



ENERGY STAR Computer Servers: Tier 2 Stakeholder Workshop



Learn more at energystar.gov



Welcome and Introductions

Andrew Fanara

US Environmental Protection Agency

fanara.andrew@epa.gov



Learn more at energystar.gov

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
- www.mckinsey.com/USenergyefficiency

McKinsey&Company

McKinsey Global Energy and Materials

Unlocking Energy Efficiency in the U.S. Economy



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*

Agenda:

Afternoon



- **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**
- 1:15 p.m. – 2:15 p.m.
[Breakout Room 1]
- [Breakout Room 2]
- 2:30 p.m. – 3:30 p.m.
[Breakout Room 1]
- [Breakout Room 2]
- 3:30 p.m. - 4:00 p.m.

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

Jan Viegand

Viegand & Maagoe

jv@vmass.dk

*External Technical Consultant to the
European Union*



Learn more at energystar.gov

ENERGY STAR Agreement US - EU

- Agreement US Government – European Community on office equipment (2000, 2006)
- 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
- Part of EU Code of Conduct for Data Centres launched Oct. 2008

- 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

External Technical Consultant to
the European Commission

jv@vmass.dk