



The Future Is Bright in the Cloud

Views on cloud computing have shifted considerably. Initially, there was a lot of skepticism that cloud computing was nothing more than hype or spin created to extract more budget spend out of wary IT staff. During a September 2008 analyst meeting, when Oracle founder and CEO Larry Ellison was asked a question about his view on clouds, he responded, “Maybe I’m an idiot, but I have no idea what anyone is talking about. What is it? It’s complete gibberish.” Fast forward a year, and Oracle now has a cloud strategy and an alliance with Amazon Web Services to offer cloud computing products and services.

Computing has evolved now to the point where it does not make economic sense for some firms to own and manage servers and infrastructure. A good analogy would be the expectation, when electrical systems were first invented, that people would maintain their own private generators. When Thomas Edison’s Pearl Street Power station opened in 1882, it used direct current to power part of lower Manhattan because the electricity couldn’t travel more than a square mile away. If people wanted power they’d have to be close to a plant or generate their own. The turning point came with the development of alternating current power systems, which allowed George Westinghouse to open a power

plant at Niagara Falls that sent the electricity much farther and covered a much greater area.

It is the same with the economic benefits of cloud computing. It is estimated that large data centers can purchase power, network bandwidth and hardware for one-fifth to one-seventh the price of medium-sized customers. This, more than any other factor, presents an irreversible trend away from private data centers and toward clouds.

BENEFITS OF CLOUDS

• Cost Savings

Estimates vary as to how much an organization can save by moving to clouds. The potential comes down to a few factors including how much over-provisioning currently exists, distributed versus centralized architecture, the state of virtualization in the firm, investments in disaster recovery facilities and other factors. For services like disaster recovery, savings between 50 and 80 percent are achievable over the lifetime investment of infrastructure services. Plus, avoiding capital expenses is an attractive feature of clouds.

• Rapid Global Provisioning

Many firms are currently hindered in their desire to deliver needed services to users. By tapping into a readily available global infrastructure under the pay-as-you-go model, this standoff between business needs and IT's ability to deliver can be reduced to a minimum. Moreover, once deployed under the cloud model, firms are not tied to the investment as with private hardware. Service levels can be adjusted or eliminated on demand just as easily as they can be deployed.

• Elasticity

The ability to adjust service to match demand presents

economic as well as functional benefits. Most firms have experienced a level of this — moving to virtualization internally without impacting the bottom line — as they are still tied to the investment in the underlying hardware, but with reduced quantity. The cloud model matches elasticity with cost, or put differently, breaks the costly alliance between capacity and provisioning.

• Ability to Simplify and Refocus

One of the overlooked benefits of clouds is that by outsourcing what have essentially become commodity functions like storage and hardware maintenance, the internal IT team is able to focus on more strategic initiatives that bring competitive advantage to the firm, such as Web 2.0 client-facing application developments.

CLOUD CONCERNS

Despite the benefits, concerns remain about protecting highly sensitive client data. Objections to cloud computing for law firms tend to fall under these main concerns:

• It's outside the control of the firm

• There is an inability to specify where data is, and how it's protected

• The data isn't secure

One cannot begin to address these concerns without first breaking the term cloud computing down into more specific aspects and then looking at each in context.



CLOUD LANDSCAPE

We have all heard the term “software as a service” (SaaS), and this can certainly be considered an example of a cloud solution. Less often considered at the base of the solution stack is “infrastructure as a service” (IaaS), and between the two, “platform as a service” (PaaS). It is in these latter two areas that one finds the potential for significant change and benefit to the legal IT function.

One can outsource the document management function to a hosted solution, but this point solution, while important, only accounts for a fraction of the total IT function, personnel time and costs. If one is serious about changing the economics of the legal IT

function, one needs a more holistic approach to the 100-plus applications hosted internally. These are often running on expensive private hardware, much of which is inefficiently running at 10 to 30 percent capacity, but using up power, cooling and space. Hardware also needs to be repurchased every three to five years (capital expense), and it takes a team of highly skilled personnel to manage it.

Clearly the answer must lie in a flexible, pay-as-you-go, IaaS model; one that can be more efficiently managed across multiple firms (to near 80 percent efficiency), housed in N+1 redundant, purpose-built data centers that offer the buying power of much larger enterprises.

Business Continuity — Your Path to Clouds

A business continuity plan is essentially a firm’s insurance policy, and an expensive one at that. Firms with redundant, well-designed primary facilities might never need secondary backup sites, but the modern legal environment still requires a secure offsite facility whereby core services can be quickly resumed in the event of a disaster. If you want to reduce the price and complexity of your DR facility, consider a community cloud to share the cost of redundant infrastructure with other firms.

ELASTIC DISASTER RECOVERY

Business continuity is the most elastic of the legal IT functions because the secondary service is either needed at a particular moment, or it is not. There are

few in-between scenarios. By undertaking a complete replication of data and systems to secure, offsite infrastructure as a service (IaaS) cloud data centers, firms can optimize their use of secondary facilities without paying for the time when they are not in active use. This can save hundreds of millions of dollars across the industry and improve functionality.

SAVINGS

Potential savings can be realized through the following:

- **Shared physical infrastructure (amortizes costs across firms)**
- **No capital costs (pay-as-you-go cloud model)**
- **Reduced connectivity fees through deduplication**
- **Less management overhead**

EMERGENCE OF COMMUNITY CLOUDS

If public clouds like Amazon EC2 and others are inappropriate for core legal infrastructure because of security, audit rights, data location and other factors, and if private data centers are too inefficient, where does the answer lie?

One area to look might be “community clouds,” which lie somewhere between private and public infrastructures. A community cloud is a shared physical resource, divided among a like-minded set of customers with similar concerns and goals. Because the vendor is addressing a specific market segment exclusively, he or she is sure to provide service-level agreements appropriate to that set of users. This

includes all the concerns one typically hears as barriers to using cloud services. Another description of community cloud that might cause less angst with attorneys is simply “a shared virtual data center.”

Community clouds are auditable, secure and transparent in operations and procedures. They have to be, or vendors who offer them would be out of business. They are also flexible, efficient, offer a pay-as-you-go model and, by sharing resources across a pool of similar users, are able to achieve economies of scale beyond any single firm. Additionally, PaaS offerings crafted specifically to address the needs of that discrete

- **Standardization and simplification of backup, data protection and recovery across the firm**

Disaster recovery through a cloud-based approach can help firms save as much as 50 to 80 percent of the costs of private, redundant offsite facilities.

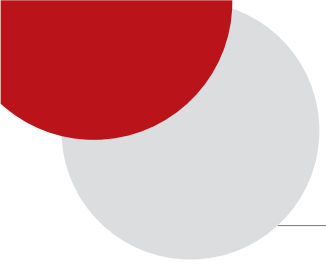
BEYOND COSTS

The changed economics of cloud computing are significant for firms wanting to do more with less. From a disaster recovery perspective, this means that rather than focus on the protection of a few core systems, firms are able to take an enterprise-wide approach and replicate all data, applications and systems to redundant offsite facilities. While this might sound like overkill from a recovery perspective, it means that all other forms of backup can then be eliminated, greatly simplifying management overhead and further reducing software costs.

BUSINESS CONTINUITY AND DATA RECOVERY AS A MIGRATION STRATEGY

If your long-term vision is to perform a gradual, low-risk migration to cloud infrastructure, a focus on business continuity will allow you to achieve this in a nondisruptive way while your IT team builds confidence in the vendor and the facility. As core services in your primary facilities approach the time when hardware needs to be refreshed, they can be started on demand in the cloud with a minimum of disruption to the firm.

Business continuity can be the beginning of a gradual migration to cloud computing and what might ultimately be a superior, less costly infrastructure for law firms. **ILTA**



set of customers are sure to be included as the vendors seek to differentiate themselves from other public clouds on value over cost.

THINGS YOU SHOULD LOOK FOR IN A CLOUD VENDOR

The due diligence in assessing the merits of a cloud vendor is not too different from finding your own colocation space. Beyond the usual focus points, there are a few cloud-specific things to consider. These include:

- **Lock-in**

Should you decide to move in a different direction, how difficult will it be to retrieve your data and systems and move on? Credible vendors will not make use of proprietary standards, formats or equipment that prevent you from ending service without difficulty.

- **Security**

Will the vendor tell you exactly how he or she ensures that your data is protected? If the vendor cannot or is unwilling to speak on this topic, you should wonder if you can put your trust in the company.

- **User Community**

Is the vendor serving applications to the public Internet? If so, this presents a different security profile to your current private LAN and should be carefully considered.

- **Audit Rights**

Do you have access to the vendor's data centers if you require them for a specific client? You might never need it, but it would be good to know that you have access before you become a customer.

- **Technology**

What is the vendor using to run its cloud, and are you comfortable with the use of that technology? If the vendor is using the same technology you are using in your existing data centers, you are likely to experience less translation issues bridging between the two.

CHANGE IS COMING

IaaS cloud computing has the potential to change the economics of the legal data center; speeding time to delivery of new services, reducing costs and allowing IT staff to focus their efforts on what gives their firms a competitive advantage.

Although legitimate concerns exist, the emergence of cloud models like community clouds portend well for the adoptability of IaaS and PaaS cloud computing.

Business continuity/disaster recovery is a low-risk, non-disruptive entry strategy which can save your firm money while your IT team gets comfortable with cloud infrastructure. **ILTA**