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Competition law and interoperability in cloud computing

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A B S T R A C T

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The cloud computing industry is a swiftly growing sector, with many providers hailing it as a “digital revolution” that will render traditional IT business models obsolete within ten years. Although still under development, the range of circumstances to engage in monopolistic and anti-competitive behaviour in the cloud services market are numerous. Suppliers can engage in tying, exclusive dealing, and refusing to share vital information to allow the creation of technically compatible products. Monopolistic behaviour and pricing strategies can also restrict innovation and result in a lessening of competition.

This paper reviews the European laws that have a direct effect on competition in the cloud computing industry. In addition to competition law, other areas of law have an impact on competition in cloud services. Merger regulations for example have a direct effect by controlling market concentrations in the cloud and technology industry.

Interoperability has emerged as a key policy and legal consideration in cases concerning competition and merger laws. The concept of interoperability has arisen in cloud computing cases, as well as other areas of law that indirectly impact upon openness and competition. These areas include intellectual property and standardisation.

As new areas of interest arise that raise enforcement challenges for regulators, the author maintains that current laws are adequate to meet the competition concerns in the diverse cloud services market.

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1. Cloud services and competition generally

1.1. What is cloud computing?

The National Institute of Standards and Technology’s (NIST) definition of cloud services is widely adopted, being rapidly available and scalable services provided on-demand from a shared pool of resources.¹ Thus it is a model “enabling ubiquitous,

convenient, on-demand network access to a shared pool of configurable computing resources. . . that can be rapidly provisioned and released with minimal management effort or service provider interaction”.

The three main recognised uses include Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). SaaS is the most visible of cloud services – encompassing ‘free’ online email and social media services, as well as sharing of content stored “in the cloud”

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¹ Mell, P and Grance, T, “The NIST Definition of Cloud Computing: Recommendations of the National Institute of Standards and Technology” (National Institute of Standards and Technology (NIST) January 2011, Special Publications 2. <http://dx.doi.org/10.1016/j.clsr.2017.05.005>

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without download or installation required. The provision of platforms (PaaS) such as Google App Engine is useful to developers and those wishing to avoid the need for initial investment in software and hardware, but still requiring server management.

Finally, infrastructure can be provided via IaaS directly to the wholesale user and more recently end-user. Data storage, network capability, and remote computing can be purchased alone or invisibly “layered” into platform and software service provision, and includes Amazon Web Services and its competitors.

Trends powering development include the increasing demand for “bring your own device” (BYOD) as a workplace solution, public clouds and the rising demand for hybrid and ‘industry-specific clouds’. Additionally, the growth of big data and the Internet of Things (IoT) will increase the use of cloud by machine-to-machine data exchanges.

IT industries are generally considered prone to network effects. Network effects refer to the possibility that continued uptake of one product or service may lead to it becoming the accepted market standard. The cloud computing sector is particularly prone to network effects, and at various different levels. This is evident in the SaaS market, where Google+ has been unsuccessful in establishing a rival social media business to the dominant Facebook.

The European Commission’s former VP of competition policy, Joaquin Almunia, raised the complexity of the IT sector, describing it as:

... highly complex sectors, characterised by the need for interoperability and by potentially strong network effects or risks of lock-in. Often, these are markets where single companies dominate and it is therefore essential to ensure competition on the merits, notably through innovation.²

This is especially true of the cloud industry, especially given that many SaaS and PaaS services are layered on other infrastructure cloud providers. This would exacerbate the potential for dominant participants to extend their market power into secondary or ‘after-markets’. Platform providers even market their collaboration with large cloud providers with products ‘powered by’ well-known infrastructure³.

Regulators may therefore need to review market dominance at several layers of service provision and monitor upcoming trends in order to provide effective enforcement.

In light of both the immaturity of the cloud computing market as well as the Commission’s recognised need for innovation, the question is whether available laws are sufficient to adapt to this industry. Some argue that competition law is an ill-fitting suit for “advanced online services, mainly due to

problems involved with market definition of the cloud sector.”⁴ This claim will be analysed below.

2. EU competition law

The two main laws available to regulators are the prohibition on anti-competitive conduct and the abuse of market dominance, found in Article 101 and 102 (respectively) of the Treaty on the Functioning of the European Union (TFEU). Other areas of law can also directly and indirectly affect competition in this industry.

Despite being intended to prevent competitive wrongdoing, European competition law more often operates *ex post facto*. Hence, there are a number of cases involving cloud providers that have highlighted the continued applicability of these laws to services over the Internet.

2.1. Anti-competitive conduct (Article 101, TFEU)

Article 101(1) prohibits agreements, practices or decisions that can affect trade between Member States and which have the objective or effect of restraining or distorting competition.⁵ Anti-competitive practices will capture price-fixing and tying, market sharing, and discriminatory conduct.

Discriminatory conduct includes applying “dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage”, and will include price discrimination (Article 101(c)). Requiring customers to agree ancillary obligations with no connection to the contracted service would be a type of extortionate or unfair conduct (Article 101(1)(e)).

These types of conduct can be found in the cloud services market. Licensing conditions can also be anti-competitive. Major cloud providers are able for example to mandate the use of certain programming interfaces (such as Java), which will affect technical compatibility with other (non-Java based) devices.

2.1.1. Apple and iPhone applications

The Apple iPhone investigation is an example of anti-competitive behaviour. Although by no means dominant in the market for smartphone operating systems (Android having

⁴ Sluijs, Jasper P. and Larouche, Pierre and Sauter, Wolf, “Cloud Computing in the EU Policy Sphere” (August 15, 2011). *Journal of Intellectual Property, Information Technology and e-Commerce Law* 3(1) 2012; TILEC Discussion Paper No. 2011-036.

⁵ Article 101(1), TFEU: all agreements between undertakings, decisions by associations or undertakings and concerted practices which may affect trade between Member States and which have as their object or effect the prevention, restriction or distortion of competition within the internal market, and in particular those which: (a) directly or indirectly fix purchase or selling prices or any other trading conditions; (b) limit or control production, markets, technical development, or investment; (c) share markets or sources of supply; (d) apply dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage; (e) make the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or accordance to commercial usage, have no connection with the subject of such contracts.”

² “EUROPA – Press Releases – New Transatlantic Trends in Competition Policy Friends of Europe” 10 June 2010, by Joaquin Almunia, VP of EC responsible for competition policy.

³ For example, API management platform Apigee Corporation announced many of its enterprise cloud customers are powered by AWS (see: <https://apigee.com/about/press-release/dozens-new-apigee-customers-running-api-powered-digital-programs-amazon-web-services>) (last visited 24 May 2017).

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