

The 'Cloud' of Unknowing – What a Government Cloud May and May Not Offer: A Practitioner Perspective

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ABSTRACT

Cloud computing is increasingly ubiquitous in the consumer and private sectors and with financial austerity there is pressure on governments to follow suit. However, the relationship between government and citizen is different to that of supplier and customer; despite the advocacy of New Public Management, particularly where the holding of sensitive data is concerned. The paper examines the potential issues of 'cloud' and how they may transfer to 'government cloud' (g-cloud), along with the potential problems pertinent to 'g-cloud' itself. There is an examination of the literature relating to security, legal and technical matters concluding with the considerations and principles that need to be observed prior to any major transfer of citizen data to a relatively new but still developing area of information systems.

Keywords: Cloud, Government Cloud (G-Cloud), Government, Security, Transformation

INTRODUCTION

For when I say darkness, I mean a lacking of knowing: as all that thing that thou knowest not, or else that thou hast forgotten, it is dark to thee; for thou seest it not with thy ghostly eye. And for this reason it is not called a cloud of the air; but a cloud of unknowing [...]. (The Cloud of Unknowing, Section 84 - <http://www.catholicspiritualdirection.org/cloudunknowing.pdf>)

In March 2011 the UK Government published its Government Cloud Strategy, HM Government (2011), which stated on page 6 that:

Government will use multi-tenanted services, shared and managed by several organisations. Shared resources, infrastructure, software and information will be provided to a range of end user devices, e.g. laptops, smart phones etc, as a utility – on a pay by use basis, via a network connection – in many cases the internet; this will be supported by new delivery and supply models. It will be dynamically scalable, agile, and easy to move in and out of the service. G-Cloud is not a single entity; it is an ongoing and iterative programme of work which will enable, the use of a range of cloud services, and changes in the way we procure and operate ICT, throughout the public sector.

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The UK Government is not the only one to consider this route for the simple reason that is stated on page 10, that it has the expectation this will lead to “reduced bureaucracy, cost and management overheads” and there is now similar activity worldwide. In fact Neelie Kroes (2012), the Vice President of the European Commission, responsible for the Digital Agenda for Europe stated that “One day soon we will keep all our health data in a personal locker in the cloud”. In contrast to her “one day soon” cloud computing in the private sector may be considered mainstream with companies such as Amazon, Google and Microsoft promoting it, and some applications being delivered entirely in that manner such as the Salesforce CRM¹. However, Lewis (2012) when describing Google warns that “The people who want to make all information easily accessible are not so keen on their own secrets being brought out into the light”.

The field of technoethics, as established by Bunge (1977), holds that the technologists are morally as well as technically responsible for the for the outcomes of their creations. Luppini (2009, p.15) develops this into the paradox that individuals ought to defend themselves against any “anti-human consequences” faced by them as a result of technological innovation, which the author believes could include that of ‘cloud’ computing, particularly when used by government. As such ‘cloud’ computing is an appropriate candidate for examination by technoethical inquiry and is treated as such in this paper.

This paper looks at the wider issues of introducing a relatively new technology into the established structure of government, and the social and ethical issues that are likely to arise and how, possibly, they might be resolved. There have been numerous attempts to transfer practices and technologies from the private sector to government and not everyone agrees that they all have succeeded, New Public Management (NPM) being one of them. This paper hopes to warn of any similar traps. Initially there is an examination of what cloud is, the author then considers potential issues with it as found in the

literature, media and practical experience. The specific issues of government cloud, or g-cloud for brevity, are looked at for divergence from cloud in general. From this some conclusions are drawn for those considering using g-cloud. Finally, some attention is paid to areas where further research needs to be done.

DEFINING A ‘CLOUD’

According to the US National Institute of Standards and Technology (NIST) definition, Mell & Grance (2011):

Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

Within this definition they list five essential characteristics: on-demand self-service, broad network access, resource pooling, rapid elasticity and measured service. They also specify three service models: Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS), although Robinson et al (2011, p.x) list a fourth as Hardware as a Service (Haas). ‘Service’ is the important word, since this indicates it is utility computing providing software, systems or hardware on a pay-per-use basis. They also consider four methods of deployment: private cloud, community cloud, public cloud and hybrid cloud. It is probable that that government cloud or g-cloud would be a hybrid, excluding the public deployment.

Despite the definition there is acknowledged to be a lot of confusion between cloud, open standards and open source as highlighted by Ferrar in Clarke (2012). Ideally cloud requires open standards to permit users to move applications and data between different providers and hosts. Open source software may help reduce costs to end-users by limiting licence charges, but is otherwise currently irrelevant,

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