ENERGY STAR Computer Servers:
Tier 2 Stakeholder Workshop
Welcome and Introductions

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Introduction

- Agenda

- Workshop Goals

- Special thanks to our sponsor and host
Efficiency – why we are here

- *Unlocking Energy Efficiency in the U.S. Economy* - released last week
  - Notes EPA’s projection of data center energy use growth by 9.6%/year through 2020
  - As many as 30% of servers consuming electricity operating at less than 3% daily utilization
- Message – efficiency is a significant energy resource – abating as much as 1.1 gigatons of CO₂ by 2020 - but accessible only if a national policy can be crafted to unlock it
Themes of Today’s Workshop

• *Efficient servers operated efficiently*

• Enabling the user community to select the most efficient servers for their needs *and* have the tools to efficiently operate them
  – What data and information is needed to select and operate a server efficiently?
  – What is needed to allow vendors to showcase how technologies improve the use of energy to complete work?

• How can the ENERGY STAR program serve these needs in Tier 2?
Agenda:
Morning

- **Welcome & Agenda Review** 9:00 a.m. – 9:15 a.m.
  - Andrew Fanara, *US Environmental Protection Agency*
  - Jan Viegand, *Viegand & Maagoe*

- **Program Overview** 9:15 a.m. - 9:45 a.m.
  - Evan Haines, *ICF International*

- **Perspectives: End Users and Industry** 9:45 a.m. - 11:00 a.m.
  - **Speaker:** Henry Wong, *Intel on behalf of The Green Grid*
  - **Speaker:** Charles Kalko, *eBay*

- **Break**

- **Joint Breakout:** 11:15 a.m. - 12:30 p.m.
  - **Active Mode Rating Tool for Server Energy Efficiency**
  - **Introduction:** Evan Haines, *ICF International*, Andrew Fanara, *US EPA*
  - **Speaker:** Klaus-Dieter Lange, *HP on behalf of SPEC*
  - **Discussion Moderator:** Gregory Homan, *LBNL*
Session 1

1A: Blade Servers
- Moderator: Al Thomason, TBWC, LLC

1B: General Requirements and Program Scope
- Moderator: Evan Haines, ICF International

Break

Session 2

2A: Power Supply Requirements
- Moderator: Evan Haines, ICF International
- Speaker: Kathleen Fiehrer, Intel on behalf of CSCI

2B: Reporting Criteria and Data Measurement/Output
- Moderator: Gregory Homan, LBNL

Wrap Up Discussion:
Timeline and Action Items
Goals for Today’s Workshop

• Accept audience feedback on areas being revisited in Tier 2
  – Blade Servers
  – General Requirements and Program Scope
  – Power Supply Requirements
  – Reporting Criteria & Data Measurement/Output

• Capture comments and feedback on the areas the EPA should investigate further as well as specific recommendations for updates in Tier 2

• Investigate Active Mode Efficiency for servers, charting a path toward inclusion in the ENERGY STAR program
  – The need for insight into the active mode efficiency of servers
  – What is an Efficiency Rating Tool and what characteristics it should have
  – Approaches available for bringing this information to light
ENERGY STAR Servers: Perspective from the European Union

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Learn more at energystar.gov
ENERGY STAR Agreement US - EU

- New and revised specifications developed and approved in collaboration US EPA and EC
- EC and Member States focus on stringent levels
- ENERGY STAR and EuP/ErP are complementary
- ENERGY STAR procurement requirement EC & central governments
- EU registration for EU manufacturers
- Product lists etc.: www.eu-energystar.org
EU Implementation Server Tier 1

- Estimated effective date: Dec. 2009
- Product lists and registration
- Included in procurement requirement

- Tier 1 is seen as a good first step
EU Perspective on Tier 2

- Extend coverage
  - Blades, idle / active for 3s & 4s
  - Blades – rack servers do not need to be comparable
- Better active power test – but keep it simple
  - Use existing benchmarks / workloads (2-3, including virtualization)
- Transparency, all data public
- Power supply – efficiency approach
- Limited additional allowances – follow 25 % principle also here
- No delays in timing
- Test lab accreditation: Needs consideration
- Lessons learned from Tier 1?
Final Request – Registration

• Often see ENERGY STAR labeled products, which are not registered

• National companies of international IT manufacturers do not have consumption data or have the wrong data

• Please register immediately after putting products on market

• Please inform well your European colleagues
Thanks!

Jan Viegand

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