



# ENERGY STAR Servers: Transitioning to Tier 2

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# Tier 1 in Review

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- Effective Date: May 15, 2009
- To date, 18 partners have joined the program as Partners
- Families and individual products qualified
- Feedback and questions: primarily on family structure and submittal formatting

# Scope

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- Defined as:
  - providing services and managing networked resources for client devices
  - sold through enterprise channels for use in data centers and office/corporate environments
  - designed to respond to requests and are primarily accessed via network connections
  - Meeting a series of hardware characteristics (defined in specification)
- Tier 1 Products
  - Managed and unmanaged systems
  - Single and Dual Node
  - Up to four processor sockets

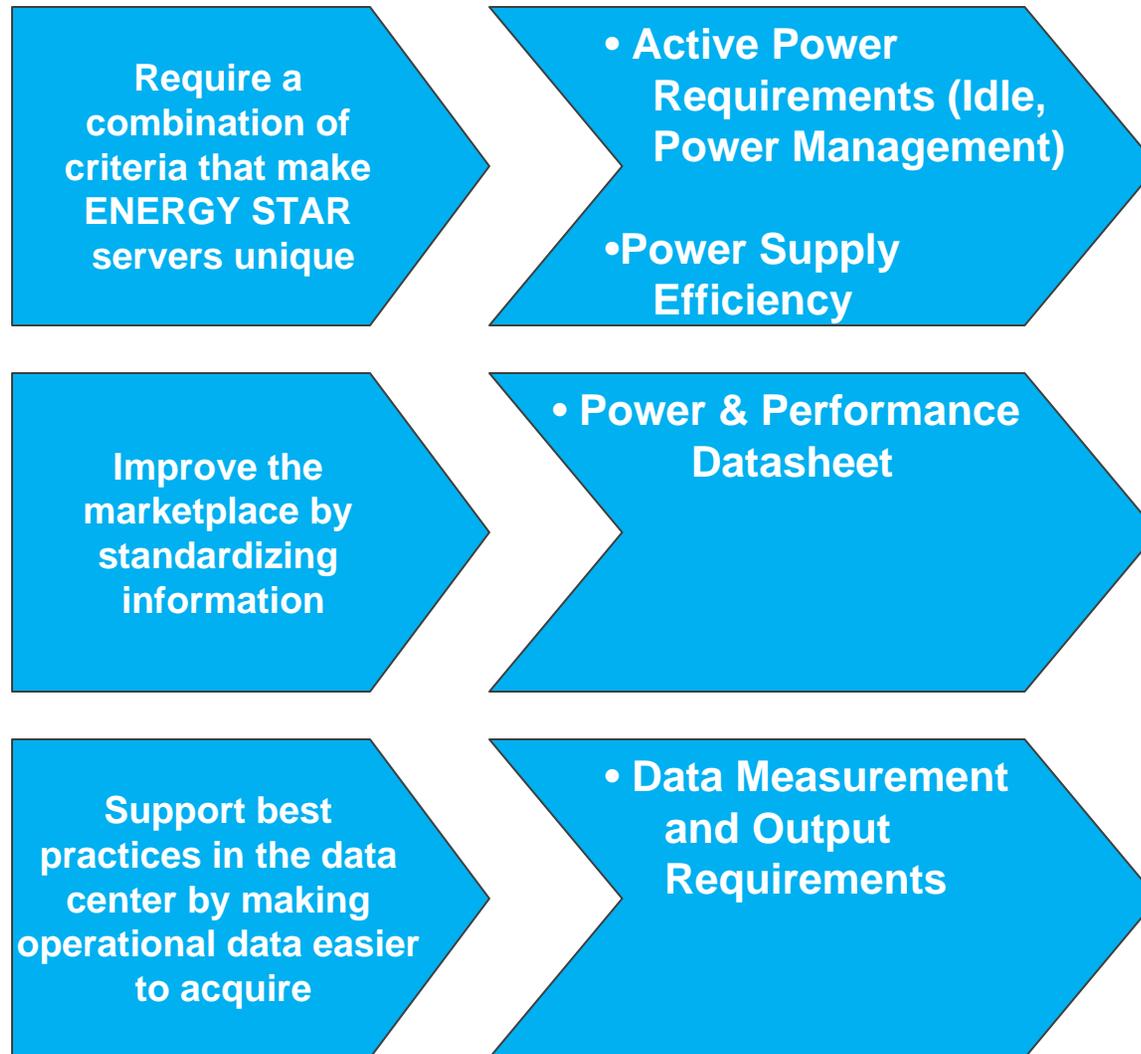
# ENERGY STAR Server Strategy

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- Require a combination of criteria that make ENERGY STAR servers unique
- Improve the marketplace by standardizing info
- Support best practices in the data center by making operational data easier to acquire
- Drive demand by demonstrating the value proposition

# Framework of Tier 1



# Key Requirements in Tier 1



- **Active Power Requirements**

- 1S & 2S:

- Idle power limits based on socket capacity
    - Power allowances for certain hardware features

- 3S & 4S:

- Processor-level power management

- **Power Supply Efficiency Requirements**

- Efficiency at 10%, 20%, 50%, and 100% load\*
  - Power Factor (AC-DC)

- Active Power Requirements (Idle, Power Management)
- Power Supply Efficiency

# Key Requirements in Tier 1



- **Standard Information Reporting**

- Power & Performance Datasheet
  - system configuration
  - reported power levels
  - active performance
  - power saving features
  - power/temperature reporting
  - thermal information

- **Data Measurement and Output**

- For managed servers and systems with >2S:
  - input power
  - inlet air temperature
  - CPU utilization

• **Power & Performance Datasheet**

• **Data Measurement and Output Requirements**

# Transitioning the Specification



Require a combination of criteria that make ENERGY STAR servers unique

- **Active Efficiency**
  - *Efficiency rating tool development*
  - *Review of Idle Power, Power Management*
- **Revised Power Supply Requirements**
  - *Net Power Losses*
  - *Efficiency Update*
- **Scope**
  - *re-evaluate product types missing from Tier 1*

Improve the marketplace by standardizing information

- **Review of P&P Datasheet format, content**
  - *Relevant information, further standardization, interfaces with existing or future data management systems*

Support best practices in the data center by making operational data easier to acquire

- **Refined Accuracy Requirements**

# How We Get to a Tier 2



- Process will need to tackle the following:
  - Scope
    - What else should fit, what changes are needed to bring products in
  - Active
    - Active Efficiency Evaluation
  - Idle
    - expand Tier 1 dataset with current product information; review feature allowances
  - Power Supplies
    - NPL, revising efficiency, evaluate impact of system-level power supply considerations (redundancy, multiple installed supplies, sizing)
  - P&P Datasheet
    - What is missing, what could be improved, how can this source better fit existing data management systems
  - Data Reporting
    - What else can be monitored, what are end users looking for



# Industry Perspective: The Green Grid

Henry Wong

Intel, on behalf of The Green Grid

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# End User Perspectives: eBay

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# Breakout Sessions



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# Breakout Sessions

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- Remainder of day focused on presentations and discussion on specification topics
- Introductory presentations and review of Tier 1 requirements
- Structured discussion:
  - Questions from Preliminary Draft
  - Feedback on existing criteria (where applicable)
  - Suggested areas for refinement in Tier 2
- Group input recorded
  
- End of day, reconvene to review feedback from each session

# Structure to Rest of Day



- **Joint Breakout:** 11:15 a.m. - 12:30 p.m.  
Efficiency in Operation

## *Lunch Break*

- **Session 1** 1:15 p.m. – 2:15 p.m.
  - 1A: Blade Servers [Breakout Room 1]
  - 1B: General Requirements and Program Scope [Breakout Room 2]
- Break
- **Session 2** 2:30 p.m. – 3:30 p.m.
  - 2A: Power Supply Requirements [Breakout Room 1]
  - 2B: Reporting Criteria and Data Measurement/Output [Breakout Room 2]
- **Wrap Up Discussion:** 3:30 p.m. - 4:00 p.m.  
Timeline and Action Items