Diversity Limited

Cloud Based Software!

10 Reasons It's The Best Approach

Abstract

The adoption of cloud-based business applications - tools and software delivered over the web with an on-demand, subscription-based model - has caught the attention of technology decision-makers across sectors. Many of these people want to understand the reasons for accelerating uptake in adoption of cloud services, and particularly to differentiate cloud applications from traditional on-premise/desktop software solutions. We believe that cloud computing, and particularly applications delivered via the cloud, bring unprecedented benefits to organizations and will be the dominant way of delivering software in the future. We further believe that it is important that leaders within business who are tasked with making technology buying decisions should be well informed of the benefits of cloud computing. This whitepaper will offer a list of benefits that cloud computing brings to organizations and is a useful tool when determining an organization's technology strategy.

The ten core benefits we see cloud computing bringing, and the ten tests to prove that it does, are:

Cost savings

Even before the current recession, businesses were facing dual pressures to both reduce their operational budgets and more importantly reduce or remove expenditure on capital items. These dual factors have encouraged organizations to look to cloud computing, and in particular cloud based applications which meet both of those objectives. Cloud computing solutions tend to have a lower total cost of ownership (TCO) than traditional on premise applications in part due to the greater economies of scale that cloud computing vendors enjoy - these economies of scale are created by using shared infrastructure, distributed over all users. Cloud computing solutions also include the cost of any upgrades and maintenance in their subscription pricing, whereas with traditional on-premise software, maintenance is an extra cost borne by customers. The on-demand nature of cloud computing solutions also means that customers can increase or decrease their usage rapidly, thus enabling them to reduce their costs quickly in a downsizing situation.

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In the case of small and medium businesses (SMBs) or discrete business units of larger organizations, these entities tend not to have the complex, highly structured needs of large enterprises. Cloud computing solutions typically have a feature set that is scalable both up and down, giving these organizations the ability to grow into increased complexity as their needs change.

Finally, cloud computing solutions tend to offer free trials and other options that give organizations an extremely low barrier-of-entry into the product. This is in direct contrast to traditional on-premise software, which is geared towards large, out of the box investment and lengthy implementation cycles.

Business Agility

Alongside the pressures on business to reduce cost, the rapidly changing business environment demands far higher agility from an organization in all facets of its operations. Technology is no exception to this demand for agility.

Organizations are having to rapidly develop and adjust to a changing marketplace and are demanding flexible solutions that allow them to adapt to market demands. Businesses need extensibility within a product such that it is able to be adapted to meet changing functional needs. Part of this agility comes from utilizing tools that end users can provision and adapt, thus reducing both the cost and delays of a full-blown IT project.

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Today's enterprise ecosystem – the combinations of applications, services and processes that an organization utilizes – are comprised of a complex set of both on-premise and on-demand software. This mixture is shifting and changing on a regular basis. Unfortunately, on-premise applications are not designed with either integration or collaboration in mind, whereas cloud-based solutions with their innate ability to be integrated rapidly, cheaply and easily, lend themselves to giving an organization the agility it requires.

The very model of cloud computing, with its regular iterative development and release cycles, means that cloud software vendors become part of business agility process, able to rapidly adapt software to the changing needs of organizations - once again this cost is amortized across many users, resulting in a far higher level of agility at far lower cost than when compared to more traditional software platforms.

Device and location independence

Part of the ongoing change with regards to business agility is the realization and acceptance that modern knowledge workers have changing needs in terms of technology and their workplace. Workers tend to be much more mobile than previously, and also have more flexible employment arrangements with remote working becoming more widespread. Workers are embracing a variety of devices and no longer remain fixed to one machine in one place - in recent years smart phones have become much more prevalent and the rapid uptake of new devices such as the iPad are showing that workers demand "situational devices". As a result of this move to new, and multiple, devices, software is being forced to work across a variety of devices and locations. Cloud based applications are naturally aligned with these demands given that these services can be accessed via an Internet browser, thereby freeing users from any physical location or any specific device.

Cloud computing is not only allowing knowledge workers to introduce flexibility into their working arrangements, however. The advent of smart phones and devices such as the iPad, coupled with near ubiquitous connectivity and cloud computing applications, mean that workers who formerly did not have the convenience that mobile access to technology brings, now do so. Field service workers, tradespeople, roaming retail staff and other blue collar workers are able to leverage these technologies to enable "anywhere working" - the true promise of technology is met when technology molds to the users needs and not the other way around.

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Clearly when prospective customers are evaluating cloud-based services, it is important to assess the vendors commitment to developing for mobile platforms and their support for mobile access to applications.

User-centric focus

Software has long had the tendency to force end-users to change their workflows and processes to align with software's own demands. The changing face of the workplace and the rise of a generation of workers who use consumer web tools in their personal lives has necessitated a change in focus from software-centric technology deployments to user-centric ones. These workers demand software that helps them to get their job done with the simplicity and usability that they are accustomed to in their domestic Internet use. The vast majority of new knowledge workers belong to a social network and use consumer services such as YouTube, Flickr and Facebook, and they are demanding an end to the complexities and limitations of today's enterprise technology services. Businesses need to proactively respond to this demand; already surveys are showing some results where 60% of the workers belonging to the Millennial generation are not abiding by restrictive and complex corporate IT policies*

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However, perhaps bigger than the impact on knowledge workers is the impact on blue collar workers. In recent years, these workers, generally non-users of technology, have been embracing technology at home - this change is creating a paradigm shift with entire populations now technology savvy and ready to use tools that are focused on their particular needs and individual work processes. It's not a major leap to see that knowledge working is pushing further and further into organizations and traditional blue-collar workers are becoming, at least in part, knowledge-workers.

Both organizations and the workers employed within them are searching for tools that give them rich collaboration features. They are also looking to leverage tools that are sufficiently flexible to work with their particular procedures and workflows and that don't try and lock them into a rigid

*http://www.accenture.com/Global/Research_and_Insights/By_Role/HighPerformance_IT/CIOResearch/Millennials.htm

methodology. Effective cloud computing provides a higher degree of flexibility and user centricity than traditional software and therefore encourage focus to shift from control, to end user empowerment - while this may be challenging for some managers, the benefits to be derived far outweigh and short term problems..

Reliability and scalability

As we move from the desktop world to a cloud based world, we tend to abstract control of our applications and data to those with deep knowledge and experience in the area. We do so in order to take advantage of the benefits offered by cloud applications. In order to offer business continuity and a seamless user experience, cloud vendors spend considerable resources in ensuring the highest levels of reliability. From redundancy to geo-distribution to state of the art disaster recovery plans, cloud vendors are well positioned to offer high reliability. In the traditional software world, if a software vendor's client is affected, the risk is more localized and may end up affecting the relationship with a particular client. However, in the cloud computing world, such problems have the potential to affect all the clients of the service provider. This forces the service providers to architect their service to achieve the highest levels of reliability. Some of the service providers offer service level agreements (SLAs) to increase the level of trust. Such SLAs will offer compensation to the customers in the rare instance of service disruption. Depending on the vendor and the level of service they are offering, SLAs will offer anything from 99.9% to 99.999% uptime guarantee. Most vendors are transparent about the availability of their services and offer a dashboard where customers can check the availability of their cloud service.

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Independent analysis has estimated that companies with onsite email solutions averaged 30-60 minutes of unscheduled downtime and 36-90 minutes of planned downtime per month in 2008 [1]. In comparison, Google estimated that Google Apps downtime was 10-15 minutes per month [2]

Another important aspect of a cloud based service is the ability to scale up and down in a matter of minutes based on the resource needs. Such elasticity is a defining property of any cloud based offering. In this agile business world, scaling becomes integral to any business' strategy. In today's data driven world, the resource needs for any business become more unpredictable. The elastic nature of cloud based services are well suited to meet such

1. The Radicati Group, 2008. "Corporate IT Survey – Messaging & Collaboration, 2008-2009"

2. http://googleblog.blogspot.com/2008/10/what-we-learned-from-1-million.html

highly changeable needs. In the traditional software world, scaling is a long and expensive process. In the cloud world, scaling becomes the problem of service providers, and users can scale up and down in minutes at a very low cost. Moreover, cloud computing services completely eliminate capital expenditure and this helps small and medium business obtain IT resources at a level of much larger organizations.

While customer recommendations are beyond the scope of this paper, it is important to make sure to review any cloud vendor's security measures, disaster recovery plans and ability to scale.

Minimizes software management

It is our contention that the role of IT departments should be a one of providing high strategic value to the organization. To this end, we believe that simple technology management should be outsourced wherever possible. We believe that it is counter-productive to have IT staff spending a significant amount of time handling routine application maintenance and upgrades. In fact, previous analysis* has estimated that a figure between 18-25% of total software licence fees is spent annually on in-house software maintenance.

With cloud computing, software upgrades are part of the service fee. Customers are always on the latest versions and all responsibility for upgrades, testing and deploying versions becomes the responsibility of the software vendor. Anecdotal evidence suggests that a number of organizations are reluctant to upgrade to new versions of software when they become available and that the reason for this is directly related to either cost or testing as reasons for not upgrading. Cloud software removes both of these obstacles and enables organizations to always be using the very latest software versions.

..any technology function within a business that requires highly skilled workers to spend valuable time performing routine low-level maintenance should be considered an area where organizations look to gain the benefits and savings that cloud computing can bring

Simply put - any technology function within a business that requires highly skilled workers to spend valuable time performing routine low-level maintenance should be considered an area where organizations look to gain the benefits and savings that cloud computing can bring.

* http://www.softresources.com/how-to-budget-for-enterprise-software

Organizational focus

We believe that there are two distinct classes of software in the enterprise. The first class is core applications that provide a point of differentiation and create a competitive advantage over competitors. The second class are applications that we term "vanilla" those that are generic across most business. Some of these generic applications are email, storage, back-up, content management and CRM. In the case of this second class of applications, ones which don't make a business more competitive than the next but are still all absolutely necessary, it is our view that no valid reason exists for maintaining them on-premise. Often the result of maintaining these applications in-house is that IT departments are left with little time to focus on mapping their route to clear business objectives but instead spend there time performing upgrades, version control and low level technical support.

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Cloud computing presents an opportunity for IT departments to progress from being merely a cost center within a business, to becoming a true strategic partner to the organization, providing the ability to innovate and execute. This should not however be seen as a one time move. We believe that IT departments should be looking to iterate what they do and gradually move themselves to cloud computing in a methodical process. Initially they should identify technology areas that are more readily moved to the cloud using such factors as:

- Need to connect to other solutions
- Whether the function is a core competency of the business
- Whether the function has a high need for mobile and remote access
- The "sensitivity" of the data

Data portability

Customers are no longer willing to have their data locked into any one particular format, standard or vendor. Instead they're demanding the flexibility to move their data as and when they see fit. Customer data, regardless of where, or by whom, it is hosted, should remain the "property" of the customer. As with all technology decisions, due diligence is key. Prospective customers should always ensure that data is accessible, portable and extractable using commonly utilized open standards and formats and should appraise themselves about a vendor's policies in this area before making a purchasing decision.

One of the key criteria which any business should consider before moving their operations to the cloud is interoperability. When users give up control of their data and applications and relies on third party cloud providers, it is important to make sure that the cloud platform is open and interoperable with other service providers. Open platforms make it easy for users to connect their services to other platforms and applications based on their needs. An open platform not only avoids vendor lock-in, it also allows users to take complete advantage of the cloud itself. The needs of businesses are diverse and no single vendor can fulfill all the requirements of every user. In order to help users take advantage of a wide variety of cloud based services, an interoperable open platform becomes a necessity.

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Cloud computing products generally include application programming interfaces, or APIs. These let customers integrate several discrete applications without having to manually move data between applications. With an open API, users can access relevant content from the services of other vendors, including data hosted on-site. In fact, a market research poll conducted by Forrester in 2009* showed that many organizations were not only considering using one specific type of cloud, but rather a combination of them because it lets them gain the maximum aggregate benefit from all these services. Such a market need calls for cloud services to be open and interoperable. It is advised that users should turn away from any vendor who doesn't offer an open API.

*J. Staten, S. Yates, J. Rymer, L. Nelson: Which Cloud Computing Platform is Right for You? Forrester Research, April 2009

Best of breed security

Another important concern for businesses exploring a move to cloud computing is security. In fact, there is a certain level of doubt created by traditional vendors and it is important to understand how cloud providers handle security. In order to ensure the highest standards of security for their customer data, cloud providers employ world standard security professionals and they follow industry best practices to keep this data safe. They have the best physical infrastructure security similar to that of Fortune 500 companies and control internal access to data to the bare minimum. Apart from ensuring the highest levels of security both on the physical infrastructure and human resources sides, they also follow good practice at the operating systems and applications level. Some practices that should be maintained by cloud providers include strong encryption of data and fine grained access control from the user side - customer should ensure this is the case in their due diligence process.

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Data needs to be secured both in storage and during transmission. Depending on the target market, cloud providers use a variety of techniques to encrypt the stored data. These ensure the best possible protection for data. One of the defining characteristic of cloud based storage is the use of multi-tenancy to drive down costs. The cloud providers architect their infrastructure in such a way to ensure segregation of stored data with protective controls. In order to protect the data during transmission, cloud providers use industry standard encryption that prevents any data loss.

Access control is also an important security concern when using cloud applications. There should be an easy way to control the access of data based on roles, departments, and permissions. Not only the ability to have a fine grained control over user access is required, extensive logging and the ability to monitor the access of data is also crucial. This calls for powerful analytics and reporting tools.

The other important issue for businesses using a cloud vendor is compliance. Many businesses are required to be compliant with different regulations. When they put their data in third party datacenters, it is important that the outsource vendors are also compliant with these requirements. Even though the regulatory requirements vary depending on the area of business and legal jurisdiction, most cloud vendors are compliant with SAS 70 Type II audit, a global auditing standard designed to to evaluate and issue an opinion on a service organization's controls. Cloud vendors hosting data of clients from the financial sector also need to be compliant with the higher standards of PCI DSS. Some cloud providers also work with their clients to get certified through independent auditors.

Powerful analytics

By definition, cloud software is able to connect with other data both inside and outside of the firewall. Utilizing cloud computing, organizations have the ability to acquire real insights into how data moves within their organization and the interplay between different data types. They also maintain an ability to capture information about the access of their content which may be crucial in maintaining the integrity of that content. Secondarily, IT administrators can check if their access control policy is properly followed, thereby ensuring the security and privacy of the stored data.

In an age where organizations are seeking to gain efficiencies in terms of the way their processes work, gaining an insight into the way employees interact with tools allows for the efficiencies to be created - in this way a virtuous loop is created where tools can be continuously adapted to most efficiently work with the process and use-case at hand. A solution that includes good analytics will also help users keep tabs on their shared data. This becomes all the more important when the data is shared publicly with people outside the organization

A powerful analytics offering with good reporting capabilities has the potential to tremendously benefit organizations. On one hand, it will help top management to have a holistic view on the business process and how various departments are functioning and performing. On the other hand, it will give the individual departments or groups the ability to keep informed of the activities of other departments or group.

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Finally software that includes powerful analytics tools makes it easier to ensure regulatory compliance. It will help the organization answer auditor's questions with confidence.

Summary

The move from on-premise to cloud applications is a growing trend that will continue to accelerate over time. We believe it imperative for technologists to understand what cloud computing is, the benefits it can bring to an organization and some key areas to assess when deciding upon a vendor. While there is no "one size fits all" methodology when assessing vendors, this paper has given broad functional areas that can be assessed as part of a due diligence process. It is important to gather information about the vendors being considered - from both vendor-produced documentation but also from independent analysis and commentary. The authors of this report welcome questions and feedback from readers. Contact us via diversityanalysis.com

Box.net was founded in 2005 on a simple, powerful idea: it should be easy for people to access, collaborate, and share all their content, wherever they are. Today, Box provides Cloud Content Management for 4.5 million users and companies ranging from small businesses to Fortune 500 companies. Box's dynamic, flexible content management and collaboration solution empowers users to access and share content online, and gives IT professionals unprecedented visibility into how content moves within their organizations and beyond. Content on Box.net can be shared internally and externally, accessed through iPad, iPhone and Blackberry applications, and extended to OpenBox partner applications such as Google Apps, Netsuite and salesforce.com.

Box.net is based in Palo Alto, California and is backed by venture capital firm Draper Fisher Jurvetson, U.S. Venture Partners and Scale Venture Partners.

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Diversity Analysis is a broad spectrum consultancy specialising in SaaS, Cloud Computing and business strategy. Our research focuses on the trends in these areas with greater emphasis on technology, business strategies, mergers and acquisitions. The extensive experience of our analysts in the field and our closer interactions with both vendors and users of these technologies puts us in an unique position to understand their perspectives perfectly and, also, to offer our analysis to match their needs. Our Analysts take a deep dive into the latest technological developments in the above mentioned areas. This, in turn, helps our clients stay ahead of the competition by taking advantage of these newer technologies and, also, by understanding any pitfalls they have to avoid.

Our Offerings: We offer both analysis and consultancy in the areas related to SaaS and Cloud Computing. Our focus is on technology, business strategy, mergers and acquisitions. Our methodology is structured as follows:

- Research Alerts
- Research Briefings
- Whitepapers
- Case Studies

We also participate in various conferences and are available for vendor briefings through Telephone and/or Voice Over IP.

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