

## **What is cloud computing and its impact on nonprofit software?**

### **What is cloud computing?**

Cloud based computing is a figurative term not a literal term. There is nothing that resides in the clouds above our heads that allows us to compute. Thank goodness for this because on a sunny day none of us would be able to work.



This term Cloud is derived from the symbol used to represent the internet. Cloud computing is nothing more than using the internet as a communication channel between a client and a server.

According to the National Institute of Science and Technology (NIST) the term cloud computing covers the following:

#### IaaS

Infrastructure as a Service (IaaS) – IaaS is the capability to provide virtual computing resources such as processing, storage and network bandwidth to consumers who can then install and run operating systems and applications. The consumer does not have access to or own the physical devices.

#### PaaS

Platform as a Service (PaaS) – This is commonly used for software developers. It allows developers to obtain cloud computing resources without them owning the physical devices needed to provide these computing resources.

## SaaS

Software as a Service (SaaS) – The consumer has access to application software and the databases used in conjunction with the applications. For nonprofits this is typically the model used.

## **Advantages of Cloud Based Computing**

### Internet

Using the internet as the communication channel between a client and a server can reduce the high cost of connectivity resources associated with traditional non-cloud client/server applications. Cloud based systems eliminate the need for private wide area networks and terminal services. Organizations today do not need to buy expensive server hardware and associated communication channels like they did twenty years ago.

### Available Anywhere

Cloud based computing is available anywhere the user has an internet connection. This means that a user or users can utilize computing resources through a single internet connection. This provides the organization with better options when implementing business computing solutions. These systems are rarely offline unexpectedly. The time to setup, train and implement is usually more efficient than non-cloud applications.



### Latest Functionality and Features

The application is more regularly updated with the latest functionality and features needed for the respective industry it serves. Global users make for more relevant feature releases. Popularity of Application Programming Interfaces make it easy to connect external resources and functionality. Vendors of cloud based systems also need to ensure their systems have the flexibility to meet a variety of different expectations within the markets they serve.

### IT Cost savings

Cloud based computing offers cost savings for internal IT operations. The cloud provider is responsible for the backups, disaster recovery, physical security, and all other infrastructure requirements. Scalability of cloud based systems is easier than with traditional systems and in most cases does not require any down time. Lack of Ownership, also listed as a disadvantage, means less capital investment for organizations.

### Project Startup

Cloud based systems offer lower startup cost and quicker implementation times. These savings can be substantial to your organization's operating budget.

### Lifecycle Benefits

Many argue that over the long haul that cloud based systems are more expensive. This could be true if an organization buys a software product and never has to add, modify or change the features and functions of the product. In today's world there are few markets that are static enough to allow this to happen which means organizations will have to keep upgrading these systems.

Cloud based systems are always evolving around the market they serve. Cloud based vendors have to keep their systems relevant or they will not be a cloud based vendor long. This means the changing market will drive the new or modified functions and features implemented on their systems. Typically, existing customers do not have to pay for these new implementations on cloud based systems.

## **Disadvantages of Cloud Based Computing**

### Internet Dependence

Cloud based systems are internet dependent which means that your connection to the system is through the internet. While today the internet is more robust than it was 20 years ago and data centers have better redundant power feeds, upstream feeds and computing resources, there still can be outages which could inhibit your connection to the system.

### Application Ownership

Cloud based systems are not owned by your organization. While this is considered more of an advantage it does limit the control your organization has in the evolution of the system. Flexibility of cloud based systems can counter this disadvantage and cloud based vendors

tend to listen to their current and prospective customer base for their next idea. One last point to consider about the lack of ownership, how often does an organization sell their old systems?

## **Summary**

Cloud based systems are not for everyone. The decision to go with a self-hosted system or a cloud based system should be made based on your organization's mission and goals as well as the resources it has to support these things.

### Doing it Yourself

For example, to host a system yourself you need to consider the impact this has on your organization. Hosting a system, yourself will require not only capital investment in hardware, software and licensing but also people and facilities. It will require time from your leadership team, mid-level management team (possibly adding a new mid-level management position just for the project itself) and operations team to make your project a success.

Keeping your application up to date to ensure it meets your changing market requirements, requires constant investment from your organization. These things can distract your organization and divert resources away from reaching your organization's mission and goals.



### Let Someone else do it

Cloud based systems do not require the initial investment in hardware, software, licensing and physical facilities to run an application for your organization. The vendor is responsible for these things and ensuring the system's Service Level Agreements are met. System relevance is maintained by vendors so they can stay competitive in the market. Cloud based systems can offer organizations these things which allows your organization not to be distracted from its mission and goals.

## Conclusion

Cloud computing offers organizations who do not have the funds, resources or knowledge to host a system themselves an alternative and effective approach to computing. Vendors of cloud computing services have the experience of the market they serve to offer the functions and features that are essential to your success. Cloud computing vendors take on the vital role of data management within your organization without the significant cost associated with doing it yourself.

## **Author Bio**

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Child welfare and information technology seem like two separate career paths. But they merged in Paul's life. Paul is a veteran, having served four years in the US Navy.

His IT background includes field and process engineering, worldwide customer service management, and software design and testing. Paul earned degrees in Electrical Engineering and IT – Network Security. In child welfare he was responsible for information privacy and security, IT projects, construction projects and database design.

But he's most proud of his marriage to Beth, and their children, Jason, Katie and Victor.