Scaling Applications and “Cloudwashing”

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What do we mean by cloudwashing (or cloud washing)? Let’s begin with a definition and here is a good one: <http://searchcloudstorage.techtarget.com/definition/cloud-washing>:

“Cloud washing (also spelled cloudwashing) is the purposeful and sometimes deceptive attempt by a vendor to rebrand an old product or service by associating the buzzword "cloud" with it.”

In summary, it’s a deliberate attempt to sell pre-existing technology product loaded and delivered from a server in a data centre, then adding the label “cloud” to deceive prospective buyers into buying it when the fundamental product does not meet the criteria to a true cloud service. It is not enough that the product is delivered over the internet, as a true cloud service requires:

* User self-provisioning
* Pay-per-use billing
* A multi-tenant architecture.
* A virtualized infrastructure.
* Linear scalability.



Greenwashing is a comparable term where products are described as environmentally friendly (eco-friendly or green) on bogus grounds <http://searchcrm.techtarget.com/definition/greenwashing>. Here too the term washing implies a thin coat of paint (marketing message) to cover cracks bringing a deceptively new false appearance to the product.

The main issue here is the fundamental difficulties with true scalability which is difficult to achieve for many reasons. Werner Vogels, CTO of Amazon.com defines scalability here <http://www.allthingsdistributed.com/2006/03/a_word_on_scalability.html>. Vogels sees a scalable service is one whose performance increases in direct proportion to the resources added. I would suggest that a scalable service is one whose performance increases in proportion to demand rather than resources, as this is the business requirement.

This performance increase will be across a number of dimensions, serving larger items of work (usually but not always growing data sets) and serving more items of work (usually but not always more users). Resources are added to increase resilience to failure by adding redundancy and a vital aspect of true scalability is that adding this resilience does not affect performance.

To repeat, the scalability of true cloud applications is difficult to achieve for many reasons. Firstly it cannot be added later but must be designed in to the application from the outset. This is completely fundamental as many algorithms that perform seemingly well disintegrate when placed under loads such as large numbers of nodes, large numbers of requests and large datasets.

Secondly it is impossible to preserve a completely heterogeneous architecture as the hardware estate (the cloud itself) expands. This issue is driven by obsolescence of hardware, so as new system nodes are added, not only are they not identical to those already in use they are typically more powerful with larger storage capacity etc. In this way, the algorithms must be able to deal with nodes that perform at varying speeds as new nodes perform more quickly and store more data than older ones.

So, it is easy to see how cloudwashing occurs; there is a business need to generate cash from existing products and it may not be feasible to so fundamentally re-write the whole portfolio to become true cloud products. As users we need to be conscious that any move into the cloud will be traumatic so the product or service we buy must be written and engineered to achieve true scalability from the outset.

