TheBathwickGroup

Evolution

Tomorrow's Datacentre

Date : October 2008
Presenter: Gary Barnett

Agenda

- Introduction
- Today's Public Sector Challenges
  - Today's challenges
  - Tomorrow's architecture
- Data centre Evolution
  - Technology trends
  - Data centre automation
  - The green data centre
- Call to action
  - Things you can start today

Today's Challenges

Doing more, with less, better.

The current environment

Global Financial Melt-down

Recession

Credit Crunch

Austerity

DOOM!

TheBathwickGroup

The joining up of public services

- Within the public sector
  - Integration with Central Government
  - Information sharing between agencies
- With the citizen
  - Delivering services online
    - Into the home
    - Into Kiosks

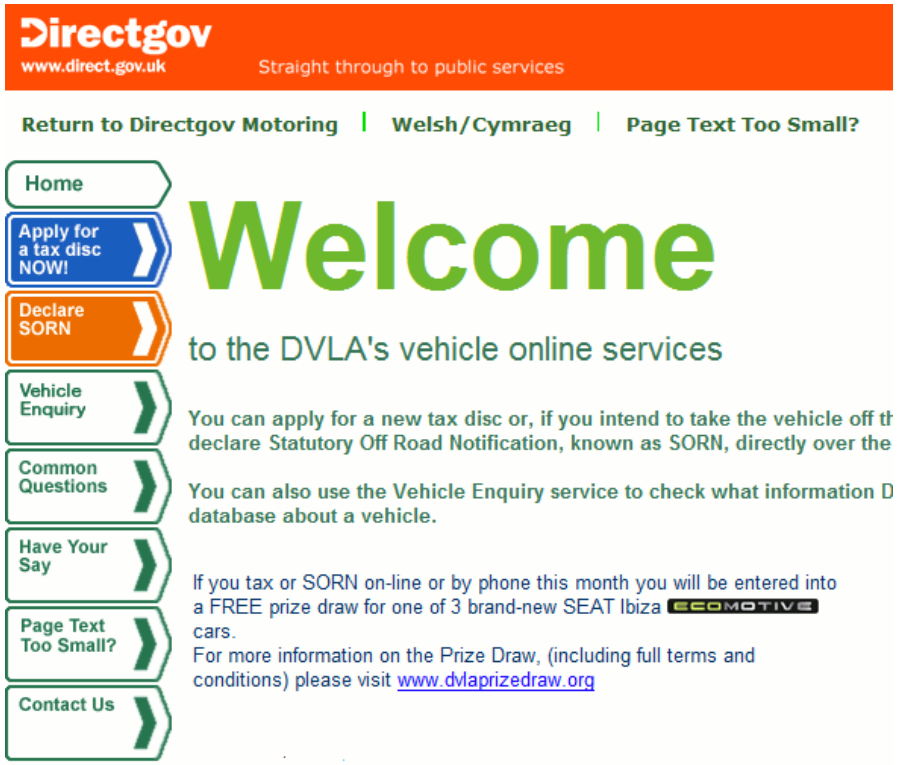
60% of Households will have broadband by 2009

(ONS, Bathwick)

The UK will be the most connected G7 country by 2009, with over 30 broad-band subscribers by 100 inhabitants

(OECD, Bathwick)

The joining up of public services



30% Take up.

1.3 Million renewals in a single month

More internet sales than Tesco

Lower Costs

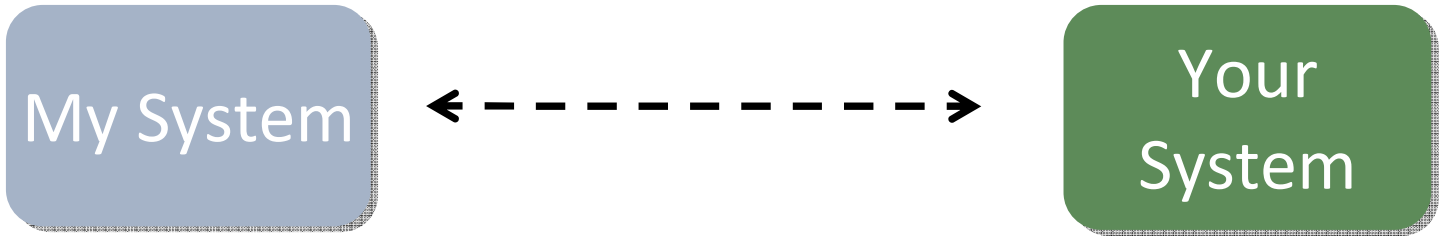
Improved service

TheBathwickGroup

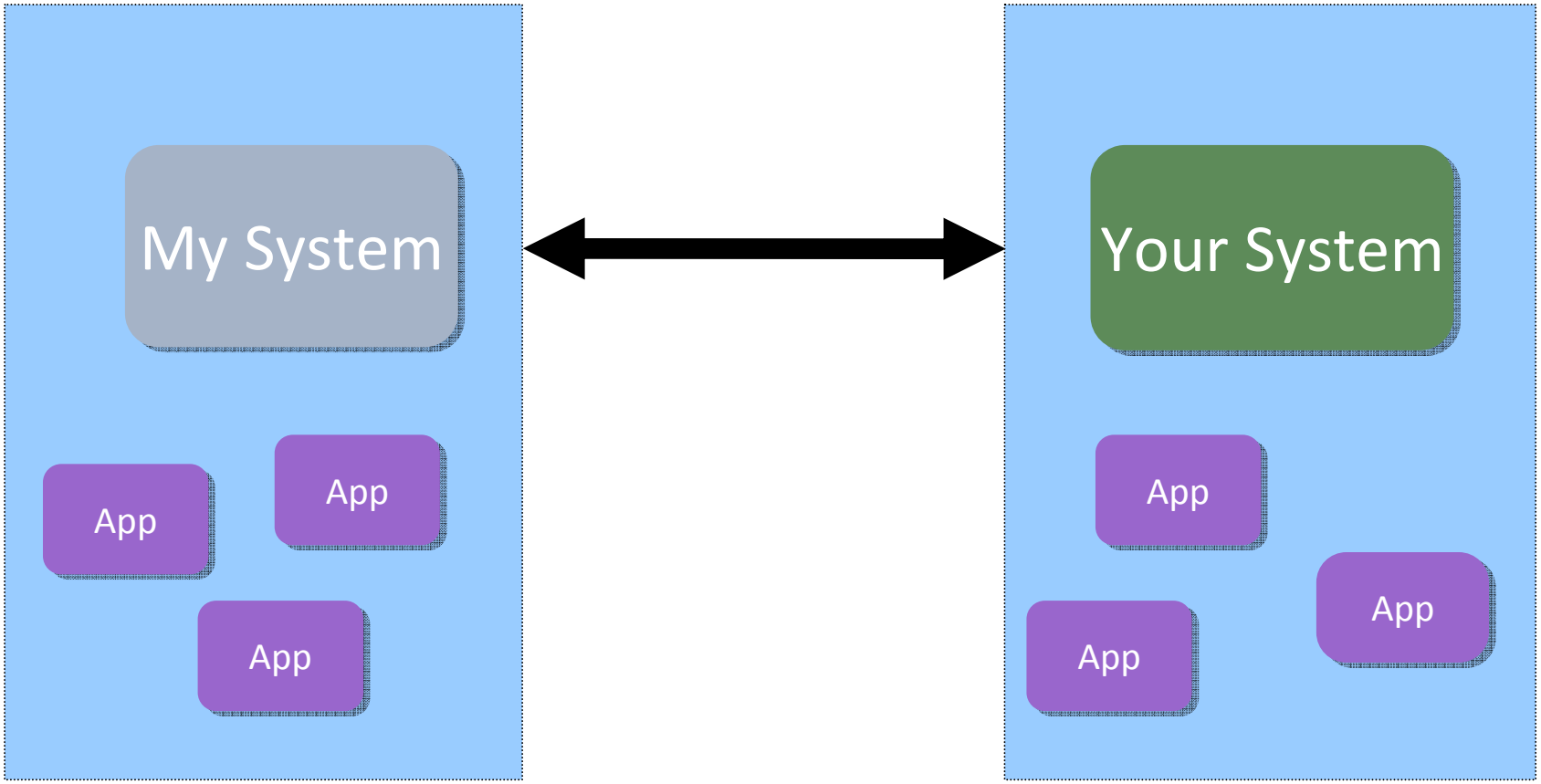
Tomorrow's Architecture

The collapse of traditional organisational boundaries

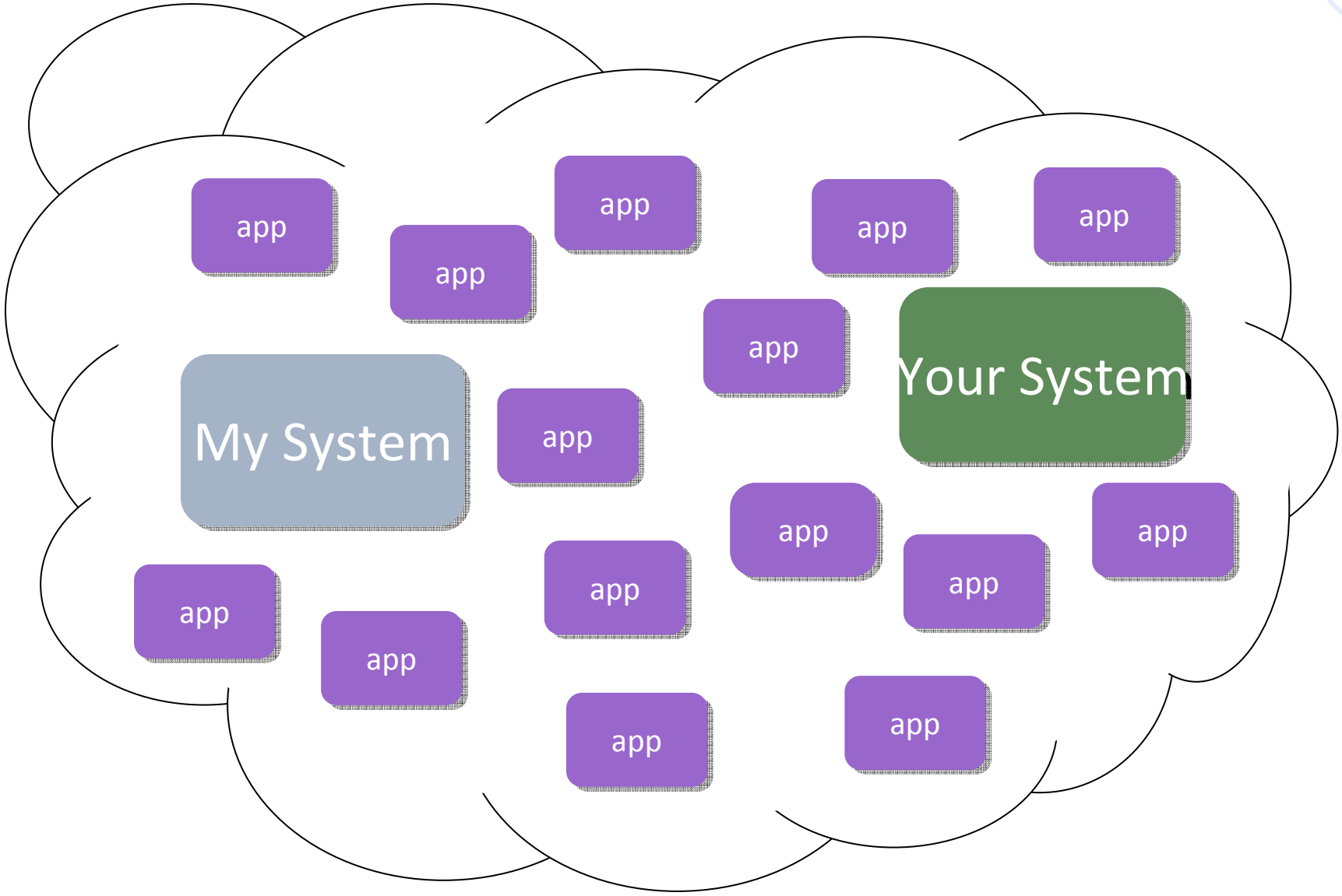
Classical Architecture



Today's Architecture



Tomorrow's Architecture



Tomorrow's applications require radically different IT

- Connection
  - Martini-style
- Collaboration
  - On every level
- Distributed computing
  - For real this time
- Flexible
  - Relationships might exist for a few hours

TheBathwickGroup

The Evolution of the data centre

Technology trends, Automation, and Green

TheBathwickGroup

Technology Trends - Performance

- Smaller, quicker, cheaper…..
  - Will continue….
  - But in increasingly depend on technology being “Smarter” too
- Multicore
  - A clever side step
  - How many of your applications are optimised for multicore processors?
- More creative “system design”
  - Need for flexible architectures
- Collaborative design around open / public standards
  - Power.org
- Cloud and Grid computing
  - Exploiting low cost hardware for super computing performance

Technology Trends - Storage

Technology Trends – Open Standards / Integration

- A number of technologies and drivers are converging to transform the data centre
  - Service Oriented Architecture
    - Making integration easier
  - Web 2.0
    - A return to host-based computing
- The role of standards and standardisation
  - Web services, TCP/IP, protocols
- Even the mainframe is embracing the world of “Open”
  - Linux and Java
  - RSS feeds for IMS
  - Web Services for CICs
- Software as a service….

Technology Trends – Open Standards / Integration

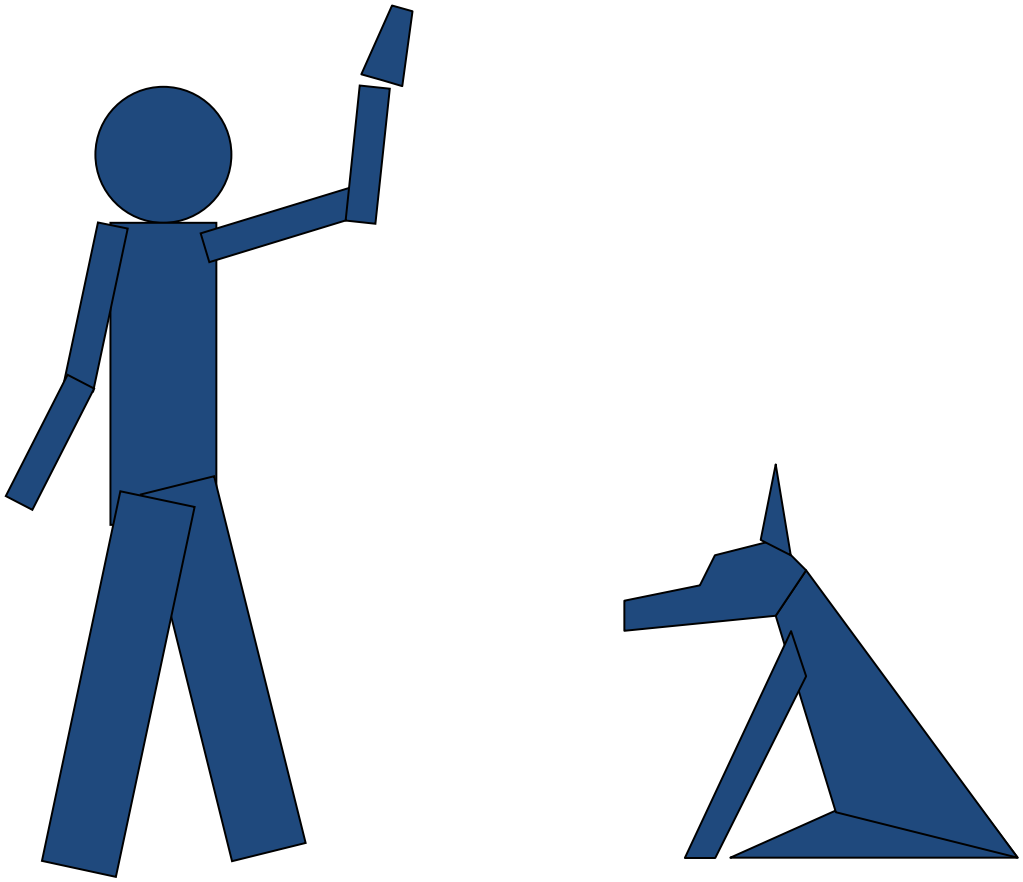
- If all your software is provided as a service, maybe all you will need in your data centre is this…

Technology Trends - data centre automation

- Has been promised for many years…

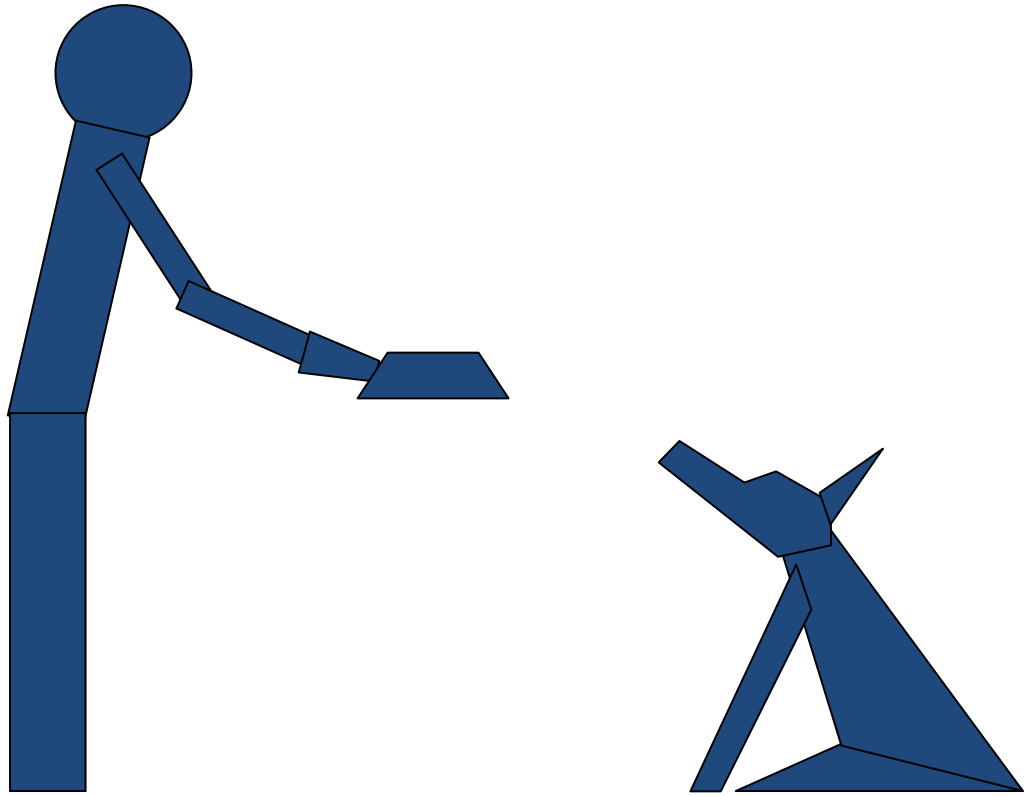
In 5 year's time... There will
Be only two living things
Inside your data centre

Technology Trends - data centre automation



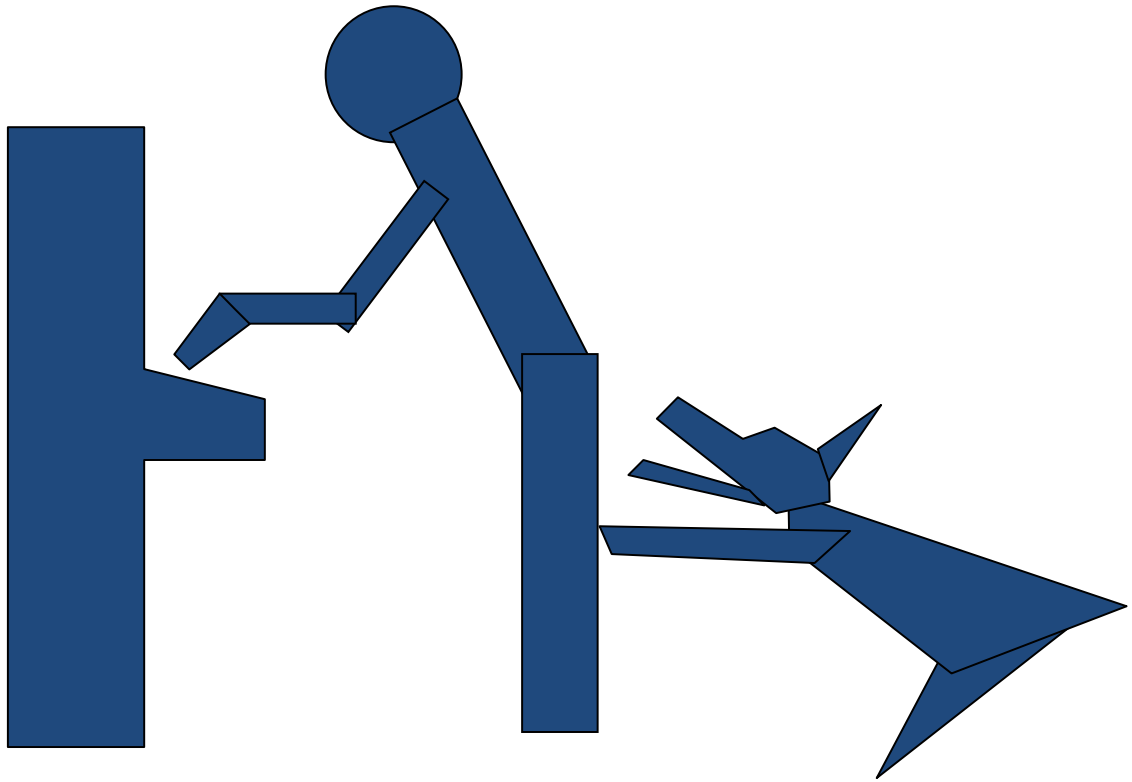
A man, and a dog

Technology Trends - data centre automation



The man is there to feed the dog

Technology Trends - data centre automation



And the dog is there to bite the man if he touches anything

Technology Trends - data centre automation

- Virtualisation
  - Many small machines pretending to be one large one
  - One large machine pretending to be many small ones
- Emergence of “portable images”
  - A standardised “virtualised” machine
  - That can run on a very wide range of hardware
- Distributed systems management
  - Increasingly accepted as essential
- Software as a service
  - Changing the nature of automation

Technology Trends - automation and business flexibility

- Faster deployment
  - Better control over resource utilisaton
- More responsive
  - Better management of peaks in demand
  - Better control of quality of service
- Distributed computing environment more “mainframe like”
  - In terms of utilisation, reliability, security
  - Although the mainframe continues to improve…
- Workload density increasing
  - Huge opportunity for consolidation

Technology Trends – The Green Data Centre

TheBathwickGroup

Green – It is happening now

IPPC Fourth Report – November 17th

“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level”

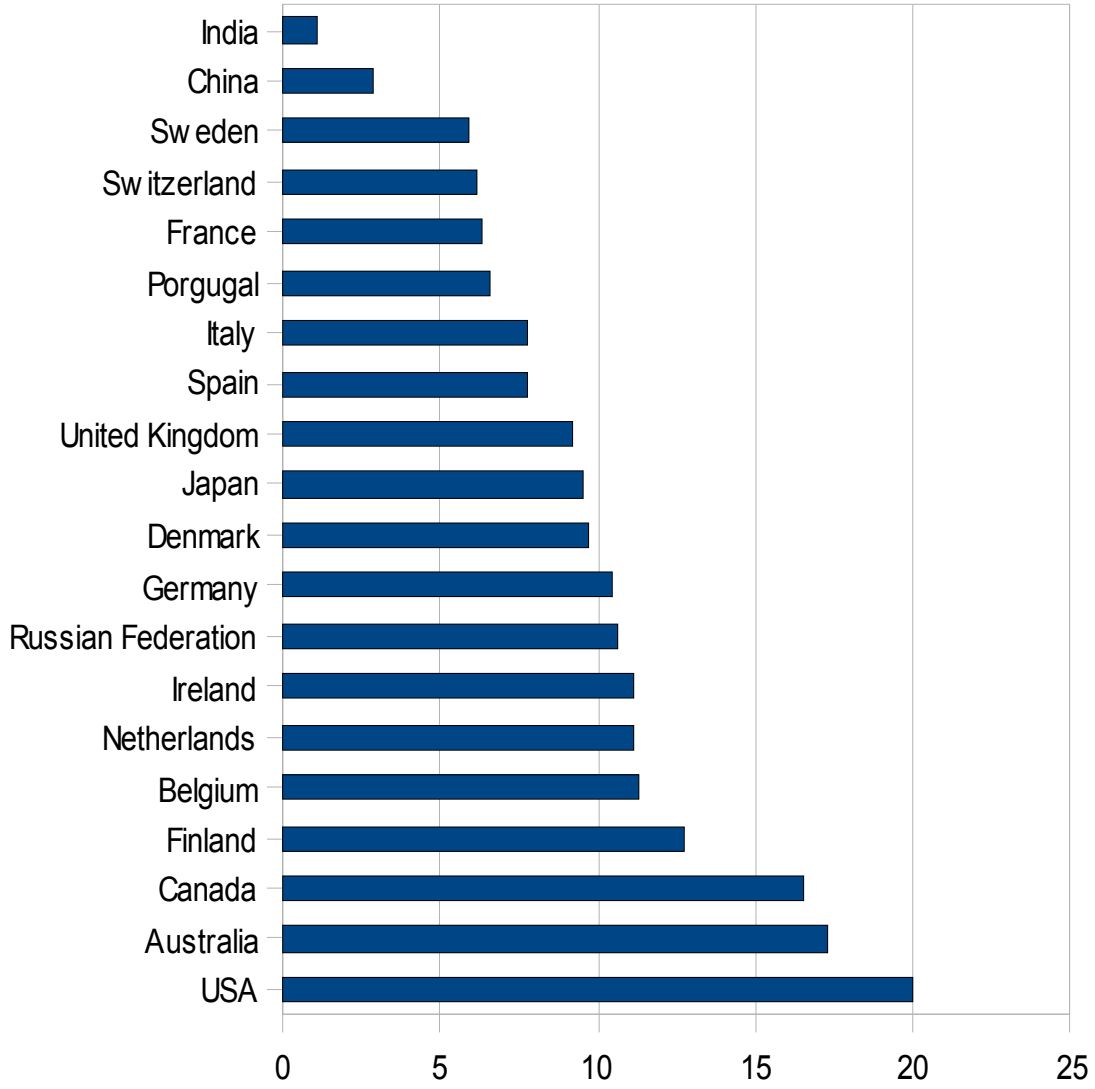
“By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change

By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. “

http://195.70.10.65/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf

TheBathwickGroup

The Green Globe



UK Government pledge to reduce carbon emissions by 80% by 2050

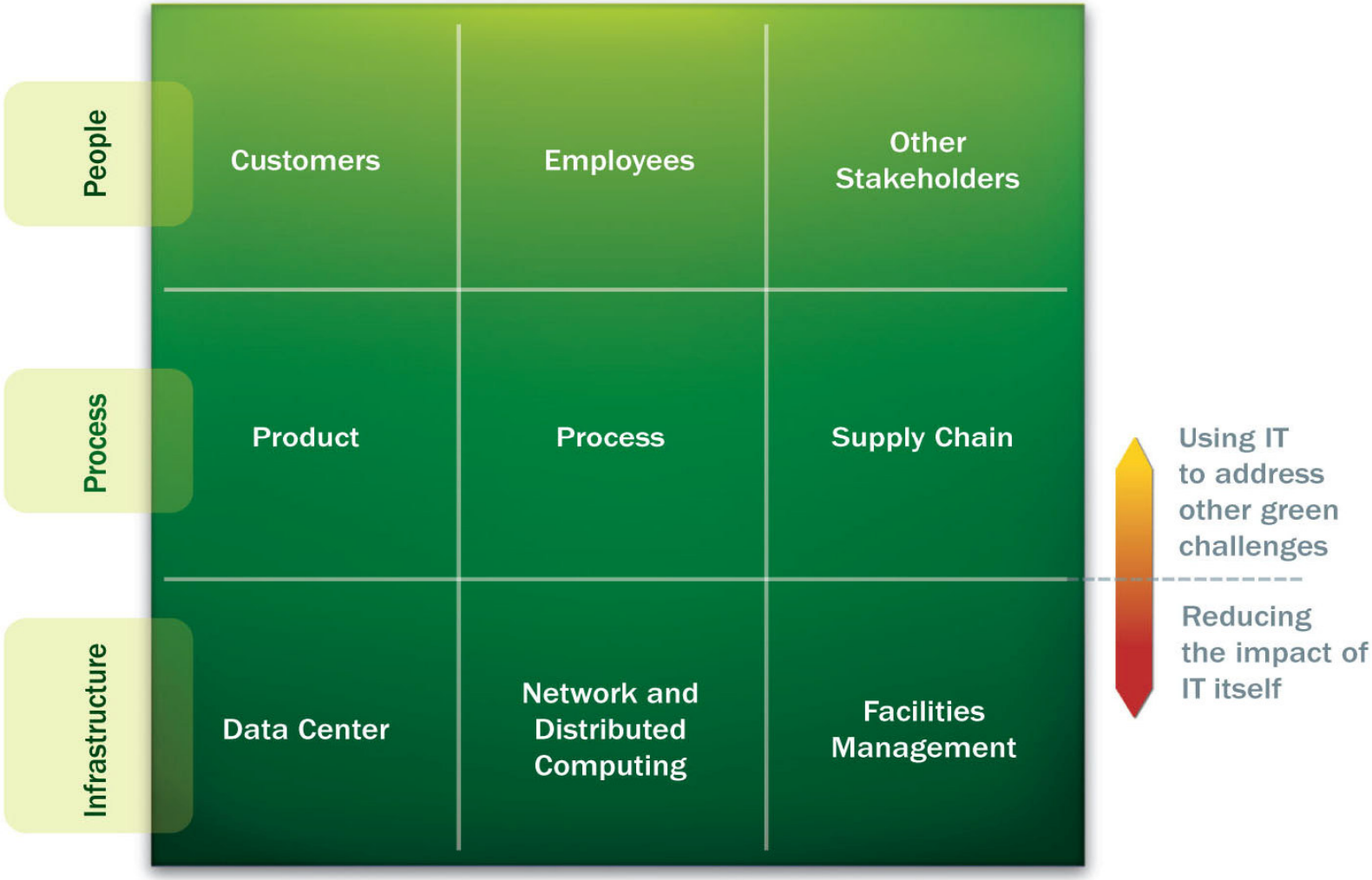
(Announced by Ed Milliband, Oct 17th 2008)

TheBathwickGroup

Technology Trends – the green bandwagon

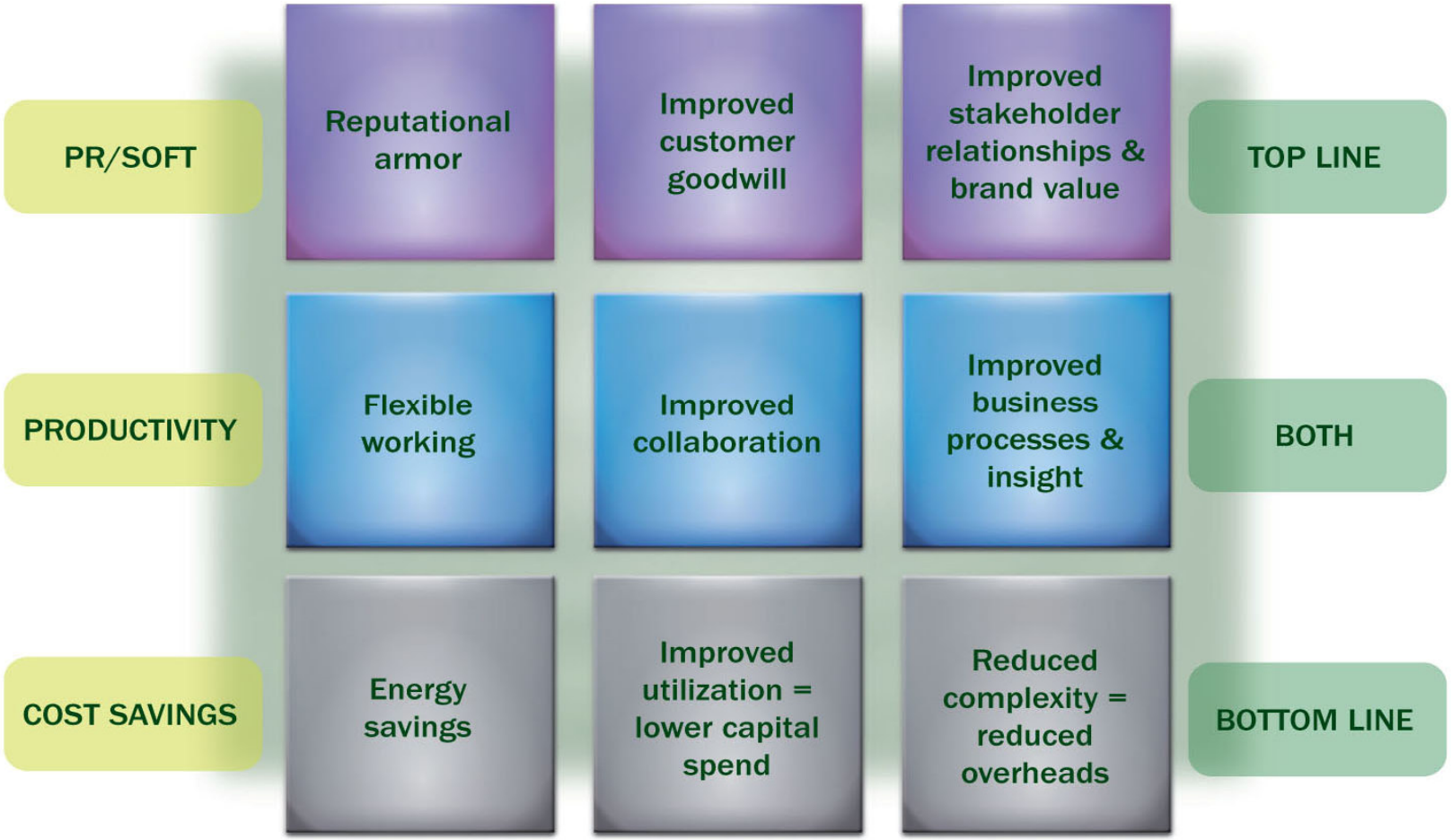
- Everyone is making “green” promises
  - Make sure you’re comparing like with like
- The environment is important
  - To Consumers
  - To regulators
- Green is about more than just “heat and power”
  - It is a much broader issue
  - And technology has a role to play across the board
- “Making the world a better place” isn’t the only reason you should have a green agenda
  - Green = $$$$$

Technology Trends – A holistic view of green



TheBathwickGroup

Technology Trends – A holistic view of green



TheBathwickGroup

Technology Trends – focus on the Green Data Centre

- Major areas of cost / resource constraint
  - Heat and power
  - Major challenges with “legacy” cooling systems
  - Issues around power density
  - And of course cost
- Key focus areas
  - Cooling
  - Consolidation
  - Systems management
- But you will soon have to consider the whole lifecycle
  - Dust to rust
- Many “green” initiatives bring other business benefits
  - Cost reduction, improvements in flexibility

Call to action

Three projects you can start today

1 – Prepare for the future

- Create a roadmap
  - So you're ready when the technology evolves
  - Begin "impact analysis" to determine what you need to do in order to reap the benefits
- Manage your assets
  - Applications
  - Infrastructure
- Don't spend too much time imagining the future
  - There are practical things you can do today

2 – Go Green!

- Because it makes sense
  - Cost
  - Management
  - Flexibility
  - The Environment
- Simple projects
  - Consolidation
  - Automation
  - Data centre power consumption
- Then look at all of your infrastructure
  - Your distributed computing environment
  - Facilities
- Then look beyond “IT”
  - Supply chain management
  - Teleworking

Thank-you

gary@bathwick.com

TheBathwickGroup