Information Technology Industry Council

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Program
Mailstop EE-2J
Proposed Determination for Servers
EERE-2013-BT-DET-0034
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: Notice of Proposed Determination of Computer Servers as a Covered Consumer Product, Docket # EERE-2013-BT-DET-0034

Dear Ms. Edwards,

The Information Technology Industry Council (ITI; http://www.itic.org/) and the Software & Information Industry Association (SIIA; http://www.siia.net) appreciate the opportunity to submit comments on the Proposed Determination of Computer Servers, published by the Department of Energy (DOE or Department) at 78 *Fed. Reg*. 41868.

Together, our organizations represent the leading global innovators of information and communications technology (ICT), an industry committed to developing energy-efficient solutions demanded by our customers and to helping drive sustainable economic growth and energy independence across our nation's economy.

Following are our responses to the four issues highlighted in the July 12th notice.

Definition of Servers

ITI and SIIA strongly oppose DOE's proposed definition.

A consensus US government definition of a computer server has existed since May 2009, with the publication of the ENERGY STAR Server Version 1.0 specification. That definition was written in close consultation with stakeholders, including the DOE, and was written in the understanding that it was important to distinguish between the products that should be defined as servers (ENERGY STAR Server specification), and the products that should be defined as computers (ENERGY STAR Computer specification). As the consultation began, in April 2008, the EPA communicated to stakeholders that the intent was explicitly to:

"Provide a clear boundary between computers that will be covered by the server specification and computers either covered by the new Version 5.0 computer specification (currently under development) or that are outside the intended scope of ENERGY STAR;"

and to,

"Address desktop-derived servers under the general computer server definition, with the same requirements as other computer servers. Desktop-derived servers that do not meet the requirements of the computer server definition will continue to be addressed by the computer specification, including 'home' or 'media' servers."

In other words, from the start the agreed intent was that a product sold to or used in households should be addressed by the computer specification, and by definition would not fall under the government's server definition.

The public record reveals no DOE or other stakeholder opposition to this distinction between the two product areas, with stakeholders recognizing that there were explicit criteria that could be cited in the definition to clearly distinguish between computers sold to and used in an enterprise environment versus those sold to and used in a household environment.

The definition achieved was therefore as follows:
"A computer that provides services and manages networked resources for client devices, e.g., desktop computers, notebook computers, thin clients, wireless devices, PDAs, IP telephones, other Computer Servers and other networked devices. Computer Servers are sold through enterprise channels for use in data centers and office/corporate environments. Computer Servers are designed to respond to requests and are primarily accessed via network connections, and not through direct user input devices such as a keyboard, mouse, etc. In addition, Computer Servers ***must have all*** of the following characteristics:
· Marketed and sold as a Computer Server;
· Designed for and listed as supporting Computer Server Operating Systems (OS) and/or hypervisors, and targeted to run user-installed enterprise applications;
· Support for error-correcting code (ECC) and/or buffered memory (including both buffered DIMMs and buffered on board (BOB) configurations);
· Packaged and sold with one or more AC-DC or DC-DC power supply(s); and
· All processors have access to shared system memory and are independently visible to a single OS or hypervisor."

The ENERGY STAR definition of a computer server was just updated as part of the ENERGY STAR Servers V 2.0 Specification. Stakeholders were involved in this update for over a year. At no point, according to the public record, did the DOE or any other stakeholder seek to question or alter this clear governmental distinction between products of a type that should be captured by the server definition and those that should be captured by the computer definition. If anything, the clarity of the enterprise-only nature of this product type has been further reinforced by the addition of a sixth criterion. The Version 2.0 definition is as follows:

"A computer that provides services and manages networked resources for client devices (e.g., desktop computers, notebook computers, thin clients, wireless devices, PDAs, IP telephones, other computer servers, or other network devices). A computer server is sold through enterprise

channels for use in data centers and office/corporate environments. A computer server is primarily accessed via network connections, versus directly-connected user input devices such as a keyboard or mouse. For purposes of this specification, a computer server must meet **all** of the following criteria:
A. is marketed and sold as a Computer Server;
B. is designed for and listed as supporting one or more computer server operating systems (OS) and/or hypervisors;
C. is targeted to run user-installed applications typically, but not exclusively, enterprise in nature;
D. provides support for error-correcting code (ECC) and/or buffered memory (including both buffered dual in-line memory modules (DIMMs) and buffered on board (BOB) configurations).
E. is packaged and sold with one or more ac-dc or dc-dc power supplies; and
F. is designed such that all processors have access to shared system memory and are visible to a single OS or hypervisor. "

ITI and SIIA strongly support this existing, consensus US government definition and are gravely concerned that DOE has chosen to propose a severely truncated version of the ENERGY STAR Server definition.

DOE has been actively involved in the development and maintenance of the ENERGY STAR Server requirements, including the definitions and testing protocols. ITI strongly encourages DOE to utilize the consensus, internationally recognized definition of servers developed and refined through over five years of public process and review. The idea that DOE might instead pursue misalignment, with all its attendant dangers, is quite startling.

We note that the proposed definition is also misaligned with the long-standing designations of Class A and Class B digital devices under FCC regulations (see Parts 2 and 15 of Title 47 of the Code of Federal Regulations). The FCC clearly describes Class A devices (including servers) as devices not intended for home environments and specifically excludes the marketing of these devices for use in the home environment. Further information in this regard can be found at FCC OET Bulletin No. 62.

Whether classifying servers as a covered product is necessary or appropriate to carry out the purposes of EPCA.

In the Determination notice, DOE provided the EPCA definition of a consumer product as a non-automotive product "which, to any significant extent, is distributed in commerce for personal use or consumption by individuals, without regard to whether such article of such type is in fact distributed in commerce for personal use or consumption by an individual."

Wishing to ensure that we understand the DOE's interpretation of this definition, we have been interested in reviewing the FAQ at
http://www1.eere.energy.gov/buildings/appliance_standards/pdfs/cce_faq.pdf.

We find the FAQ reinforcing. Using the proper US government definition of a computer server, the one that has existed for over four years and that is consistent with long-standing FCC

regulations, it is not possible to claim that servers are a consumer product for purposes of EPCA. As a product type they are very explicitly and very purposefully enterprise devices that are not distributed to any significant extent in commerce for personal use or consumption by individuals, but rather are sold through enterprise channels for use in data centers and office/corporate environments. Indeed, the percentage being purchased for personal use or consumption by individuals is either nonexistent, or so close thereto as not to be measurable.

In our opinion, classifying servers as a covered product is neither appropriate nor legally permissible under U.S.C. 6292.

Calculations and values for household and national energy consumption.

The DOE calculations are technically and analytically incorrect.

The criteria of 100 kWh per year is for products that use energy and are located in or on the site of residential dwelling units. In this case, DOE has incorrectly assigned to U.S. households the off-site energy usage of products that are used in an enterprise environment. Server energy consumption occurs in Enterprise Data Centers, which are specifically designed and operated as integrated ICT systems and which are distinct and separate from residential environments.

We are unaware of any measurable energy use by servers located within U.S. households.

Availability or lack of availability of technologies for improving energy efficiency of servers.

On this issue, it is useful to go back to ITI's March 2012 RFI response (Docket # EERE-2011-BT-NOA-0065). In that submission we noted that there has been continuous improvement in energy efficiency of servers via software, hardware, and integration with data center operations. Some examples include:

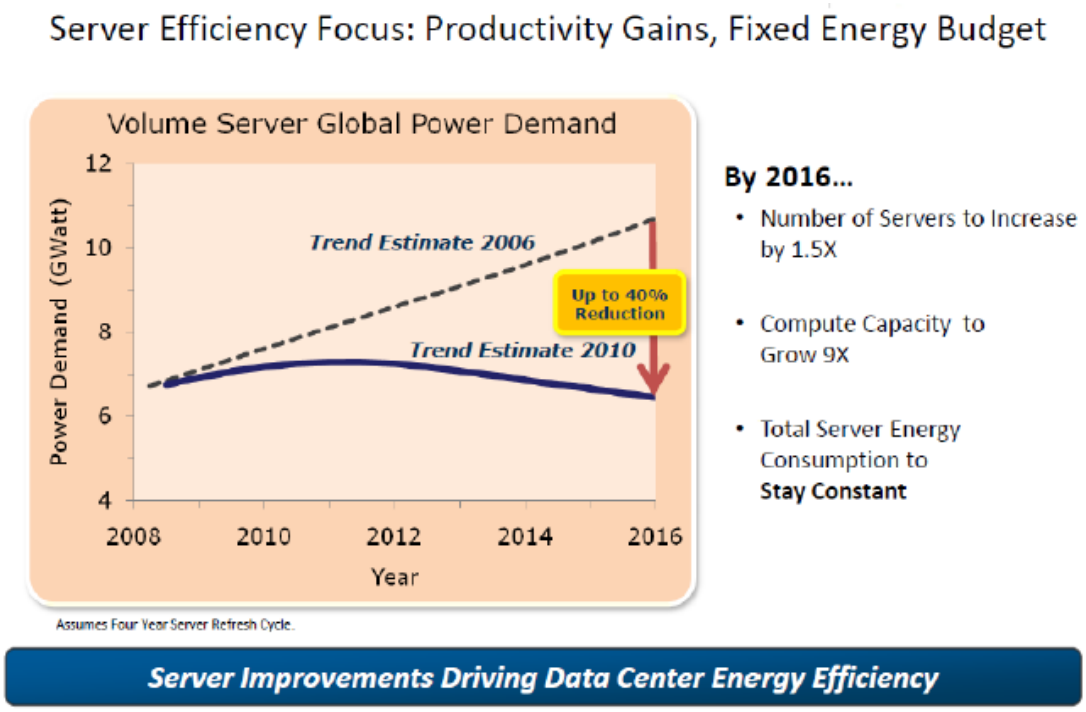
· Software:
- Virtualization and/or compute work load aggregation
- Multi-server management

· Servers:
- Improving compute proportionality,
- Increasing productivity within market driven energy envelopes,
- Autonomous power management,
- Policy driven power management features.

· Integration to the data center facilities:
- Monitor and manage based on environmental conditions,
- Thermal controls such as variable fan speed control,
- High temperature operations,

- Electrical load capping
- Dynamic energy provisioning

This culture of innovation has led, and will lead to the following:



It is not clear how an energy efficiency standard would increase energy savings compared to what is already occurring in the marketplace through technology innovation and upgrades, the ENERGY STAR program, and through the data center efficiency partnership efforts under way between our industry and such government entities as DOE FEMP and the DOE National Labs.