

ECESTB Meeting May 2005

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Future Energy Solutions

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ECESTB Meeting May 2005

- Industry attendees including Apple, Sun, AMD, Sony, Canon and Ricoh.

General Discussion

- Report from Paolo on March DC meet:
 - EU pledge of help to meet year end deadline
- Report from Bob Harrison (MTP) on testing results on power supply efficiency and on-mode

Computer Spec: Off-mode

- 2W / 0.5W / 3W
- Would like justification on the higher value for off-mode for an integrated PC
- Off-mode testing:
 - Power range 0.86W (one PC) to 7W.
 - 60% of the machines tested would meet off-mode of 2W or less.
- Why not 1W for off-mode?
 - Capability exists (manufacturer) and some computer supplies achieve this already
 - EPA graph showed 1W achievable for many models in DB

Computer Spec: Sleep mode

- 5W / 7W
- 50% of DB would meet these values
- 5W challenging for multi-core computing – but achieved in testing by a multi core machine
- Industry concern over “one size fits all”
- 5W acceptable, but will need to define exceptions.

Computer Spec: Idle Mode

- 15W / 50 to 60W / 52 to 62W / 90 to 100W
- Denmark use an industry agreed threshold of 80W (includes laptop)
- Industry concerns over practicalities of on-mode inclusion
- Discussion of potential idle mode impact on delaying T1
 - Want to see T1 complete by year end
 - Looking to the EC Energy Star Board for guidance

Computer Spec: Power Supplies

- Support for **80+ efficiency** for internal and external power supplies
- Big potential savings across all models
- Need more detailed industry input:
 - What product lines already have these supplies?
 - What products will in future?

T2 Benchmarking

- AMD testing benchmarks - results in June
- Requires considerable shared work
 - Consumer testing organisations support and have some test budget
 - Current benchmarks are geared towards comparing graphics cards/processor speeds etc – not so useful.
 - Currently most computer magazines invent their own tools – therefore it is beneficial to the industry to standardise.
- Need industry logging exercises
 - Need to establish working group for future
 - Resource issue: on-idle + benchmarking = bottleneck
 - Aim to produce a benchmark compatible with domestic and non-domestic environments and put out to industry next year.

MTP Observations

PC and Notebook Power Requirement

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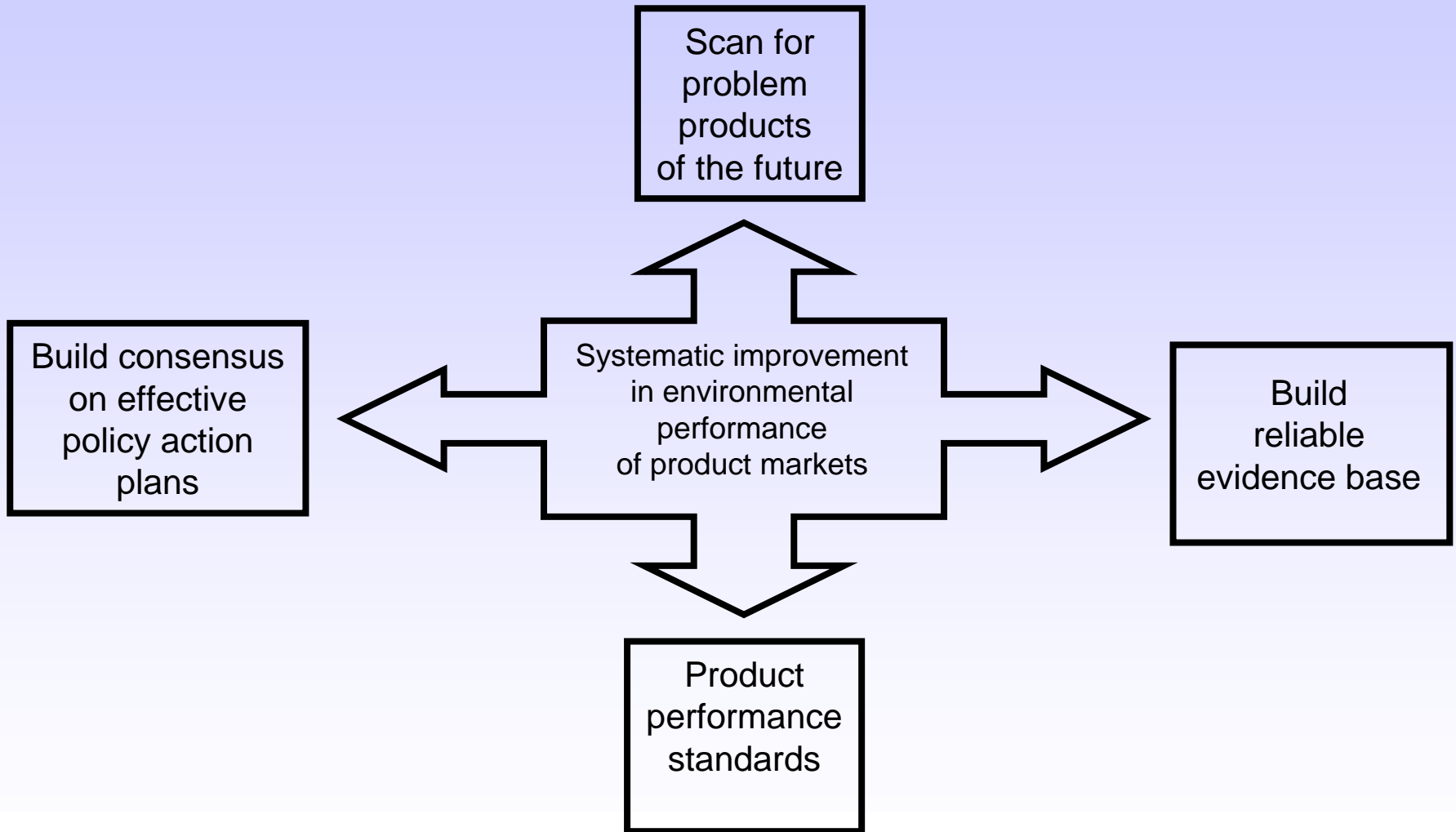
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What does MTP do?



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Testing Overview

- Desktop PCs (European):
 - Five most used power supplies
 - Rating range 250 – 600 W
- Laptops:
 - 60 laptops tested (Q4-2004 and Q1-2005 European Market)
 - Rating range 45 – 180W
 - 17” to 15” screens

Power Supply Testing - Methodology

- Desktop supplies tested using US EPA and EPRI/PEAC recommendations.
- Supplies tested at 25%, 50%, 75% and 100% loading.

Power Supply Testing - Results

- Laptops:
 - All 60 Power supplies met CoC for standby.
 - Three missed average efficiency target of 80% by 2-3%, but achieved over 80% at 40% -75% loading.
- Desktop PCs:
 - Only one supply achieved 80% efficiency at 50% and 75% loading. Average for this for all loads 25% to 100% was 76% (Dell 350W)
 - Supplies ranged from 64% to 76% average efficiency

Power Supply Testing - Conclusions

- 80+ efficiency is commercially viable
 - Achieved on lower cost machine with moderately rated supply
 - Laptop power supplies of up to 180W achieved already
 - Power supply manufacturers can achieve
- Quick win – very worthwhile target!

On-Idle Testing - Methodology

- On-idle value:
 - Sixty second average power as soon as the systems tray is fully loaded on the Windows (or MAC) desktop screen.
 - Hard disc activity just stops at this point.
- Average in-use power:
 - time averaged power requirement (usually 30 min)
 - PC used for simple word document writing, Excel spreadsheet assembly, email composition and sending (dial –up modem).
 - No drives were used in this process and hard disc activity was slight.

On-Idle Testing - Desktops

- Desktop results:
 - On-Idle power range 86 – 212 Watts
 - In-Use power tracking (manual input) within +2% of on-idle value with one extreme of +7%
 - These power levels were in the range 30% to 50% of the power supply peak power rating

On-Idle Testing - Laptops

- Laptop testing considerations:
 - Battery removed.
 - Testing conducted with screen luminance as delivered.
- Laptop results:
 - Large variation in on-idle – screen size a major influence
 - 23W to 112W

On-Idle Testing - Conclusions

- On-idle is an area where major savings can be achieved
 - Need clarity on test methodology / definitions.
 - Need to define how criteria are specified
 - Specification based criteria revised twice yearly?
- Laptops should be included in new criteria
- Auto-luminance must be addressed for laptop testing
 - Test as delivered?
 - Specify ambient lighting levels in test conditions?
 - Switch off display and test with external monitor?

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