

Chapter 97

Impact of EU Data Protection Laws on Cloud Computing: Capturing Cloud-Computing Challenges and Fault Lines

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ABSTRACT

The global nature of cloud computing has resulted in emerging challenges, such as clashes between legal systems, cultural differences, and business practice norms: cloud-computing is at the forefront of recognising, and “smoothing over,” emergent differences between nation states as we move towards a more globally connected world. This chapter uses the emergent differences over regulation governing data protection; as the world becomes more interconnected, we are likely to see more examples of technology practices and models sweeping around the globe, and raising further areas for clashes between nations and regions, much like the fault lines between tectonic plates. This chapter provides contribution by capturing some emergent “fault lines” in an in-depth case study comparing the evolving EU directives covering data protection and how they relate to non-EU data protection legal systems. This provides the foundations to consider cloud-computing challenges, inform policymakers in measures to resolve “clashes,” and in informing researchers investigating other global technology phenomena.

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INTRODUCTION

Cloud computing is not viewed as a new technology, but more as a new way of delivering computing resources. Several types of cloud computing platforms exist, of which the main types are public, private and hybrid. Public clouds are normally offered by commercial organisations that provide access for a fee. Private clouds exist within a specific organisation and typically are not available for outside use. Hybrid clouds are a mixture of private and public clouds with the typical setup being that of a private cloud that has the ability to call upon additional resources from a public cloud. (Chang, 2014)

The mainstream cloud computing frameworks are infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS). Infrastructure as a service is divided into compute clouds and resource clouds, with the compute cloud providing access to computational resources such as CPU's, while resource clouds contain managed and scalable resources as services to users. Platform as a service provides computational resources via a platform upon which application and services can be developed and hosted. Software as a service often referred to as application clouds, provide applications/or services using a cloud infrastructure or platform, rather than providing cloud features themselves (Chang, 2013).

The main advantage of cloud computing is the ability of equilibrating the access to computing resources for all types of businesses, regardless their dimensions and investment capabilities. These advantages include cost efficiency, scalability, concentration, security and accessibility with a further list below.

- Productivity gains supported by economies of scale for all enterprises.
- Data centers that provide cost-effective, secure and sustainable computing power.
- Increased accessibility for SMEs to computing resources coupled by a standardized interface usage.
- Efficient scaling of resources.
- Resources concentration.
- Timely access to updates and defaults.
- Effective audit and evidence gathering useful in forensic analysis.

An independent research from Vanson Bourn reveals that 70 percent of the interviewed CIOs considered that “cloud computing and virtualization technologies had the biggest positive impact on business in 2011”.

Cloud computing is on the rise all over the globe. Research conducted by IDC in 2011 revealed that \$8.2 billion is expected to be spent by European companies on cloud professional services in 2015 compared to only \$560 million in 2010. Private cloud facilities in the EU are becoming more prevalent; however organisations still resist public cloud services, mainly due to concerns over security and last-mile connectivity issues. Europe is also in the incipient stages when it comes to hybrid cloud and best practices development. It is expected that the mass adoption of cloud computing will emerge in parallel with the development of best practices and regulations (IDC, 2012).

In an ideal cloud-computing world the global landscape would be developed by homogenous countries that offer a consistent and complementary set of regulations. This is not the case today, as studies reveal the disparities between groups of countries where developed countries are considered to be more cloud-ready than developing countries. However, developed countries are still plagued by an improper alignment of their legal aspects, while developing countries are faced with a long way to go until being cloud prepared. This is one of the main concerns, as developing countries are also the countries that

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