

Communication:

Shortcomings of Lot 9 Proposals on Idle Limits

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Introduction

The data that powers and enables our digital economy is processed, stored and managed by computer servers, which may be located in purpose built facilities (data centres) remote from the businesses they support, or in-house in server rooms and cupboards (distributed IT). Currently, activity is moving away from the distributed model and towards consolidation, because larger facilities offer far better energy efficiency, as well as security, reliability and other economies of scale. The market share of distributed IT is therefore declining whilst that of commercial data centre services is growing. Commercial services range from colocation, where customers lease secure space for their own servers and the data centre operator just runs the infrastructure, to offerings like cloud and software applications, where the customer buys services from the operator who owns and manages the IT hardware.

Servers

Servers come in many shapes and sizes and the current trend within the data centre environment is towards fewer, larger and more powerful devices with higher processing capacity. These deliver economies of scale because one large machine has the processing capability of multiple smaller machines but a lower energy footprint. This trend is driven by increasing demand to compute data, by consolidation of IT functions and by cost considerations because these larger machines are more energy efficient (work per unit of energy consumed), require less space, less cooling, fewer parts and impose lower burdens on infrastructure.

Proposed power thresholds for idle servers

Draft proposals being developed under the EcoDesign Directive¹, include maximum thresholds for power use by servers when in idle² mode, motivated by an objective to minimise unproductive energy use. Data centre operators fully support the Commission's intention to improve efficiency and eliminate poorer performing machines from the market. Removing the bottom 25% is in everybody's interests: it levels the playing field for manufacturers, customers buy with more confidence and energy consumption is reduced. However, setting idle power limits is not the way to decrease total server energy consumption. The best way to reduce unproductive energy use is to increase utilisation through consolidation and virtualisation.

In fact, setting idle limits without considering performance is likely to have the opposite effect: it will preclude the sale and deployment of many high performance energy efficient servers³, driving the market in the wrong direction, away from larger machines that can consolidate work towards a proliferation of smaller devices with a much larger combined energy and resource footprint.

Operator concerns

Data centre operators are very concerned that these proposals will reverse the productive trend towards larger, more efficient machines, limit choice, create market distortion and render the EU sector less efficient because operators and customers will be prevented from accessing the best devices. For

¹ The EcoDesign Directive aims to improve the energy performance of a range of devices, grouped by product type into different lots. Servers and storage are being addressed by DG GROW through Lot 9.

² Server utilisation (how busy the server is and how much of its capacity is taken up by work) varies over time and depends on the applications and services it supports. Servers are not busy all the time but must be ready to do work instantly if needed – for instance to deal with a financial transaction, a query or search. A server that is not doing any work is said to be in “idle mode” but it still uses some power.

³ Think of a bus, which has a larger engine and higher fuel consumption than an individual car but can transport more people at once and is therefore far more efficient than using multiple cars to do the same job. Legislating idle limits is the equivalent of banning buses in favour of cars.

colocation providers, the proposals create a potential situation where customers who would usually reduce their infrastructure requirements at each refresh stage by consolidating activity onto fewer, more powerful machines, will instead have to deploy more devices and increase the burden they impose on infrastructure. Under this perverse situation, EU operators are rendered uncompetitive because their customers are forced down a less efficient, more expensive route. Data is the most mobile commodity on earth and those customers may simply choose a location outside the EU.

Market Failure?

Commercial data centre operators are highly motivated to improve efficiency and market drivers have already delivered spectacular improvements in energy and carbon productivity across the sector: the amount of processing that can be delivered for a given unit of energy has increased by seven orders of magnitude over the last few decades. No policy instrument has ever achieved such an outcome and it is hard to identify the market failure that regulators are seeking to address here.

From a data centre perspective, Commission proposals on idle limits appear as a clumsy, narrowly focused and ill-informed attempt to drive the sector in a direction it is already travelling. This attempt will hamper rather than aid progress; it will increase net energy and resource use (because more devices take up more space, have greater collective idle and active power demand, contain more components and have higher embedded energy and material requirements), impede consolidation and harm competitiveness.

At a philosophical level, there is a Quixotic element to Commission thinking. The services that ICT delivers are price elastic. The expansion and ubiquity of digital technology is attributable to the fact that ICT services can be delivered more and more cheaply, and since ICT services are energy dependent, this price reduction depends very heavily on efficiency improvements. Commission attempts to reduce energy at the supply end will simply lead to greater demand at the customer end.

techUK Data Centre Council observations

In view of these facts, the UK Council of Data Centre Operators requests that the Commission withdraws its Lot9 proposals on Idle Power Limits or provides auditable evidence to substantiate them.

About the UK Council of Data Centre Operators

techUK's Data Centre Council comprises twenty individual members who represent the full spectrum of business interests and business models across the data centre sector. Members include wholesale and retail colocation providers, cloud and hosting operators and enterprise providers and range from multinationals to SMEs. Some members specialise in the provision of professional services to data centres such as lawyers, surveyors, investors and advisors, and some manufacture the IT and communications hardware that occupy these facilities. The Council is a decision-making body providing strategic direction for all techUK's activity relating to data centres. Formal Terms of Reference provide governance for the group. The Council has been responsible for delivering a number of significant outcomes for the UK data centre sector. The UK has the largest data centre market in Europe by a significant margin and as a result the Council also takes a close interest in EU policy developments impacting the sector. Comprising senior decision makers, the Council is the single most influential body representing data centres in the UK. A list of members, terms of reference, achievements and other Council communications can be found [here](#)

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About techUK

techUK is the trade association representing the digital technology sector in the UK. techUK represents the companies and technologies that are defining today the world that we will live in tomorrow. The tech industry is creating jobs and growth across the UK. In 2015 the internet economy contributed 10% of the UK's GDP. 900 companies are members of techUK. Collectively they employ more than 800,000 people, about half of all tech sector jobs in the UK. These companies range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium sized businesses. www.techuk.org