

GREEN-IT: CASE

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Expert in Computer Room construction and
(re)organization

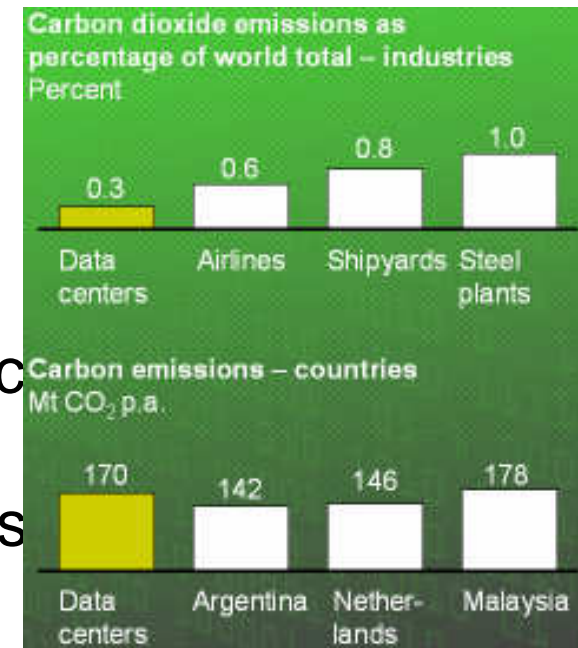
Computer Rooms - Situation

- Consolidation of IT-equipment (servers and storage)
- Data Center Setup:
 - ▣ Production site(s): owned
 - ▣ Disaster Recovery site(s): rented
- Management = joint effort between
 - ▣ Building/Facility Management
 - ▣ ICT Management
- Computer Room = Room of the Data Center where the IT equipment is installed



Data Centers and the Environment

- McKinsey Report on the CO₂ emissions proves growing visibility
- Large electricity consumers
 - ▣ Talk about **Mega Watts** of electric consumption
 - ▣ Major % on the overall energy costs of organizations
- IT capacity need grows with 100W/m²/year since the late '90
- Opportunity to improve



Invest in Green

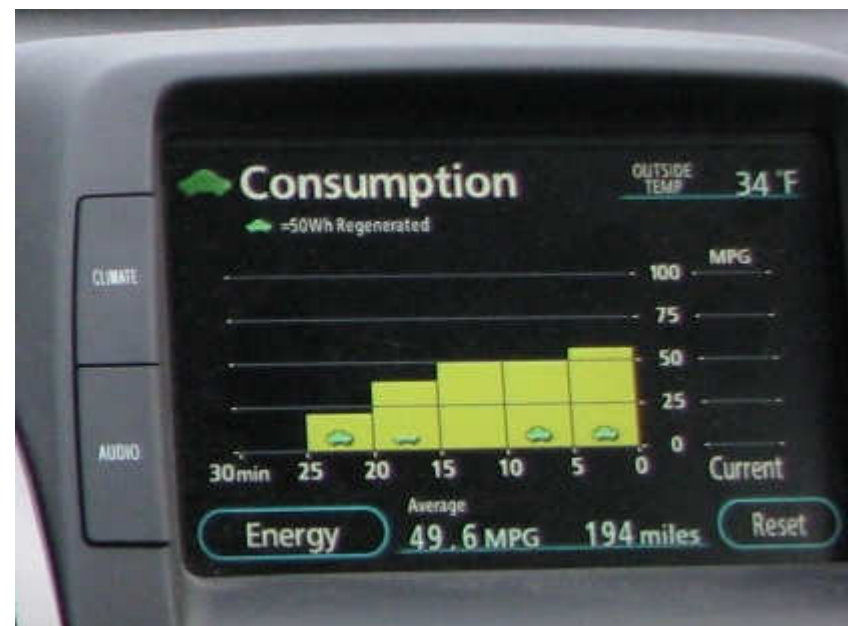
Why should I ?

- Savings
- Image
- Awareness



Awareness

- The dashboard helps you to understand the behavior
- An historical view allows you to measure your improvements



Where to start ?

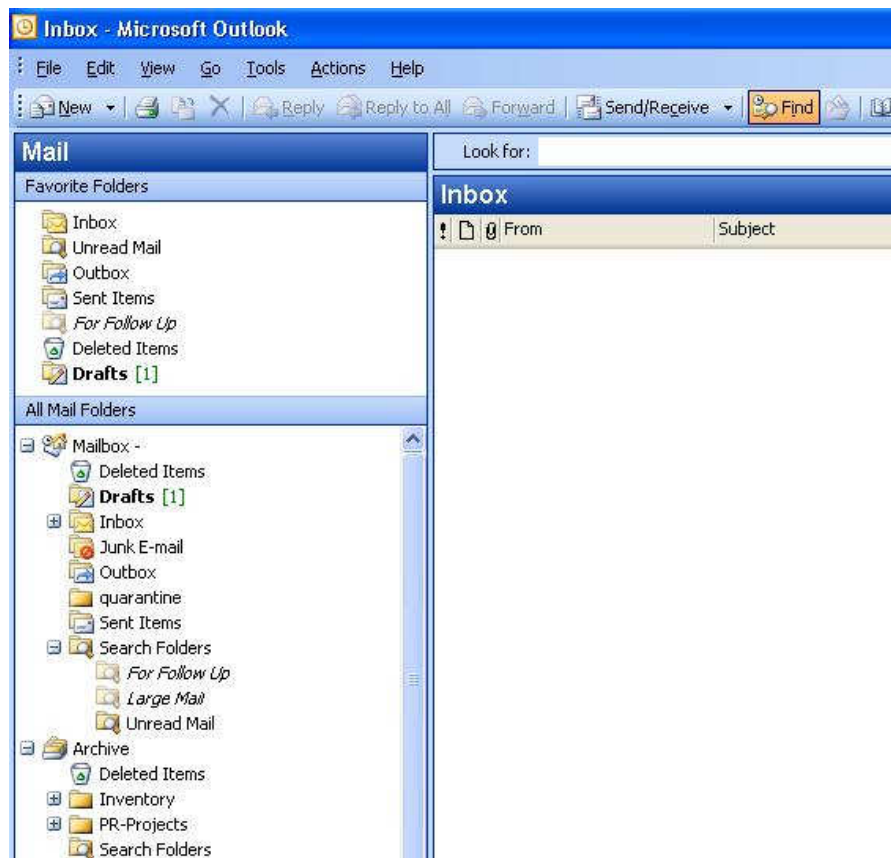


Your Car

?

L/100km

Where to start ?



Your E-mail

?

kW(h)

Where to start ?

- Before implementing improvements, you need to know how you're currently doing
- IT needs a common understood parameter to translates easily to CO₂ footprint: kWh
- Start to measure and publish your situation to the IT community: CO₂ footprint per application (e-mail, document management, ERP etc)
- Sounds nice, but how to measure?
 - ▣ Most CMDB's are weak on data the physical

How to measure ?

- IT department:
 - ▣ Most CMDB's are weak on providing information of the physical layer
 - ▣ Solution: extend your CMDB with physical information
- Infrastructure department:
 - ▣ In the best case, consumption is known on room level
 - ▣ Solution: measure up to rack or device level
- Both: team up & integrate information



Manage your physical layer

- Manage the life-cycle of your IT equipment and manage attributes about the 'physical' layer
 - 'ERP' alike system help to detect system status
 - Value defined per device for power estimation purpose
 - Relate to the logical layer (application layer)
 - Some examples of existing solutions
 - Good old 'Excel' build your own



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 Aperture®



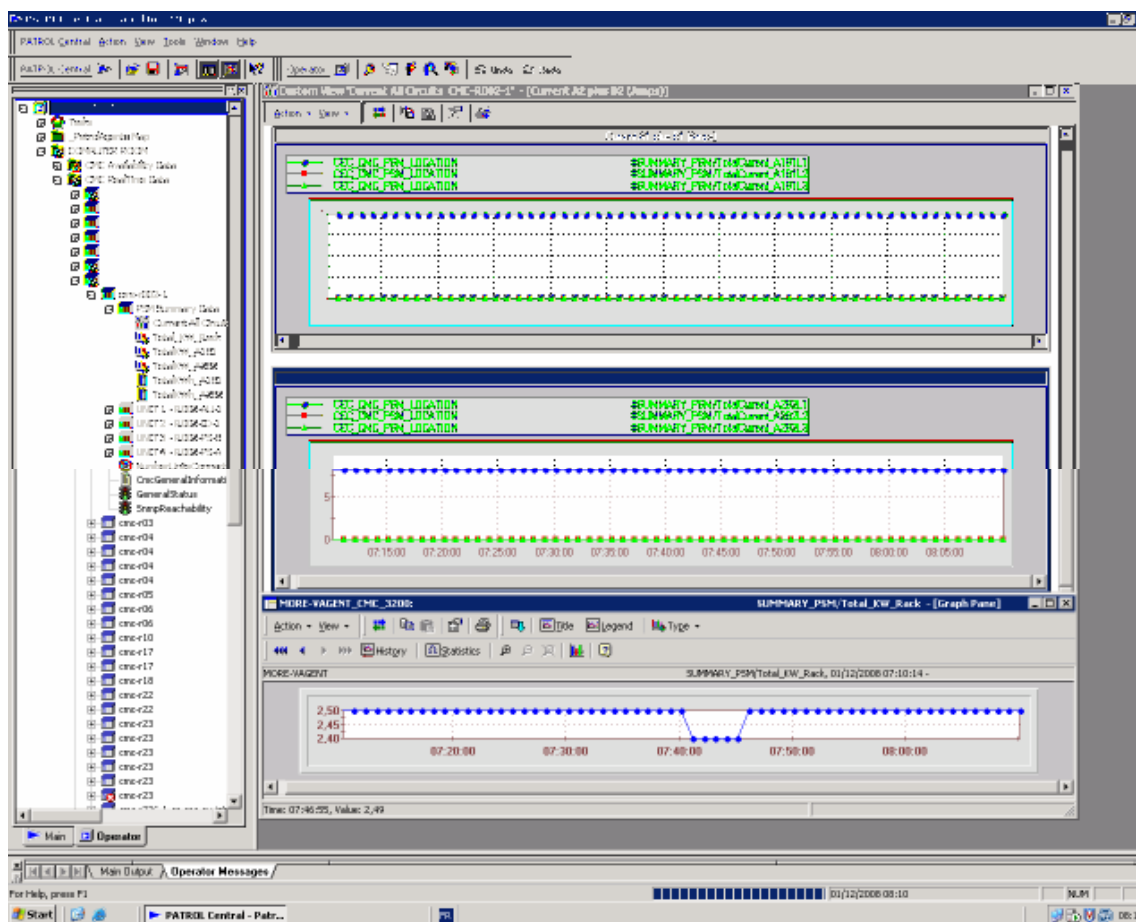
Measure 'real-time' values

- Level: power socket, power strip, rack, PDU



Consolidate real-time metering

- SNMP based systems hook up to your IT monitoring
- IT monitoring allows many views:
 - Applications
 - Rooms/racks
- Dashboard



Savings

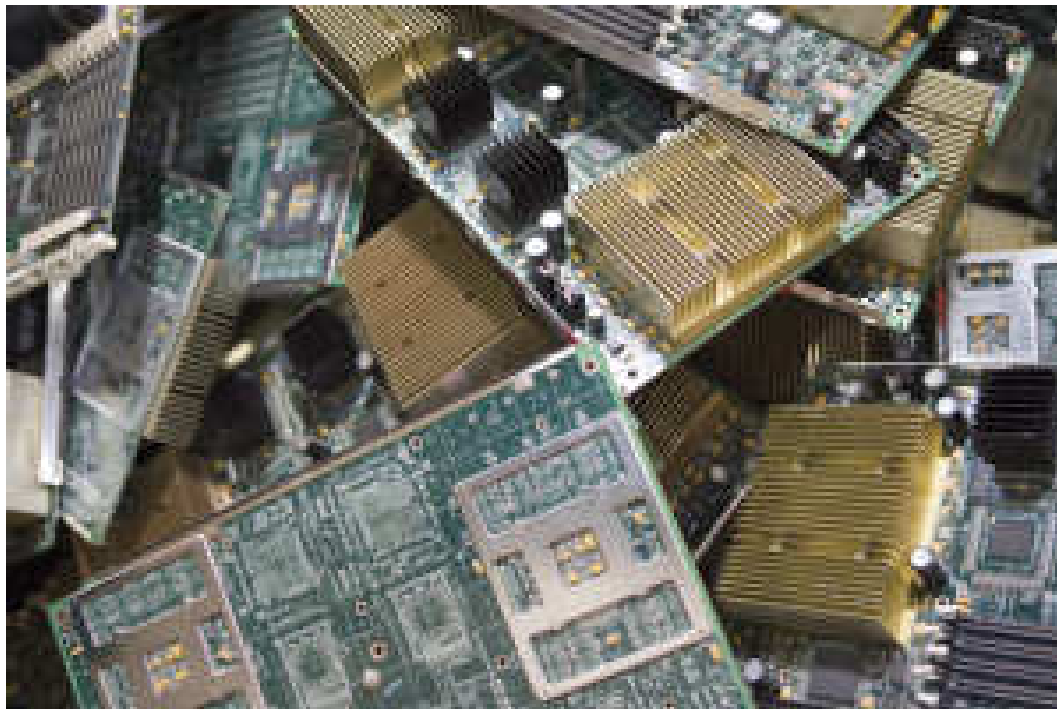


- Monitoring your kWh allows you:
 - ▣ To tune your environment: how is it used?
 - ▣ Detect unused systems
 - ▣ Turn systems off when not used
 - ▣ Measure efficiency improvement actions
 - Impact of archiving ?
 - Is virtualization reducing energy ?
 - Where and when (continent) to run applications more energy efficient ?
 - ▣ Trending: impact of new software versions and updates

Energy recycling – Your influence

- Computer rooms: >95% of electrical energy is transferred into heat
- Instead of heating outside air, re-use energy:
 - ▣ Heating of office space
 - ▣ Swimming pool
 - ▣ Production cycles where heat is required
- Smaller computer rooms support energy re-use:
 - ▣ Network (high speed fiber) is everywhere these days
 - ▣ Systems can be remotely managed

IT equipment recycling



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Decommissioned IT equipment

Buy Green

- Add 'Green' to your IT purchasing contracts:
 - Environmental impact = evaluation criteria
 - Origin of components
 - Destination of decommissioned equipment
 - Packing material and waste management of packing material



Wrap-up

- Measure and monitor the consumption of your IT-equipment in kWh to see the results of your Green initiatives
- Aggregate your consumption figures for your main applications and translate to CO₂ footprint
- Create awareness among your user community and providers (Infrastructure Dept) about the IT CO₂ footprint
- Start using green criteria in your procurement decisions, terms and conditions



Thank you for your attention

Green is not only a color

