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European Union
Code of Conduct for Data Centres

Liam Newcombe
BCS DCSG

MARKET TRANSFORMATION PROGRAMME
Supporting UK Government policy on sustainable products

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Development

Best Practice Intent

Expected Practices

Application Examples

Questions

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Development

- Formally commenced at the March 2008 meeting
- Incorporating all parties
  - M&E and IT equipment vendors
  - Operators and Users
  - Consultancies and engineering firms
  - Government agencies
  - Professional bodies and industry associations

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Contributors

Name	Organisation	Name	Organisation
Paolo Bertoldi	EU JRC	Joerg Natelski	
Bernard Aebischer	CEPE ETH	Liam Newcombe	BCS
Joe Baguley	Quest Software	Michael K Patterson	Intel, ASHRAE, GG
Thomas Bogner	Austrian Energy Agency	Benjamin Petschke	Stulz
Christian Belady	Microsoft, the Green Grid	John Pflueger	Dell
Emiliano Cevenini	Chloride Power	Bernd Schaepi	Austrian Energy Agency
Flavio Cuccietti	Telecom Italia	Charlie Sheridan	Intel
Tony Day	APC	Hans-Paul Siderius	SenterNovem
Ciaran Flanagan	Verari	Harkeeret Singh	British Telecom
Sofia Flucker	EYP	Victor Smith	Dell, the Green Grid
John Jeffrey	Mace Group	Robert Tozer	EYP
Bernard Lecanu		John Tuccillo	APC
Zahl Limbuwala	BCS	Jan Viegand	DEST
Martin Link	Keysource	Kathrin Winkler	EMC, SNIA
Didier Marquet	France Telecom, EEIOCG	Anson Wu	UK MTP

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- Neither a prescriptive nor exhaustive list of specific technologies
- Focussed on goals and processes
- Structured to allow the addition of new technologies

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Best Practice Intent

- Establish common vocabulary and terminology
- Provide operators with an understanding of
  - The available technology options
  - Their relative merits
  - The processes they should establish
  - The communication that is necessary
  - The relationship between technology areas
- Most people are non-expert in some area(s) of the data centre

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Value of Practices

- Best Practices are guidance to operators on how they might improve energy efficiency
- Practices are scored 1-5 (min-max) based upon their likely energy use benefit
- Practices are ordered by score
- Practice scores are not intended to be summed for an ‘overall score’

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Minimum Expected Standard

- A minimum standard was expected of participants
- Current metrics presented mixed incentives
- Practices were identified as a measure
- Many contributors requested a high barrier to entry

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Grouping of Expected Practices

- The Minimum Expected practices apply to;
  - The existing estate
  - New IT equipment or software
  - New or refitted data centres

Existing Estate

- Group Involvement
  - “Establish an approval board containing representatives from all disciplines (software, Require approval for any significant decision to ensure that the impacts of the decision have been properly understood.”

Existing Estate

- Grid and Virtualisation
  - “Processes should be put in place to require senior business approval for any new service that requires dedicated hardware and will not run on a resource sharing grid or virtualised platform”

Existing Estate

- Select efficient software
  - “Make the performance of the software, in terms of the power draw of the hardware required to meet performance and availability targets a primary selection factor ”

Existing Estate

- Environmental
  - "Rack air flow management – Blanking plates"
  - "Review and if possible raise target IT equipment intake temperature"
    - ASHRAE new specifications
    - ETSI expanded
  - "Review and if possible increase the working humidity range"
  - "Review set temperature points for air or chilled water system"

New IT Equipment

- Multiple tender for IT hardware - Power
  - “Include the Performance per Watt of the IT device as a high priority decision factor in the tender process ”
- Power provisioning
  - “Provision power and cooling only to the as-configured power draw capability of the equipment, not the PSU or nameplate rating ”

Retrofit or New Facility

- Cooling
  - "Design – Contained hot or cold air"
  - "Variable Speed Air Fans"
  - "Rack air flow management"
  - "Chillers with high COP"
  - "Efficient part load operation"

Retrofit or New Facility

- Utilisation, Management and Planning
  - “Lean provisioning of power and cooling for 18 months worth of data floor capacity”

Existing Estate

- Monitoring
  - “Incoming energy consumption meter”
  - “IT energy consumption meter”
  - “Periodic manual readings”
  - “Written report”

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Application Examples

- "But I only do the Colo, virtualisation is outside my responsibility"
  - **Comply with practices within your area of responsibility**
  - **Endorse all other Practices**
  - **Develop new services to assist your customers and suppliers**
  - **Develop interface processes**
  - **Request / Require compliance from suppliers**

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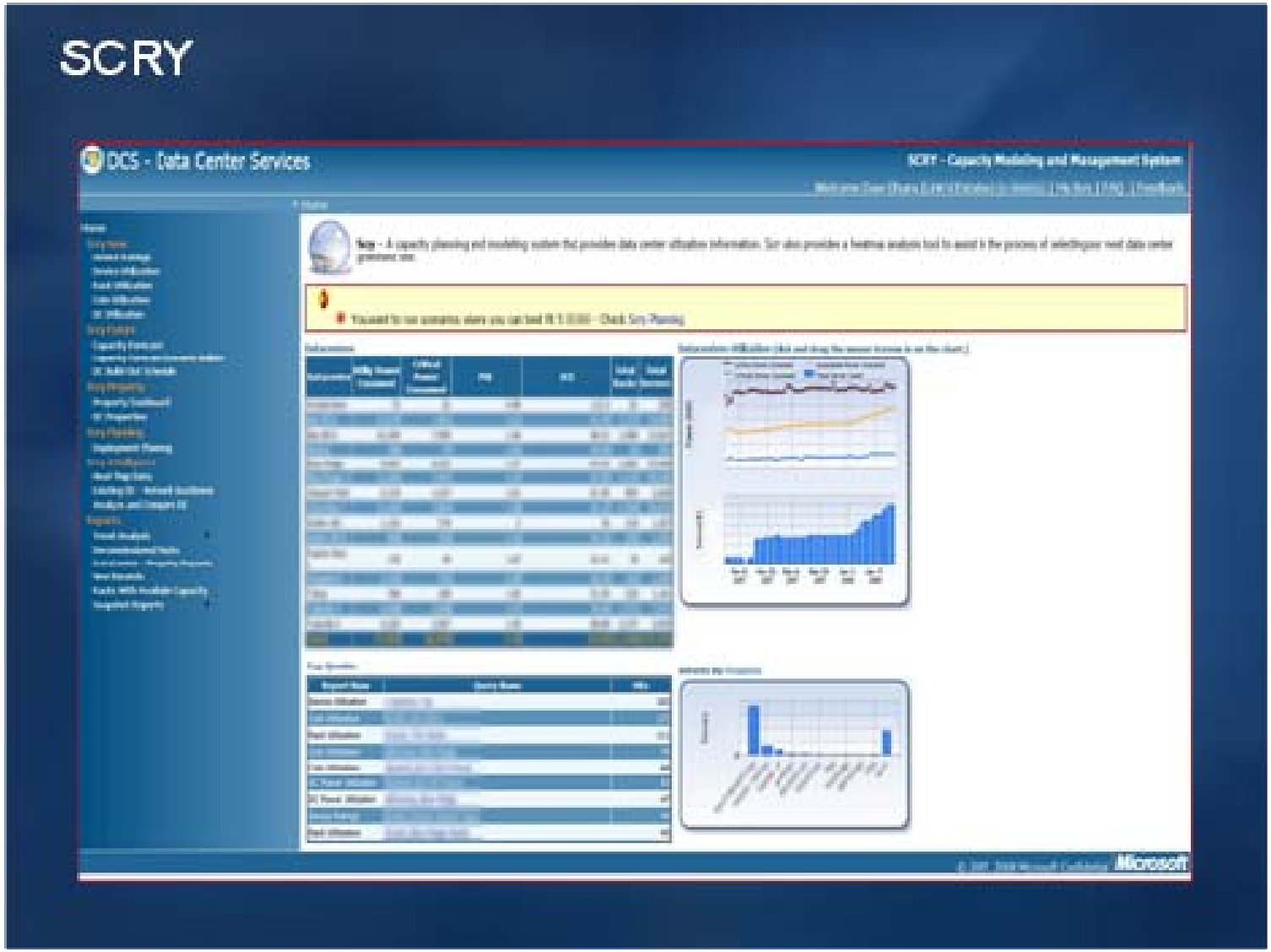
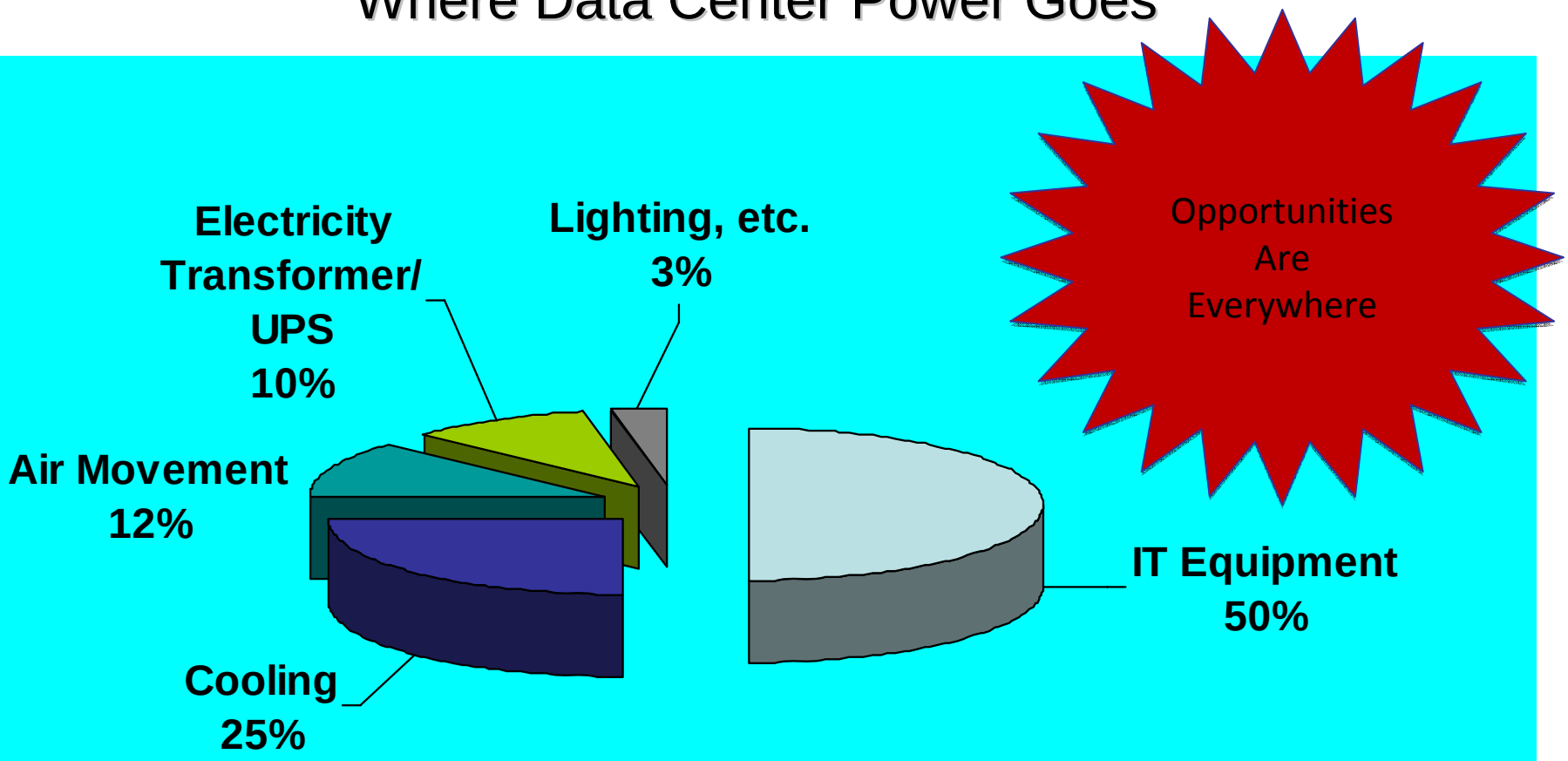
The Business and Environmental Case

- How do you build the business case to carry out these changes in your organisation?
  - Financial and Energy savings come together
  - Meter and report your savings
  - Demonstrate small savings first

Integrated Monitoring and Reporting



Where Data Center Power Goes

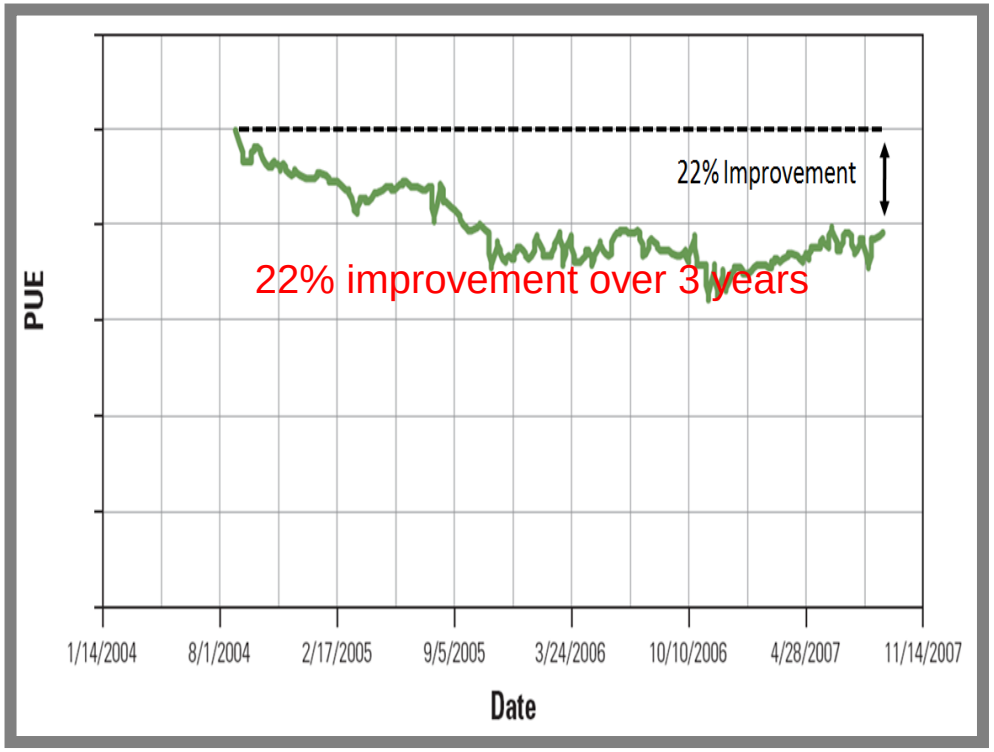


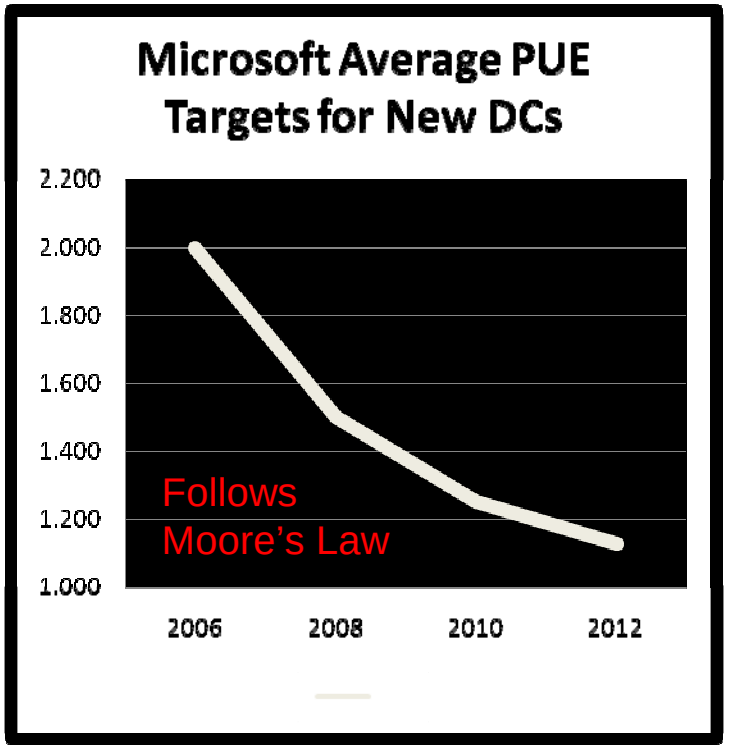
Infrastructure Services is focusing on all the pieces of the pie

Source: EYP Mission Critical Facilities Inc., New York

Monitor and Demonstrate Continuous Improvement

- On existing data centers and helps set goals for new data centers at Microsoft





Three Real Microsoft Data Centers

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http://re.jrc.ec.europa.eu/energyefficiency/html/standby_initiative_data%20centers.htm

Paolo.bertoldi@ec.europa.eu

for details

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