



Security
Confidentiality
Regulation

Legislation

Reliability

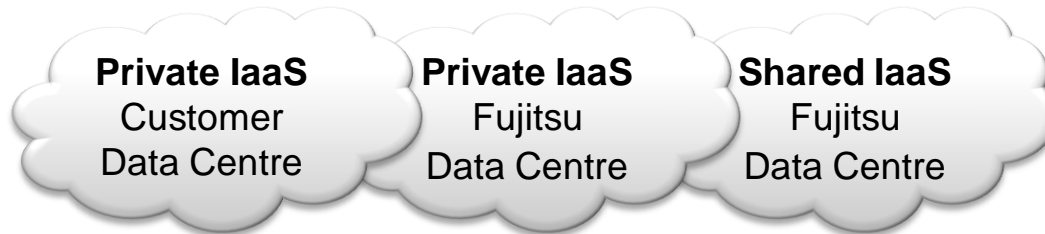
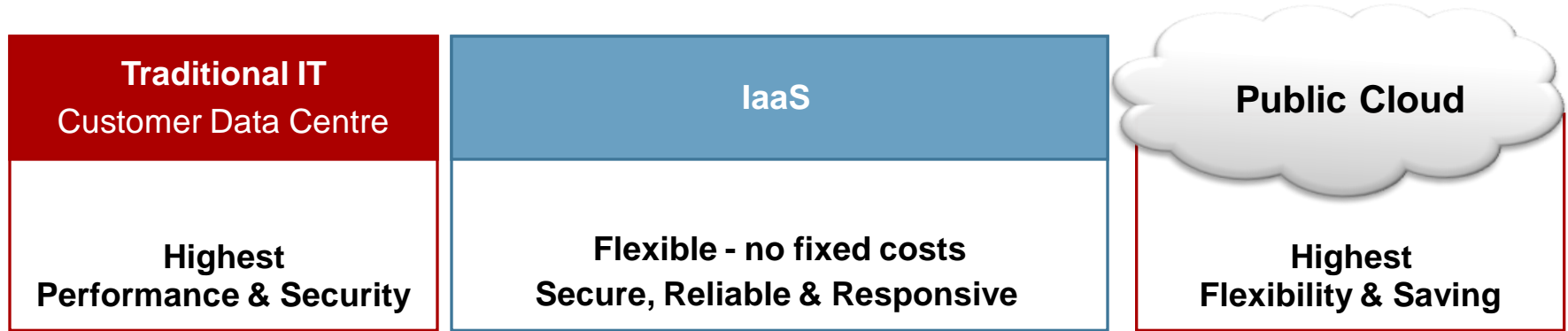
Collaboration

Operational Flexibility

Lower Carbon Footprint

Release IT Staff for more important activities

ROI & Clouds



Highest levels of performance & Security

Highest levels of flexibility and cost savings

- Critical business systems
- Processing restricted data
- High performance
- Committed responsiveness

- Important business systems
- Processing sensitive Information
- Low latency
- High level of responsiveness

- Test & development
- Background systems
- Non-sensitive Information
- Response times not critical

ROI considerations - hidden costs



- Start-up costs Vs alternative refresh costs
- Network costs - more or less?
- Due diligence / assessment / audit costs - same or more?
- Supplier Management



ROI considerations - hidden savings

- Data centre facility repair & upgrade costs
- Future proofing - IT technology refresh & upgrade costs
- Infrastructure staff - recruitment, training, experience, pensions
- Value of focusing IT staff on more important business



Private IaaS – off-site in Fujitsu data centre



Before	After	Saving
<ul style="list-style-type: none">• 1,200 = Wintel hardware assets	<ul style="list-style-type: none">• 58 = Wintel hardware assets	1142 assets
<ul style="list-style-type: none">• £5.5m = Data centre hosting costs	<ul style="list-style-type: none">• £0.4m = Data Centre hosting costs	£5.1m
<ul style="list-style-type: none">• £8m = 3 year staff operation costs	<ul style="list-style-type: none">• £6m = 3 year staff operation costs	£2.0m
<ul style="list-style-type: none">• £4.2m = hardware technology refresh costs	<ul style="list-style-type: none">• £0.7m = hardware technology refresh costs	£3.5m
<ul style="list-style-type: none">• CO² = 9.3m kg (over 3 years)	<ul style="list-style-type: none">• CO² = 1.3m kg (over 3 years)	8.0m kg
<ul style="list-style-type: none">• 2 days = time to recover 5TB server from hardware failure	<ul style="list-style-type: none">• 2 hours = time to recover 5TB server from hardware failure	1.8 days
<ul style="list-style-type: none">• 28 days = build Wintel server from scratch (including ordering time)	<ul style="list-style-type: none">• 2 hours = build Wintel server from scratch	27.8 days

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