

DIGITALEUROPE's Position on Ecodesign LOT 9 for Server and Storage Material Efficiency Requirements

Brussels, 29 July 2016

DIGITALEUROPE would like to express its position on the potential inclusion of material efficiency requirements for the incumbent Ecodesign consultation forum on LOT 9 for enterprise servers and storage products. In summary, DIGITALEUROPE membership believes that material requirements cannot be set at this stage of the LOT 9 developments and that requirements should target the envisioned energy efficiency requirements only, as energy use represents 90% of the environmental impact. In addition, being a B2B market, the reuse and refurbishment of servers and storage devices is part of standard business practices, significantly contributing to the circular economy. Without industry standards on material requirements, there can be no legal requirements set, in particular for products with long development and life cycles such as servers and storage. We suggest to revisit material energy requirements when LOT 9 will be recast. We provide further justification for this position below.

1. High level reasons

a) Energy consumption during use phase is, and will be, the most important environmental impact for servers and storage products

Within the Ecodesign framework, any mandatory implementing measure for storage and servers should be based on the significant environmental impacts and the significant potential for improvement thereof. The Lot 9 preparatory study conclusion showed that **energy consumption in the use phase is about 90%** of total environmental impact. It was estimated that servers, storage and network equipment consume a share of total electricity in the EU of typically 2.5%. The savings potential is complex for servers and storage equipment. These products operate as systems and address numerous applications. As such, the potential requirements should focus on information and performance requirements which are feasible at this stage. Applying the "80/20 rule" is entirely appropriate for the introduction of any specific Implementing Measure, whereas material requirements are premature, and would not take into account the current reuse and recycling practices by OEMs of servers and storage products.

Setting energy efficiency requirements for refurbished products which have already been placed on the market is not possible in practice and could undermine the reuse business, which in turn would lower the material reuse. As Ecodesign impacts new products placed on the market, the key focus should be on energy efficiency of these products, typically compute capacity more or less doubles with each generation. In many cases virtualization and consolidation will lead to the most significant energy efficiency measures.

b) Current reuse and recycling practices (%) and quantities

Servers and storage products are primarily B2B products addressing a broad range of Industry sectors and housed within IT departments and data centres. As high value products, the reuse and refurbishment of these products and their components are standard business practice by all OEMs, as well as any Data Centre operators. DIGITALEUROPE’s server and storage OEMs all have Asset Recovery Programs and End of Lease programs where the B2B IT products are recovered for reuse, refurbishment for reuse, or recycled. As informed before, data on current practices show the extent to which the circular economy concept of ‘no waste’ is embodied in the current OEMs reuse programs (asset recovery services and end of lease). In the annex of this document, we have updated percentage of servers and storage products resold or recycled for 2015.

c) Current regulation affecting materials of servers and storage products

When it comes to the Circular Economy, our sector is familiar with many of its concepts through the existing stock of legislation on eco-design, hazardous substances (RoHS/REACH), and end-of-life treatment (WEEE). The Ecodesign implementing measures are developed based on impact assessments and stakeholder consultations. This has not been the case for the material requirements proposed by the JRC. Horizontal standardization efforts for durability, reparability and recycled content have only just commenced. The improvements on materials should focus on enforcement to prevent illegal waste exports to ensure appropriate and increased recycling.

d) Need for Standards

Any type of performance or material requirements should be measurable, verifiable and enforceable. When it comes to technical requirements, these are based on Standards. To date, there are no material efficiency standards which can be applied to server or storage devices. It is therefore premature to consider in the absence of a recognised set of Standards. We want to highlight the following ongoing development in the area of standardisation.

In the EU there is the work programme in respect of M/543, the standardization request in support of the Ecodesign Directive as regards to requirements on material efficiency aspects. At this stage, general definitions and concepts for material efficiency are planned for by November 2016 and a general method, parameters and assessment of relevant material aspects of ICT infrastructure are planned for December 2018.

In the US, the future EPEAT ecolabel based on the “Standard for Environmental Leadership Assessment of Servers” currently under joint development by the IEEE and NSF, will offer a set of criterion for materials management. The standard establishes criteria for multiple levels of environmental leadership and performance throughout the product life cycle and was developed based on the principle that only environmental leadership products are expected to qualify. The standard takes into consideration existing EU regulations for reduction of substances of concern, a methodology for calculating recycled content, designing for plastics recycling and end of life management.

The EPEAT criteria are still under development, and when in place, will serve to reward environmental leadership, as the focus is on products that are considered to be in the upper tier with regard to environmental specifications, including material requirements. As such, these EPEAT criteria, when standardised, should not be applied to LOT

9 at this stage, as Ecodesign intends to set minimum requirements. We encourage the Commission to monitor the EPEAT developments in order to guide and inform the EU standardisation developments, keeping in mind the key difference between the purpose of ecolabel, rewarding product sustainability innovation vis-à-vis the purpose of Ecodesign, which sets minimum requirements.

e) Lack of feasibility assessment and stakeholder engagement

The actual reuse of server (or their components), will depend on the type of server, type of application and firmware, type of customer, type of contract, lifecycle range and many other factors which are circumstance specific. The suggested mandatory material requirements as suggested by the JRC report, have not considered or assessed the technical feasibility of applying this to specifically servers and storage products, in terms of compatibility, operability and interoperability in real system performance environments, as previously expressed by DIGITALEUROPE. In essence, there are too many different scenarios for which one or a few uniform material requirements can be set, and they have not been assessed to date. This runs counter to Commission's Strategy for Better Regulation, which relies on evidence and a transparent process involving stakeholder engagement.

2. Detailed reasons

DIGITALEUROPE already provided comments on the Requirements 1 to 4 of JRC report and herewith we briefly summarize and complement this with additional information.

a) Material composition of server products

To inform the debate on materials, we would like to provide a note on the cost and composition of material for servers and storage products. The material cost of a server is in general less than 10% of the total cost. Most costs are related to labour, transport and storage/stock. Of these materials, we can disclose a high level overview of the material contained. On average, 75% of material of a server is iron (Fe) in the form of sheet metal. All other materials are single digit percentage of copper, resin, steel, aluminium, PVC, PC/ABS and 'other'. The 'other' are compounds below the 1% threshold of metals such as manganese, nickel, solder mask, zinc and other substances. Overall, around 85% are metallic materials, 11% are polymer, 2% is glass and ceramic and then 2% of other materials. When it comes to rare earth elements, future IT products, in particular moving from HDD to SSD, will have less than 0.001% (wt) of rare earths. As used in these extremely low quantities, recycling of these substances is not economically feasible and very questionable from an Ecodesign perspective. Recycling these elements from older IT equipment might become more feasible due to recycling technology innovation, but note that Ecodesign always sets requirements for new products.

b) Requirement 1 – the reuse of components in servers

Servers mainly operate in a data center environment and the suggested interchangeability of components does reflect the necessary testing and qualification of components within this system environment. The reuse of servers and storage by OEMs, as well as the recycling has been documented above. Reuse of components is circumstance specific, and provides value in applications with lower service levels.

In addition, as Ecodesign deals with new products, the use of old components potentially could lead to a RoHS non-compliance, as these components could have an older RoHS compliance status which is no longer compliant, in particular for the expiry of exemptions. From a RoHS compliance perspective, one should upgrade, not downgrade, in order to be compliant.

c) Requirement 2 – Design for disassembly, reuse, recycling and recovery and Requirement 3 – Provision of technical information.

In the B2B market for storage and server products, design for maintenance is a must, and is a reality as shown in our ARS and EOL programs, as well as for on-site customer repair services.

Under the WEEE Directive, server and storage OEMS already have information obligations for preparation for reuse under Article 15:

Producers provide information free of charge about preparation for re-use and treatment in respect of each type of new EEE placed for the first time on the Union market within one year after the equipment is placed on the market. This information shall identify, as far as it is needed by centers which prepare for re-use and treatment and recycling facilities in order to comply with the provisions of this Directive, the different EEE components and materials, as well as the location of dangerous substances and mixtures in EEE.

There are ongoing discussions between producers and recycling on the preparation for reuse and the extent to what can be disclosed and what cannot. Ecodesign should not create additional requirements in an area which is already regulated, including information requirements.

The reuse and repair itself of servers and storage (or EEE in general) is not regulated under WEEE Art 15. However, industry can only share confidential information and tools and provide training to repair organizations that are authorized to ensure quality of repair, liability and confidentiality issues. Industry has recognized the increasing secondary EEE market by for instance introducing partner programs. EEE producers encourage interested parties to engage in these programs. However, obliging producers to share confidential information and proprietary tools with non-contractually bound entities would create unacceptable liability and IPR issues.

d) Requirement 4 - Provision of information concerning critical raw materials

As we communicated in our previous position paper, general knowledge of which elements and materials are available from which components suffices for recyclers to decide which materials they want to recover. Provision of the presence of for example rare earth metals on a product level has no added value and the recovery of an element which is below the 100 or 1000 ppm level is does not make economic sense and would pervert the environmental basis of Ecodesign.

We also remind the EU Commission of the findings by the UK WRAP report: “the recovery of rare earths, indium, yttrium, gallium, germanium and beryllium from WEEE is far from straight forward, often due to their low concentration within products”.

3. Annex: Asset Recovery Service and End of Lease reuse rates for 2015¹

(by weight)	Servers	Storage
Resold (*)	55-85%	55-98%
Recycled (= material recycling)	15-45%	2-45%
Energy recovery	<5%	<5%
Final disposal (= incineration without energy recovery and or landfill)	<1%	<1%

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¹ NB: Partially based on global data with a scenario where no recycling infrastructure is available, which explains the non-recycling rates.

ABOUT DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies.

DIGITALEUROPE ensures industry participation in the development and implementation of EU policies. DIGITALEUROPE's members include 62 corporate members and 37 national trade associations from across Europe. Our website provides further information on our recent news and activities: <http://www.digitaleurope.org>

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