CRUCIAL

# Cloud Apps and the Modern Professional:

# The New Business Landscape

White Paper by Crucial Research

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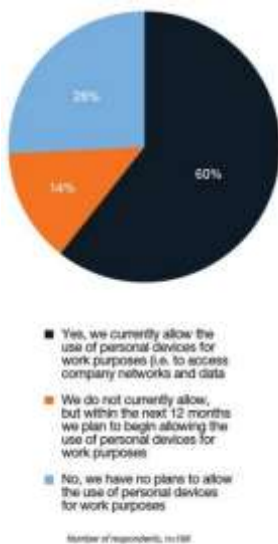
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# 1. Introduction: Cloud and the mobile employee

The rising implementation of BYOD (Bring Your Own Device) policies in both large global companies and small business offices has transformed the modern workplace into a more dynamic collaborative environment. However, this has also become a conditioning factor that should encourage businesses to sustain a reliable cyber security system within the company and outside the office. Namely, dealing with the problem of continuous multi-platform and multi-location access to company data is a growing problem in mobile-enabled settings, which provides a reason enough to examine the emerging issues in more detail.



- Yes, we currently allow the use of personal devices for work purposes (i.e. to access company networks and data
- We do not currently allow, but within the next 12 months we plan to begin allowing the use of personal devices for work purposes
- No, we have no plans to allow the use of personal devices for work purposes

Number of respondents, n=198

© *Tech Pro Research, 2014*

In a recent survey performed by the *Tech Pro Research*, 74% of companies reported that they encourage BYOD policy at their place of work, or plan to allow it in the following period. Conversely, the rest of the companies surveyed reported that they aren't planning on introducing this strategy any time soon, due to potential security issues.

As we are entering the era of Internet of Things, cloud based applications and platforms will continue to dominate the world of business professionals. To keep up with the progress, we will be forced to face the fact that while the benefits of this modern way of computing are unquestionable, insufficient security and repeated data breaches still remains a problem that have yet to be dealt with.

In the following research, we will present current trends in cloud computing, CEO perspectives, contemporary usage of platforms, employee benefits and implementation challenges that one company has to be aware of when considering an inauguration of cloud applications and BYOD policy.

## 2. Global Cloud Adoption

When it comes to employees, their decision has already been made – workers feel comfortable and more familiar with constant access to data through their personal devices. A large number of them actually reported feeling more productive and encouraged to even work afterhours, when they feel concentrated enough to deal with demanding tasks.

However, for the CEO department certain implementations are well advised; counting on the human factor as a decisive one when it comes to security breaches among other potential troubles, implies that adopting cloud platforms comes with a great amount of responsibility.

### 2.1. Trends

For the year 2015, it is more than obvious that the cloud adoption is on the increase. Compared to 2008, when the total revenue of cloud services was approximately $46.4 billion, the current state of income from these platforms has expanded significantly, with a global scale now being more than $150 billion. It is expected that this trend will continue to climb.
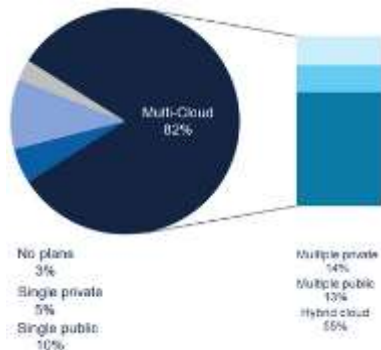


© *Right Scale, State of the Cloud, 2015*

Observing the invariable increase of the cloud adoption, it could be concluded that companies continue to embrace the hybrid cloud approach to answer their workers needs. According to *Right Scale* reports, 82% of large enterprises with more than 1000 employees stated that they are using a hybrid strategy, which is an 8% increase when compared to year 2014. Only 10% are using single public cloud, 5% single private, and 3% of the companies surveyed reported that they have no plans.

55% of the enterprises devoted to hybrid cloud strategies are based on implementing a mix of private and public services, while 14% is considering multiple private, and 13% will install multiple public cloud services.

The popularity of mobile devices is on the increase as well, with 60% of employees using their personal devices for work. In fact, by the year 2017 more than half of companies will require from their workers to own and use a personal device for business on a daily basis.

The majority of mobile business application developers is adapting to this ever-growing trend, and is reporting an increase in need on a global scale. The dominant industry remains in the sector of vending and transaction applications, but the compound annual growth rate by the year 2020, as projected by the *Compass Intelligence*, should be an unwavering 38.8% for all business applications.

Social tools are supporting collaboration on the cloud services too. The preponderance part of modern cloud computing services, (including software, platform and infrastructure as a service) are implementing extensions which allow employees to communicate within projects and tasks, in a form of commenting, mostly.

## 2.2. CEO Perspectives

The main incentive and a decisive factor for many CEOs is the fact that by encouraging BYOD policy, and implementing cloud computing, productivity increases as a result of a frictionless communication. In addition to facilitating collaboration between departments and individual employees, cloud platforms also enable customer services to perform more organized, with far more efficiency through a transparent form of a communication.
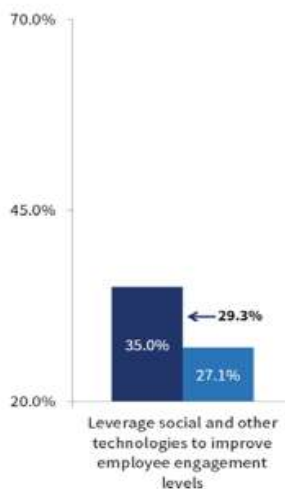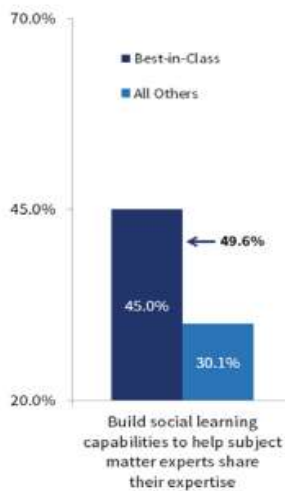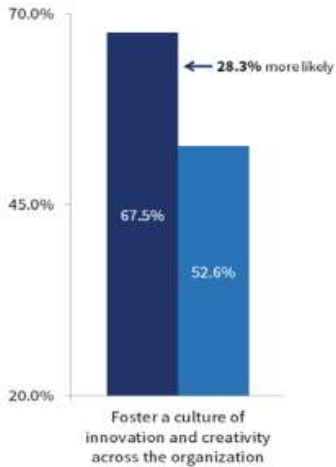
Moreover, by adapting to cloud based platforms, CEOs can lower the costs of developing new ideas, implement innovative suggestions faster, and even cut down on workforce. The ability to access big data at any given time creates an opportunity for instant impact on the market, while that quick entrance is simultaneously providing an opening not just for higher profit, but for new information that will eventually present decisive factors for future ventures. CEO's refer to this occurrence, supported almost entirely by cloud computing systems, as *an encouraged calculated risk taking*.



*© PwC, CEO Annual Survey, 2015*

The 2015 *PricewaterhouseCoopers professional services* survey, confirmed that CEOs are highly interested in SaaS, PaaS, and IaaS cloud systems, with 81% of them perceiving mobile technologies as strategically important factor for their organization. Still, their concerns about technology related threats are in increase as well. While only 27% of them regard cloud computing development as very important and 33% somewhat important, 53% of the CEO's surveyed agree that their cyber security systems are very important.

**Foster a culture of innovation and creativity across the organization**
67.5%
52.6%
← 28.3% more likely

**Build social learning capabilities to help subject matter experts share their expertise**
■ Best-in-Class
■ All Others
45.0%
30.1%
← 49.6%

**Leverage social and other technologies to improve employee engagement levels**
35.0%
27.1%
← 29.3%

*© Aberdeen Group, Building the Business Case for Social in HR, 2015*

Compass Intelligence predicts that the U.S. small businesses will also support the growth of this trend, based on reports gained from representatives in the period between 2011 and 2015. Currently, small business owners are investing up to $43 billion in cloud computing, and it is expected that this figure will grow up to $55 billion during the year 2016.

## 3. Employee benefits and mishandling

From increased collaboration to remote access, employees are prime advocates of cloud based platforms and prefer working for companies that encourage and support the BYOD policy. This solution is constantly growing in popularity, particularly in smaller and medium enterprises.

The pressure of corporate environment and the isolation of workers in general have been surpassed with mutual networking through cloud platforms and social networks. As a result, employees are more motivated, more productive, and more team-oriented.

### 3.1. Attitudes toward social networking between employees

It is evident that companies gain profit from employee collaboration. Taken from the sample of 244 organizations studied by the *Aberdeen Group,* CEO's believe that the majority of their workers are highly engaged, with an astonishing 81.5% in average. The *best-in-class* organizations support the current of innovation, diversity and creativity across their companies, and employees are thankful for the opportunity to show initiative and communicate with other departments on a daily basis. HR departments of these organizations insist on usage of social networks through cloud platforms and in general, since it helps building social learning capabilities.

Employees welcome this incentive, and their voice through social networks is the key factor which supports collaboration, but also productivity and engagement. Although the *best-in-class* organizations are slowly implementing this culture, the benefits are indisputable.

*The technology is the enabler;* - reports Michael Moon, Research Director of Human Capital Management, *A.G.* - *but process and the people are the catalyst.*

3.2. Cloud applications usage

Apart from collaboration and social networking as a decisive factor for future innovations within organizations, employees use cloud computing applications mainly to access company data through their personal devices. In a not so recent survey performed by *Dice.com*, 32% of IT employees reported that they would be more than willing to accept a pay-cut if they would be enabled to telecommute in return.



Figure F: Have you downloaded cloud applications that you no longer use?

27% Yes

73% No
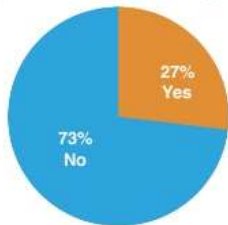
*© Trustmarque, Office Worker Cloud Usage & Risk Report, 2015*

Depending on the industry, employees have no trouble adapting to cloud platforms; in fact, some of them are even using their own software without the knowledge of their employers. The *Trustmarque* survey reported that 1 in 5 workers admit that they are uploading sensitive company files on personal cloud storage applications. Additionally, 36% of the employees surveyed reported that they are deliberately using their personal cloud apps to surpass problems that they are experiencing with the company provided platforms. 27% of employees even reported that they've downloaded a cloud application that they no longer use, but still keep it on their personal devices, which is by itself an irresponsible action with high risk involved when it comes to security and data breaches.

To deal with this particular problem, companies are advised to educate the co-workers and insist on using alternatives provided by the organization, offer an adequate substitute for the app in question, and block activities, not application.

3.3.1. Most used apps

The *Skyhigh Networks Company* tracks more than 13 million employees usage of cloud apps, across 350 companies, and in their report published in Q3 of 2015, these are the top three apps most frequently used by workers in enterprises:

**Office 365**



The most popular platform named by its successor, Microsoft Office, refers to a subscription plan that allows not only the use of Office platforms, but also additional storage and other communication and productivity services.

### Cisco WebEx

The magnate application of online communications, WebEx is the perfect platform for online correspondence, web conferences and on-demand collaboration that can also include reliable videoconferencing. This particular app has been around for more than 20 years, and one a series of awards from Forbes, Business Insider, Guardian and Hubspot.

### Salesforce

Although Salesforce concentrates particularly on Customer Relationship Management platforms, the company also enforces commercial applications of social networking through acquisition. This cloud app remains predominant choice for many companies on a global scale, with a great variety of Cloud based platforms for Sales, Service, Marketing, Collaboration, Data, Analytics and Custom Cloud.

## 3.3.2. Google Cloud Applications

Conversely, when discussing employee's choice, the Cloud platform by Google is increasingly becoming popular. Social networks are still the first stop of an average worker, YouTube is right there in the top of the list, and both Google + and Gmail are in the top 10 of most frequently used apps as well. Google Drive occupies the 11th position.

The policy of Google that *no ecosystem is an island* is working to the company's benefit.

Google insists on adapting its cloud services to every operating system possible. Regarding Apple and iOS systems, 76% of apps included in the Google Cloud Platform are supported by both iPad and iPhone formats, which is an outstanding advantage when compared to other cloud services.

The fact that this is one of the rare platforms which is free to use is also a great plus. Compared to all the other options, Google's simplicity is one of the prevailing factors why the majority of users turn to this choice.

### Google Drive

As reliable data storage service, Google Drive offers 15GB of space for free to all users. It also helps connecting data sheets, docs and all other platforms that one might be using as a part of the Cloud Platform. Additional 100GB of space costs $1.99 per month. There is also an option for large companies and enterprises, with the unique pricing strategy: terabyte of online storage in Google Drive costs only $9.99 per month.

### Google Docs, Sheets and Slides

Docs, Sheets and Slides are all parts of the cloud computing Google office. This platform is becoming more popular because of its reliable service, storage, and the ability to keep the documents saved at all times, no matter what action one might perform. The ability to edit documents within the group at the same time makes it favorable for companies and businesses, which is why this set of tools is referred to as Google Apps for Business.

## 3.3.3. Cloud Storage Services

As an alternative of Google Drive, two storage services are also extremely accepted and enforced in the place of work. One of them is actually causing more troubles than benefit, and we will start with introducing exactly this service.

### Dropbox

Dropbox has reached 400 million users, with more than 100.000 companies who prefer storing files on this platform. However, the price of fame is high, since Dropbox breaches are frequent and constant, resulting in many companies turning their backs to this service.

The other question is unreliability, since in the October 2014 this company confirmed that a bug deleted a large quantity of files stored. This is why Dropbox is no longer on the top 20 list of most used business apps, despite its popularity.

**Box**

This cloud storage is reserved especially for IT experts and businesses. Although everyone can open an account and gain free 250MB of space to store files in the cloud, the pricing strategy of Box is still targeting enterprises.

This service is strongly situated on number 12 of top 20 enterprise cloud services, as reported by *Skyhigh Networks Company*. The reason for this is a great variety of options which support communication and collaboration within the files between employees with access. One can also assign tasks, leave comments and edit the privacy of certain files.

## 4. Implementation Challenges

The greatest challenge of cloud computing implementation for all companies still remains in the domain of security issues. Ensuring data portability, certification of vendors, even training the personnel and obtaining legal guidance is still an issue even though companies are no longer afraid of the cloud that much.

As stated in the *Arbor Networks Worldwide Infrastructure Security Report, Volume X,* 29% of the 287 companies surveyed reported that their cloud service was under attack at least once in the last year, 2014. This is an alarming increase when compared to the last year survey when 19% of 220 companies reported that their service was endangered. A statistic that should not be disregarded is the fact that 20% of the companies are not sure if they were exposed to any risk at all.

Two predominant threats for cloud based services remain the negligence of the third party and unmonitored access. 66% of the companies surveyed by *Arbor Networks* do not allow employees to back up any work data on their personal devices because of this reason in particular. An implementation of more efficient management of mobile devices and monitoring shadow IT is highly advised.

**Attacks Targeting Cloud Services**



- 29% Yes
- 28% Not applicable
- 23% No
- 20% Do not know

*© Arbor Networks, Worldwide Infrastructure Security Report, 2014*

## 4.1. Managing mobile access

The year 2015 is once again a record breaking year when it comes to numbers of security breaches. Until the month of July, the number of records exposed due to continuous violation of data, including hackers' attacks, the unreliability of VPN systems, and the third party factor, climbed up to 117,576,693 individuals in the U.S.

Constant monitoring of cloud services within the company is, therefore, going to become a standard in the cloud computing. The question of the way workforce will accept these policies will remain and will differ from company to company. In the majority of cases, an employee's is encouraged to sign an agreement of total transparency regarding communication through cloud applications, and even furthermore – through e-mails and electronic devices in general.



Using MDM?

NOT SURE 10%

YES 41%
(54% Enterprise 31% SMB)

NO 49%
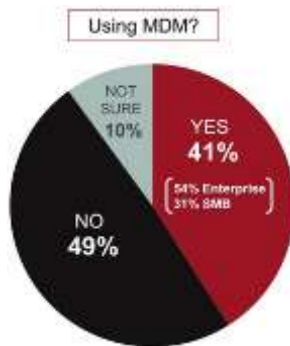
© *Computerworld, Forecast Study, 2015*

As suggested by the *Cloud Security Alliance* in the *Mobile Device Management* report: Companies in general, but especially the ones encouraging the BYOD strategy, should insist on legal counseling, thorough insurance policy and plan the usage of their private and public cloud applications as a network of possibilities, and ensure privacy of data through limitations.

Counting on device diversity is a responsible approach that will significantly influence the future growth of data breaches in a positive manner. Risk assessment and management should be executed intensively. Both personal and corporative liability should be considered since the potential misuse of cloud computing services is not a responsibility of a single party; it takes collective effort and transparent collaboration.

The other factor addresses the liability of cloud applications in particular, and how breach of BYOD plan could lead to mistreatment of the company data.

## 4.2. Shadow IT

The term Shadow IT refers to use of software that is not supported by the organization's IT department. Although the term itself has built up quite an infamous reputation because of the high level of risk, handling unauthorized and unmonitored applications does not necessary entail a certain employee as a threat to the company data.

The *Gigaom Research* on *Shadow IT: data protection and cloud security,* which is based on the surveys conducted in the period of September of 2013 until June 2014, stated that 70% of the not permitted access is performed by the employees themselves. 81% of the employees confirmed that they are using personal cloud applications without any approval on a daily basis, including managing company data.

The greatest threat remains insisting on usage of the unreliable Dropbox service. On in four companies reported the breach of account.

Since companies cannot count on total management of all mobile devices and application usage, they should insist on providing cloud security lectures, organized for all employees and considered as mandatory. The majority of workforce simply isn't aware of threat that they are exposed to. Not just as a part of the company, but on a personal level of involvement too.

## 5. Conclusions

Although the benefits of cloud computing cannot be disputed, the reserved acceptance of companies is easily understood. The imperfection of services involves a great deal of risk that has to be taken under consideration when adopting to cloud platforms.

The increasing popularity of cloud services in both corporative and personal employment coupled with the rising trend of BYOD policies leads to the requirement of rethinking and redesigning IT security systems. Cloud platforms shouldn't be observed as a separate entity of the IT department, but it should be reflected upon as an equally significant part of service.

It is evident that enterprises will continue to insist on application usage in business, and BYOD policy will continue to be advocated within innovative companies. Small business will continue to follow this trend, and interest in individual workers is equally high, so the conglomerate services are adapting to ever growing need with pricing strategy that are more than acceptable.

As a final conclusion, both companies with BYOD policy and those without them should insist on mobile device management and examining all shadow IT access to ensure maximum security of cloud computing services. Employees should be properly educated, as well as official representatives, and awareness of this ongoing problem should be evident and clarified to both parties involved.

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