But is that really cloud computing?

The problem of ill-defined terminology

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Introduction

The term 'cloud computing' is in routine use within the IT industry. Vendors, service providers, industry analysts and other commentators use the term freely. We hear reference to the benefits of cloud computing, the dangers of cloud computing, the practicalities of implementing cloud computing, and various claims regarding its current and forecasted uptake.

This is as you would expect for any new or emerging type of solution, and indeed similar discussions take place around everything from smart phones, through social media, to unified communications. The difficulty is, however, that unlike these other examples of industry developments, the term 'cloud computing' cannot be pinned down to a specific idea or class of solution. It is variously used to describe:

- Highly dynamic or elastic infrastructure hosting services such as Amazon's EC2
- Virtualised pools of dedicated hosted servers, e.g. Rackspace's 'Managed Private Clouds'
- Social media and other consumer-oriented interactive 'Web 2.0' type services
- Online communications services , such as Web conferencing, VoIP, etc
- Various forms of hosted messaging, from Google Mail to Hosted Exchange
- Highly dynamic Web based applications that can be used and dropped at will
- Web based app development and deployment platforms such as Force.com and Azure
- Contract based business application software services, such as Salesforce.com
- Technology for creating flexible IT infrastructures

Now you could argue that if we put this last one to one side, the rest are associated with some form of internet or hosted service, and indeed there are some people who generally regard the terms 'cloud' and 'hosted services' as being essentially synonymous. Others, though, when considering cloud in the context of infrastructure services, for example, argue that it's only applicable to use the term if what's on offer is genuinely 'elastic' and 'on demand' in nature, i.e. if you can use and drop the service at will, scale the service up or down with ease (even automatically) and only pay for the resources you use. In the business application space (the so called 'Software as a Service' (SaaS) incarnation of cloud), many then argue quite strongly that offerings are only worthy of having the 'C' word associated with them if they are based on a multi-tenancy architecture and have flexible usage terms that don't tie the user into minimum levels or periods of use (which ironically leads to the exclusion of the market leader in online applications services, Salesforce.com, as well as the majority of other application services currently billed as 'SaaS' or 'cloud').

Beyond these different viewpoints with regard to cloud and hosted services, the 'cloud' label is then applied to a range of enabling technologies for creating so called 'private clouds'. Some of these technologies are new, many are not.

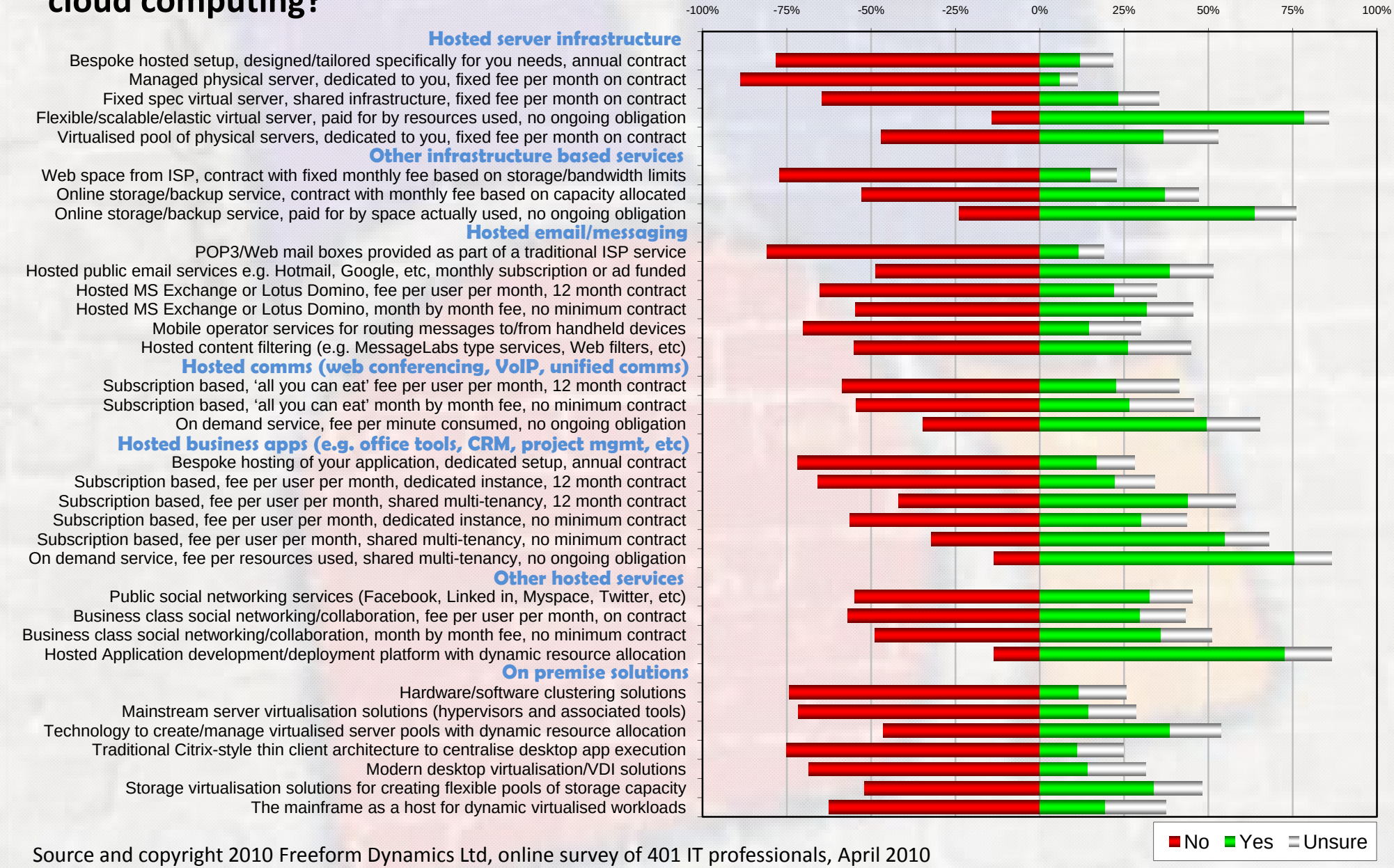
The ambiguity and potential for confusion resulting from all this is pretty obvious. If someone is presenting a forecast of future cloud computing uptake, for example, or talking about the benefits, dangers or practicalities of cloud, what exactly are they referring to? The numbers, market dynamics, value propositions and practicalities will vary enormously depending on the definition of cloud and/or how inclusive or exclusive that definition happens to be. It wouldn't be so much of an issue if people routinely defined the term as part of their output, but so often they don't.

Quick Perception Survey

Against this background, Freeform Dynamics conducted a quick online survey in association with *The Register* to determine the extent of the ambiguity that exists. The design was deliberately straightforward. Rather than get into a lot of theory around the attributes of a product or service that would qualify it as being cloud or otherwise, we simply listed a range of offerings that have at one time or another been described as cloud computing within the industry, and asked respondents to tell us whether they agreed that such a label was justified. An important part of this was avoiding reference to cloud specific terminology as much as possible and supplier brands that have been heavily marketed as cloud. The basic objective was to determine which were considered to be legitimate examples of cloud computing when described generically with all of the marketing and positioning taken out of the equation.

In total, we received 401 responses to the survey, largely IT professionals. Around half of these were from the UK, a quarter were from the USA, with the remainder split quite broadly across the rest of the world. Interestingly, around 40% of responses were from the IT supplier community, which is a much higher proportion than the 20-25% we would normally expect through this medium. This illustrates the principle of 'self selection' at work, in this case reflecting that cloud is more front-of-mind with IT vendors and service providers than it is with their customers. The self selecting nature of the sample also means that results are undoubtedly skewed towards those with firmer opinions, interests and knowledge in the topic area. Despite these limitations, however, this little exercise has been extremely revealing, as you will see from the chart on the next page.

Would you regard the following as legitimate examples of cloud computing?



Key observations

By far the most important observation from the chart we have presented is the total lack of consistency around the way in which the term 'cloud computing' is interpreted. When respondents were presented with generic descriptions of various real world service categories, the level of ambiguity was very clear.

What's particularly interesting is that some of the categories often rejected would include offerings promoted heavily as 'cloud' by vendors and service providers with big marketing budgets. Half of the respondents, for example, rejected the category of business application services delivered on a fee per user per month basis with a minimum contract period, implying that such services are not considered by this group to be legitimate examples of cloud computing. This would rule out the most common SaaS model we see in the market, which is used as a foundation for services offered by the likes of Salesforce.com, Microsoft, Oracle, Cisco, Citrix, as well as a myriad of smaller niche players. Similarly, the majority of respondents generally rejected the notion of cloud in relation to enabling technology, confirming the level of confusion around the whole 'private cloud' discussion.

The only real consensus we see in terms of what constitutes legitimate cloud is around:

- Flexible/scalable/elastic virtual server, paid for by resources used, no ongoing obligation (essentially the Amazon EC2 model)
- On demand [business application] service, fee per resources used, shared multi-tenancy, no ongoing obligation (mostly encountered in the consumer space)
- Hosted application development/deployment platform with dynamic resource allocation (essentially the Force.com, Azure, Google platform as a service (PaaS) model)

We might possibly add flexible online storage/backup services to this, which also received a high number of 'Yes' votes, but after that, opinions vary widely.

In terms of attributes, it is the service categories that are more associated with physical elasticity, shared multi-tenancy (if software) and flexible no-obligation commercial terms that are most likely to be regarded as a cloud. This is understandable, but doesn't help when the bulk of the hosting related 'cloud' offerings out there tend to be based on more fixed delivery models and contract terms.

Looking across segments within the sample, suppliers were inclined to be less discriminating about what constitutes legitimate cloud computing compared to their customers, as were Americans versus other geographies, but the differences were not that great.

Conclusion

Whether these perceptions or any of the other anomalies that are evident from the data are right or wrong is immaterial, but the picture we are seeing does suggest that no one is currently winning the marketing war to claim ownership of the 'cloud computing' term. Unfortunately, this means we all have to be on our guard when looking at anything to do with cloud at the moment unless the source has been clear about what exactly they are referring to.

In the meantime, the inconsistent and ambiguous use of language that is so clearly evident in this area will continue to cause confusion and frequently lead people into making erroneous assumptions. In the case of confusion, this will encourage more of those on the receiving end of messages and propositions from the industry to switch off to what is being pushed at them. Indeed, when most of the apparent 'noise' is coming from those trying to sell something, cloud computing is more likely to be dismissed as simply a contrived or meaningless marketing term. In the case of assumption, if people have already made up their mind that cloud is not of interest to them based on one of the narrower definitions, they could easily miss the potential of a different and more relevant offering because the cloud label applied to it has put them off. The other danger of assumption is that users investigate something that looks attractive based on the way it is billed, only to be disappointed, which in turn reflects poorly on the supplier.

These sorts of communication disjoints add to the complexity and overhead of the evaluation/buying cycle (from the customer perspective) and the sales cycle (from the supplier perspective). Either way, unqualified use of the term 'cloud' is almost certainly getting in the way of market evolution by making it harder for developments in some important areas of the industry to be recognised, appreciated and taken up by mainstream businesses.

About Freeform Dynamics

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