

European Union Code of Conduct For Data Centre Operators

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Context

Goals and Scope

Best Practice

Development

Release

Context

Political Context

- Carbon reduction commitment
- Forecasts of rising energy use in Data Centres
 - Europe 56TWh / PA 2007
 - rising to 104TWh / PA by 2020
- Energy security

Industry Context

- Many activities within Industry
 - US EPA Energy Star, Green Grid, Climate Savers Initiative, IEE E-Server project, Global Action Plan, etc.
- Risk of Confusion and Mixed Messaging
 - Broad review and input
 - CoC tailored to EU conditions
 - Lower the barrier to access and application

Economic Context

- Rising energy costs
 - Increased demand
 - Tipping point in supply
 - Environmental policy to allow energy cost to rise
- Data Centres represent an increasing proportion of overall business cost
- Carbon taxation / trading costs

Social Context

- Rising public awareness
 - Impacts of energy use – climate change
 - Energy used by ICT – comparisons to Aviation
- Data Centres represent an easy target
- ICT is a key enabler of environmental impact reduction both directly and indirectly
- Demonstrate that our industry is not profligate with energy

Goals and Scope

Goals

- Led by Paolo Bertoldi, Directorate General
 - *“aim is to inform and stimulate Data Centre operators to reduce energy consumption in a cost effective manner without hampering the critical function”*
- A Voluntary Commitment
- Reward best practice with branding and associated EU Green marketing.

Goals

- Build Awareness
 - *Financial and infrastructure benefits of improving Data Centre efficiency*
- Support Effective Decision Making
 - Multidimensional challenge in Facilities, IT and Demand

Scope

- The Code of Conduct covers:
 - “Data centres” of all sizes – server rooms to dedicated buildings
 - Both existing and new
 - IT power and Facility power
 - Equipment procurement and system design

Scope

- The Code of Conduct is for:
 - Participants: Data centre owners and operators
 - Endorsers: Vendors, consultants, industry associations



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Development

Creating the **IT** Profession

Substantial Interest

- Broad Participation and Support from
 - Vendors – Directly and via The Green Grid
 - Data Centre Operators – CoLo, Managed Services
 - End User Organisations – All sectors - Retail, Finance, Industrial
- Will become a Supplier Selection Criterion

Working Groups

- **Best Practice**

- Focused on design best practice, Software, IT Architecture and Facility
 - Led by Liam Newcombe, BCS

Working Groups

- **Metrics & Measurement**
 - Developing a standard method of comparative measurement of energy efficiency
 - Led by Jan Viegand, Danish Energy Agency

Working Groups

- **Data Collection & Analysis**
 - Performance benchmarking across the industry
 - Led by Anson Wu, UK MTP

Best Practice

Short form in the main CoC document

Practice	Required	Value
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Long form in the Best Practice Appendix

Practice	Description	Required	Value
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Intent

- Best Practices are neither a prescriptive nor exhaustive list of specific technologies
- Focus on goals
- Structured to allow the addition of new technologies

Intent

- Some Practices are required for Participants
- Practices that apply to;
 - Existing estate
 - New IT equipment
 - New or refitted Data Centres
- It is understood that not all operators will be able to implement all required practices

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

Required Practices

- 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”
- 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 ”

Required Practices

- New IT Equipment
 - “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 ”

Required Practices

- Cooling
 - “Review and if possible raise target IT equipment intake air temperature”
 - “Review of cooling before IT equipment changes”
 - “Rack air flow management”

Required Practices – Retrofit or New

- Cooling
 - “Design – Contained hot or cold air”
 - “Variable Speed Air Fans”
 - “Rack air flow management”
- Utilisation, Management and Planning
 - “Lean provisioning of power and cooling for 18 months worth of data floor capacity”



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Release

Release Target

Draft released 30th April

1st Release September 2008

Thank you
Find out more
Data Centre Specialist Group
<http://dcsg.bcs.org>