From: Rokov, Steve [steve.rokov@avocent.com]
Sent: Wednesday, September 17, 2008 11:58 AM
To: Howard, Arthur
Subject: RE: ENERGY STAR Server Comments

Hi Rebecca/Arthur,

Many thanks for the opportunity to feedback on Draft 2 of the spec.

It is unclear to us why the 'Service Processor' and 'RASM features' requirements have been removed. We believe that by doing so, it actually undermines the value of the specification. It appears that much of the focus of the 'limiting server choice' argument is actually more closely associated with the form factor requirement i.e. rack mounting, and not with RASM or Service Processors (SPs).

Avocent would therefore like to have both of these requirements added back into the spec. (we agree with the rack form factor argument).

Simply put:

Mission critical servers in Data centers require hardware-based RASM.
Service Processors provide that at little/no procurement cost to IT.
Without Service Processors as the foundation, the ENERGY STAR spec is limited in its effectiveness today – and in the future.
In a market full of hype, adding confusion and cost to the topic are the last things the EPA wants to do.
The ES requirements need to be very hardware specific. That is the strength of the hardware-based RASM requirement provided by SPs.

1/. Without some base RASM, you limit the effectiveness of a data center management strategy to include EPA-specs
As the notes in Draft 2 state – the goal is to address those servers used in a mission critical environment but without narrowing the server choice. Today, that class of server workload, by default, requires increased levels of hardware-based RASM (with characteristics such as redundancy, predictive alerting, remote control etc). Without hardware-based RASM, overarching management systems cannot offer additional value in the area of power monitoring and control (and all the advantages that come with that such as power shedding, power capping, automate controlling of fans etc).

2/. Service Processors offer a practical RASM foundation today that can be extended in the future
As Avocent stated in the July 9th meetings, the way that RASM is best provided is by using Service Processors (SPs) that ideally support one of a variety of standardized protocols (like SMASH or IPMI). Leaving the protocol choice aside (though we'd like to see a list of such protocols as a requirement of the data sheet), vendors implementations of SPs differ. However, they do all offer common features that provide a base level of RASM (see table below). Establishing this base foundation using an SP is extremely important for the EPA as it provides an easier way to build new levels of functionality to move to the Tier 2 spec.

3/. Without a base SP, the OS and/or management agents are now required to be EPA-compliant

Without providing a hardware RASM base that includes the EPA-spec, supporting code moves out of hardware and into the OS and/or via costly management agents. The last thing that the EPA wants is to move the cost of adopting ES out to the end user marketplace. It also creates confusion (is the EPA-spec supported on that server w/abc Linux using xyz hypervisor?). Also, the testing/compatibility matrix just got way too complex. Also, what happens if the server OS crashes? Without hardware access, IT is left in the dark as to whether the problem was software, hardware or power related.

4/. Field measurements of ENERGY STAR Spec is a requirement that Service Processors offer
And if customers choose to not purchase additional agents, then without a base SP installed, many items from the product information sheet (Appendix A) would not be available to administrators out in the field. Without some way of capturing and measuring that information in real-time, then the value of the spec is lost. Being able to report on data such as 'Inlet Temperature' would be critical to assure IT that ENERGY STAR CERTIFIED servers are indeed operating efficiently AND meeting the spec.

Best regards

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Table:

Category	Base Service Processor
System Health & Security Alerts	• Health Alerts (Temperature, Voltage, Fan, etc.) • Security Alerts (Chassis Intrusion, LAN Heartbeat, System Password Violation) • BIOS Messages & Alerts • OS Hung Watchdog Timer
Authenticated Remote Control*	• Processor Missing (startup Watchdog) • Power up, down, cycle, reset • Boot & Boot Path Options
Status Info	• System State • Presence Ping/Pong
Monitoring	• Abstracted Local and Remote Monitoring • Health Sensor "Present Reading" Access (Temperature, Voltage, Fan, etc.
Inventory and Logging	• FRU/Inventory Data Access • Event Logging
Extended Out-of-Band Access	• Serial/Modem Access • Text-based Access • Inter-Chassis Access • Multi-level, Multi-user Security*
Extended Alerting	• Alerts to multiple destinations • Paging via Modem
Automatic Actions	• Platform Event Filtering - Configurable, Event-based automatic recovery & alerts
Scalability / Extensibility	• Utilizes independent Silicon (i.e. BMC) • Extensible Sensor/Event Busses • Firmware update/upgrade

* Multi-user as well as multilevel security that includes enterprise grade Authentication, Authorization and Accounting (AAA) using LDAP, SHA-1, AES, and RMCP+.