X as a Service, Cloud Computing, and the Need for Good Judgment

Henry E. Schaffer, IT Professional *Editorial Board*

Excessive hype makes the business of ICT (information and communication technology) a lot of fun! Seriously, it gives the IT professional opportunities and challenges. The payoff from approaching an over-hyped area with good judgment can be significant. (Hmm … good judgment helps us avoid mistakes. How do we develop good judgment? I guess it's by making mistakes. :-))

"*X* as a Service" has entered our vocabulary in many forms. Here are some examples:

- communication as a service—CaaS,
- infrastructure as a service—IaaS,
- software as a service—SaaS,
- platform as a service—PaaS,
- databases as a service—DBaaS,
- security as a service—SaaS,
- identity management as a service—IMaaS, and
- desktop as a service—DaaS.

I've counted an additional 35 types, summed up in the invaluable guide to acronyms, Wikipedia (http://en.wikipedia.org/wiki/Everything_as_a_service). There's even Silliness as a Service (www.feld.com/wp/archives/2008/04/silliness-as-a-service.html).

A Worthy Lineage

Don't let the silliness distract you from the real benefits of this new, or newly renamed, area of ICT. The "C" is needed because the new kid on this block is widespread wideband digital communications—the Internet. Much of the rest of this technology can be traced back through generations: client-server, for example, the older time-sharing of VM/370 (http://pages.cs.wisc.edu/~stjones/proj/vm_reading/ibmrd2505M.pdf), and GE's computers making Basic available in time-sharing mode in the 1960s.

This ancestral lineage doesn't do more than give background. The current environment is actually radically different, with the new features of capable client computers, affordable remote computing, and robust datacom tying these features together. This is what enables *X*aaS and the more recent onset of cloud computing.

What's also new is that they add up to outsourcing without saying so. No wonder many IT professionals are nervous, even if they don't know exactly why.

Does the mention of outsourcing bring back bad memories? It should, if you were adversely affected by poorly handled outsourcing. I actually enjoyed seeing poorly handled outsourcing as it gave me the opportunity to do some interesting and remunerative consulting to straighten out messes. If that was before your time, carefully review the issues, and you might escape being burned by the return of outsourcing—under a new name.

The common denominator of messes was a poorly specified contract with the outsource provider. "Never play another man's game" is a gambling idiom that we need to import into working with *X*aaS and clouds. Please note that I'm speaking as a buyer—and will probably tick off many providers by revealing this secret.

Good and Bad Contracts

Your company, organization, or agency has skilled contract writers in the Purchasing Department. They'll be the ones to write the outsourcing contract, which probably will be called a service-level agreement (SLA). These skilled contract writers under-

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stand the legal requirements, and they're experienced with respect to purchasing equipment and software. But do they know the computing business really well? Certainly not as well as you do. So they aren't going to be able to build in the provisions that make sure you get the service you think you're arranging in this new ITC environment.

Well, can't you write the SLA? If you're sufficiently experienced and paranoid, you probably can write the performance requirements. Paranoid is necessary, as here you really are "playing the other man's game," and you need to take care of all the possibilities and do it without overspending.

Because of your involvement with your data center and the applications, you've developed a tacit understanding with users to handle whatever comes up. You and the rest of the data center staff and management will deal with power outages, weather events, hardware problems, and other events beyond your control such as new releases and versions of operating systems and applications. All this gets done without the legal formalities that go into an external contract or SLA. Your group and the users are part of the same organization, share common goals, and want to maximize accomplishment. The vendor has an adverse interest and wants to maximize revenue.

Your experience, understanding, and thoughtfulness can help the contract people write an effective SLA that puts your needs in good legal form. Ideally the SLA will include all needed services and none that aren't needed. You certainly don't want to pay for what's not needed, and you want to avoid the dreaded phrase "Change order."

Whose Game Is It?

But why outsource when this conflict of goals exists?

The reason is because cloud computing can lead to significant savings as well as significant service improvements. That's why it's catching on. Cloud computing vendors would like to reap most of those benefits—of course. You want a share of the benefits, a fair share—but right now the only one with experience is the vendor. Thus, it's the vendor's game.

You can change this. You can overcome the vendor's advantage if you bring your past experience and good judgment into play and adapt them to this (somewhat) new situation. That is the mark of being a "professional" in our field.

Analyze the services you need, what you really use, and what you need to have on tap. Don't take anything for granted. You and your staff are used to putting in extra effort when "something happens"—such as a new release of an app or an OS. Installation is routinely planned for, but what happens when a new release causes an incompatibility? You know, and now need to put all that into the SLA. You can also learn from others' experience—that is, you don't have to make all the possible mistakes yourself. There are many varieties of *X*aaS and cloud computing, and many fields of application. An example in education is presented in "NCSU's Virtual Computing Lab: A Cloud Computing Solution" (*Computer*, vol. 42, no. 7, 2009; http://doi.ieeecomputersociety.org/10.1109/MC.2009.230).

Incorporate all your experience, thinking, and reading into your SLA, and soon you'll be playing your own game. As a professional, you'll help your organization benefit from new developments such as *X*aaS and cloud computing and have yourself look really good as a result. IT

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