Organisation: DIGITALEUROPE	Name: Sylvie Feindt	Date: 8 May 2015

ENTR Lot 9: Enterprise servers and data equipment: Task 1

Document comment relates to	Section in document	Page number	Topic	Comment	Proposed change
Task 1	**2.1.3**	**8**	**ENERGY STAR Specs**	**There are separate ENERGY STAR requirements documents for server and storage systems. ENERGY STAR server V2 specifies submission of SERT data, among other criteria, for the certification of server systems. The SERT requirements for servers are specified in Section 3.5. The Storage requirements were published on August 8 of 2013 and are titled "Version 1.0 ENERGY STAR Data Center Storage Specification. The requirements for SNIA Emerald data reported are provided in section 3.5.3 and 3.5.4 on pages 14 and 15.**	**Indicate that there are separate ENERGY STAR specifications for server and storage products and provide the correct references in section 2.1.3. The two specifications are properly referenced in sections 2.1.3.1 and 2.1.3.2 but the introductory text in section 2.1.3 needs to be corrected.**
Task 1	**2.2**	**14-15**	**Product Definitions**	**Digital Europe strongly supports the Task 1 conclusion that product definitions in the Enterprise servers and data equipment categories should be harmonized on the ENERGY STAR definitions for this category of equipment.**	**No change**
Task 1	**2.2.1**	**15**	**Product Scope**	**In the second sub-bullet, Volume vs Custom Products, the discussion is not inclusive of storage and network products.**	**Add Controllers, Storage devices, storage media, I/O type and other storage and network relevant component types to the parenthesized list of components in the second sentence of the section.**

Document comment relates to	Section in document	Page number	Topic	Comment	Proposed change
Task 1	**2.2.2**	**16**	**Table 3 Server characteristics**	**The Processor/OS and number of CPUs column is not properly labelled or described.**	**The column should be labelled "processor architecture" and should include x86 (AMD and Intel), SPARC, Power, ARM, and possibly Intel x86 Itanium. A given processor architecture can support various operating systems (OSs) and hypervisors; the specific OS/hypervisor used on a given server configuration does not provide an indication of the server characteristics.**
Task 1	**2.2.2 and 2.2.3**	**16-19**	**Functional Units for Server, Storage and Network products**	**The final task documents 1 to 5 have different indications of the inclusion of data center networking equipment in the scope of the project. Ideally, all 5 documents should clearly state the intent to exclude network equipment. If network equipment is retained in the stud, it is important that the task document clearly state that network modules which are part of the storage or server product are consider part of those products and will not be considered separately under the network products section. Failure to do this will create chaos in the regulatory requirements and will create confusion and an unmanageable regulatory scheme. Similarly, the functional unit for the network equipment should clearly state that it only includes fixed or modular rack mounted systems which are installed as separate, standalone units in a rack or tower form factor product within a data center or server "closet".**	**It is important to be clear that storage, server, and network products which are incorporated as a functional unit into another data center IT product should be considered as part of the functional unit (i.e. a server used as a storage controller or a network card used in a server or storage product) and not regulated separately or under the product specific regulatory requirements.**

Document comment relates to	Section in document	Page number	Topic	Comment	Proposed change
Task 1	**2.2.2.2**	**16**	**Server functional unit**	**Specific text should be provided to note that were a server product is incorporated into another product as a functional unit, such as the use of a server as a storage controller, or special purposed to operate as an appliance for security or COMS purposes, that those servers are excluded from the server specific requirements. This is necessary because:** **1. In the case where the server is incorporated as a functional unit within another product type, its will have to serve application specific functions which precludes conformance with server specific requirements and it will be covered by the overall energy efficiency requirements for that product type.** **2. Where a server is used as an appliance for security, storage Capacity Optimization Methods (COMS) or other functionality, it is specifically configured to optimize application specific functionality such as data or network security or a compression function on data moving to one or more storage products. These systems are likely "on" all the time and cannot go into power management modes.**	**Provide text in this section which details the points made in the comments section.**
Task 1	**2.2.4.1**	**19**	**Product Definition and Preliminary**	**Data Center network equipment are retained in the Lot 9 scope.**	**All network equipment should be removed from this project scope. Network products are dissimilar from server and storage**

Document comment relates to	Section in document	Page number	Topic	Comment	Proposed change
			Scope		**products and there is insufficient data available to assess network products.**
Task 1	**3.1**	**20**	**$ITEE_{sv}$ and $ITEU_{sv}$**	**$ITEE_{sv}$ and $ITEU_{sv}$ measure server equipment performance under data center operating conditions. Section 2.2.1, sub-bullet "Product vs. System Approach" clearly states that data center level operation and data should not be incorporated in the Lot 9. Both of these metrics require data center level information for their computation and are therefore inappropriate for consideration.**	**Section 3.1 should be removed.**
Task 1	**3.2**	**20**	**Product Carbon Footprint (PCF) or life-cycle analysis (LCA).**	**The consultant and the commission need to carefully consider setting PCF or LCA requirements for products. Calculations of both PCF and LCA are notoriously dependent on assumptions and incomplete or inaccurate data and they are not indicative of the capability of the product – a product with a relatively higher PCF may be much more capable and deliver a lower PCF per unit of work delivered. PCF and LCA should not be used to set regulatory or market entry criteria.**	**Clearly state in the document that LCA and PCF data are too inaccurate and inconsistent for use as a regulatory or market entry threshold.**
Task 1	**3.5.1.1 and 3.5.1.2**	**21-22**	**SPECPower and SERT**	**These two tests provide potentially comparable data over a limited range of configurations.**	**Note the limitations of the SPECPower and SERT test with regards to comparability of data from more populated configurations and the impact of adding components that add power without adding performance. It is important to note that testing results are dependent on the product categories or**

Document comment relates to	Section in document	Page number	Topic	Comment	Proposed change
					server types and the configuration dependency.
	4.3.1	**44**	**EPEAT**	**IEEE 1680.4 should be referenced.**	
Task 1	**Section 4.1.7**	**29**	**Regulation (EU) No 1275/2008 on standby and off mode**	**This regulation is not relevant to server, storage and network products.**	**The reference to this regulation should be removed, as standby and off modes as defined by this regulation, are mainly used for maintenance or removal of equipment.**
Task 1	**4.1.13.1**	**36**	**Complexity of server products**	**Server products are complex given their range of processor frequency and core count, memory configurations, storage device type (HDD or SSD), etc.**	**Add a comment at the end of section 4.1.13.1, similar to the comment at the end of 4.1.13.2 for storage products, noting that server products are very complex given the range and choices of component types and performance as well of the range of configurations which can be purchased under a given machine type.**