

Cloud Considerations For Nonprofits & Associations



Everything your
nonprofit or association
needs to know about
the cloud

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eXOS

Preface

The purpose of this guide is to educate nonprofits and associations on the benefits of cloud hosted solutions, whether your systems are on premise or already hosted in the cloud.

You may have heard the word “cloud” mentioned from a coworker in the employee lounge, approached by someone within your organization to research the cloud, or from someone in your industry who has recently joined millions of other organizations in reaping the benefits of cloud services.

WHAT IS THE CLOUD??

“A model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”

The National Institute of Standards and Technology (NIST) ¹

Here are 5 key technology questions every organization should ask, to determine if a cloud solution is appropriate for you:

1. What would happen if my organization experienced prolonged downtime?
2. What would happen to my organization’s data if our building caught on fire?
3. Can my organization handle unexpected large capital IT expenditures?
4. Are continuous investments into technology placing a financial burden on my organization?
5. Does my in-house IT staff struggle in keeping current with technologies?

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Contents

1

Guaranteed Available Uptime

2

Instant Disaster Recovery and Business Continuity

3

Predictable Budgeting Model

4

Reduced Total Cost of Ownership

5

Access to Highly Skilled Technology Consultants

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Guaranteed Available Uptime

Imagine your organization lost its ability to function. For example, staff are unable to access their email, remote workers are not able to connect to the office, or your website(s) are completely down.



This is an undesired scenario faced by many organizations. The cost, both direct, and opportunity, can result in a deficit in tens of thousands of dollars over the course of a few hours. This is true, whether you are hosting your infrastructure on premise, or hosted in the cloud by a service provider.

Figure 1

Figure 1 represents information from an IBM study conducted on (overall) network availability.²

The study encompasses the impact of network availability on several organizations, including FedEx.

The chart displays the percentage of availability of a network, and translates this information into the annual, monthly, and weekly amounts of unscheduled downtime.

Availability	Downtime Per Year
99.9999%	31.5 Seconds
99.999%	5.26 Minutes
99.99%	52.6 Minutes
99.95%	4.38 Hours
99.9%	8.76 Hours
99.8%	17.52 Hours
99.5%	1.83 Days
99%	3.65 Days
98%	7.30 Days

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Guaranteed Available Uptime

Since 99.9999% availability is rarely found, in this example we will use a 99.99% availability. At 99.99% availability, the annual unscheduled downtime equates to 52.6 minutes, whereas at 99.95% (the next level down) the annual unscheduled downtime increases significantly to 4.38 hours.

This figure may not appear alarming, especially when you consider there are 8,766 hours in one year, however, as the study indicates in the case of FedEx, one minute of network downtime equates to a loss of \$1 million.

Based on these parameters, at 99.95% availability, FedEx would incur a loss of approximately \$262 million per year, compared to a 99.99% availability, where they would incur an approximate loss of \$52 million per year, a difference of \$210 million in unnecessary loss of revenue.

FedEx is an extreme example of a fortune 500 corporation, however, these calculations can be applied to any organization. Although your organization may not incur a loss of \$1 million per minute, your operations are still susceptible to a loss due to network downtime, thus making cloud computing reliability an important consideration. When selecting a cloud service provider, it is important to ask the level of availability they are able to guarantee. This information is commonly placed in the provider's service level agreement (SLA), where percentage of network uptime is specified.

The study further cites additional costs associated with unscheduled downtime:

“Although the financial impact is significant, the damage can extend well beyond the financial realm into key areas of client loyalty, market competitiveness, and regulatory compliance.”

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Instant Disaster Recovery & Business Continuity

Do you know the difference between disaster recovery and business continuity? Has your organization implemented a disaster recovery plan, and if so, how well are you prepared?

Let's start with a definition of each:

Disaster Recovery - The ability to recover data vital to your organization after a natural or human induced disaster. Examples include fire, floods, theft, or hardware failure.

Business Continuity - The ability to keep all aspects of operations functional in the midst of a disruptive event. This ensures your organization's activities are not halted in the case of a disturbance. Regardless of what happens at your physical location, your data is protected, and can be accessed as if nothing had happened.



Cloud disaster recovery solutions, along with business continuity, eliminates environmental factors associated with hosting systems on premise.

This is due to systems being hosted in a secure, highly available data center, in addition to an enterprise grade infrastructure with multiple redundancies and no single point of failure.

In comparison, if you were to achieve the same level of recovery with an on premise solution, it will require significant capital investment.

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Instant Disaster Recovery & Business Continuity

In order to determine the value a cloud hosted solution can provide your organization, begin by defining your risk tolerance. The purpose of this is to identify the essential functions within your organization, which when interrupted, would considerably disrupt operations, resulting in significant financial losses. By assigning a risk tolerance threshold to each of those essential functions, you are able to determine how long you can afford downtime for each application.

For example, in most organizations, email is a mission critical application. Not only does email serve as the communication lifeline of an organization, but if outside organizations cannot reach you, it can tarnish your reputation. By taking these first steps, you can determine which benefits which cloud hosted solutions can provide to your organization.

The disaster recovery and business continuity benefits gained from the cloud can provide significant cost savings to your organization, which include:

- **Cost of data loss** – Whether it is one file, or your entire organization's member database, the sensitivity or severity of data loss can have devastating implications to your organization, ranging from litigation/compliance liability, to significant financial losses.
- **Cost of Restoration** – If your organization were to recover from a disaster, the cost associated with the restoration of data can be significant, including procurement of equipment and the labor associated with recovery.
- **Cost of opportunity and productivity** – While your organization is recovering from a disaster, significant costs are incurred due to loss of employee productivity, damage to reputation and/or loss of current and/or potential revenues.

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Predictable Budgeting Model



Accurately forecasting technology budgets is a challenge for most associations. For example, your organization may grow, and add 10 more staff over the next two years.

However, will the systems you invested into two years ago be able to handle this rate of growth?

What if instead of predicted growth over the next two years, your organization downsizes by 10 staff? Your systems may suffer from underutilization, which results in wasted resources, while those assets depreciate in value.

When migrating into the cloud your organization will directly benefit by:

- Switching from a capital to an operational expenditure model (cash conservation)
- Utilizing cloud elasticity (pay-per-use) model to scale your systems up or down on demand
- Creating a strategic competitive advantage by not being tied to outdated technologies

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Predictable Budgeting Model

The pay-per-use model allows your organization to predict costs based on actual needs, as well as control for any budget variances. As technology needs mature, cloud elasticity allows the flexibility to scale resources on demand. This model allows for your organization to accurately forecast your technology operational budget, while conserving free cash flows.

The Cloud Standard Customer Council (CSCC) states that organizations who migrate to the cloud and transition from a capital to operational expense model benefit by eliminating the need to reinvest into technology infrastructure every 3-5 years³.

These continuous investments provide increased security, reliability and performance of cloud services.

In addition, the availability of the latest applications develop a direct competitive advantage for your organization, therefore your staff are not limited by outdated technology, thus increasing productivity.

Another consideration is the ability to stay current with technology. For example, cloud service providers typically reinvest into their infrastructure more frequently than other organizations, thus ensuring the most current technologies are provided to their clients.

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Reduced Total Cost of Ownership

Do you know how much your organization spent in the last 5 years on technology?
Or how much you are projecting to spend in the next 5 years?

Total Cost of Ownership (TCO) refers to the total dollar amount spent over the lifetime of your system, which has a typical lifecycle of 3-5 years.

This cost includes hardware, software, and technical resources for migration, however, excludes environmental factors such as internet, power, cooling, and physical security, which can vary based on the organization's situation.

On Premise vs Cloud

In order to determine the TCO between on premise vs cloud hosted solutions, we will use an example of an organization with **36 employees***, which require the following resources:

- 1 Terabyte of data storage
- 81 mailboxes
- 4 Virtual Machines consisting of:
- 22 GB of RAM
 - 5 CPUs

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Reduced Total Cost of Ownership

Below are the individual components of establishing an on premise infrastructure, which is an apples to apples comparison to cloud hosted services. Much of the costs are associated in guaranteeing a fully redundant infrastructure to ensure that no single point of failure exists.

Figure 2

On Premise Calculation Considerations	
Redundant Host Servers	\$15,000
Redundant Firewalls	\$6,500
Redundant Switches	\$6,000
Redundant Storage Array Networks	\$40,000
Software Licensing	\$8,000
Implementation Costs	\$10,000
Offsite Disaster Recovery Per Year	\$5,814
Hardware/Software Warranties (Year 4 & 5)	\$8,500
Total	\$99,814

Although built in redundancy is expensive, the opportunity cost far outweighs the cost of network downtime, thus making it an essential component to your infrastructure, whether on premise or hosted in the cloud.

Most organizations do not require, or cannot afford such a robust infrastructure as an on premise solution. Thus cloud solutions can provide your organization with an enterprise grade infrastructure at a fraction of the cost.

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Reduced Total Cost of Ownership

Based on the description of the above example organization, the following table demonstrates the TCO for an on premise vs cloud hosted solution.

On Premise Solution

In year 1, the capital expenditure is \$99,814, which is broken down by the calculation considerations in figure 1 (hardware, software, and migration labor). In year 2, costs decline significantly, because there are no additional capital expenditures other than the recurring cost of offsite backups (\$5,814).

Year 4 & 5 reflect costs associated to renewing warranties on equipment. Typically, cost of warranties for older technologies increase, because manufacturers begin to produce newer products and the cost of supporting older systems rise. Most manufacturers will not offer a renewal on warranties beyond 5 years, which puts your systems at risk, and requires your organization to invest into a new infrastructure by year 6.

Figure 3

Year	On Premise	Cloud
1	\$99,814	\$34,885
2	\$5,814	\$26,760
3	\$5,814	\$26,760
4	\$10,064	\$26,760
5	\$10,064	\$26,760
6	\$99,814	\$34,885
Total	\$231,384	\$176,810

Figure 3 assumes market rates are constant & does not include support costs

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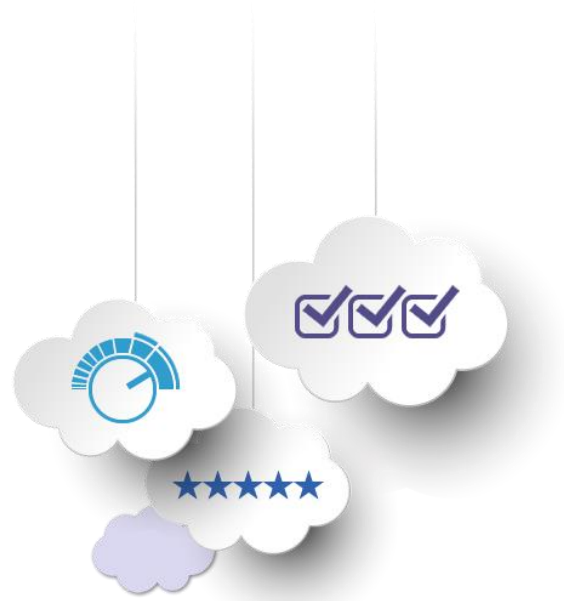


Reduced Total Cost of Ownership

Cloud Hosted Solution

In Year 1, the cost includes the initial migration fee, approximately \$8,125, as well as the monthly recurring cost, approximately \$2,230. In years 2 through 5, costs are reduced because there is no migration fee, and only the monthly recurring cost is incurred.

Year 6 reflects an increase, presuming the need to migrate to an updated application platform (for example, upgrading from server 2012 to 20XX).



According to Nonprofit Technology Network (NTEN), organizations which migrate to cloud hosted services compared to on premise solutions reduce their overall total cost of ownership by as much as 20 to 40 percent.

Continuing with the example above, the direct TCO savings over 6 years of on premise vs cloud hosted solution is 23.59%, or \$54,574.

The on premise solution also does not factor in the environmental costs of cooling, power, physical security, or internet connectivity, thus contributing to even greater savings.

****The 36 employee organization used in the above example is an average of ten actual eXos cloud clients.***

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Access to Highly Skilled Technology Consultants

A study conducted at Northcentral University surveyed 16 small nonprofit decision makers as to why they chose cloud consulting services⁵.

The study determined three reasons: **Lack of expertise, lack of time, and a limited budget**



Northcentral University's findings denote a clear need for highly skilled technology consultants to handle ongoing maintenance, and provide reliable and secure network support, while simultaneously being cost effective.

Migration into the cloud offers a number of ways your organization can access vast skills and expertise of qualified personnel, while benefiting your organization:

- Less resources spent on routine maintenance of your systems
- Internal IT personnel's time can be spent aligning technology strategically
- Access to CTO/CIO level advising
- Access to experienced technology professionals at a fraction of the cost

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Access to Highly Skilled Technology Consultants

By migrating into the cloud, the responsibilities, time, and cost of maintenance falls to the vendor. This ensures organizations are not wasting time maintaining computers, servers, updating virus protection, or applying software patches.

The American Society of Association Executives (ASAE) notes one of the most significant savings of the cloud being personnel costs⁶

In addition, migration into the cloud alleviates the burden of IT support, which results in requiring fewer IT staff, translating to direct savings for your organization.

Migration into the cloud also allows your IT staff to shift focus from tactical support, to strategically aligning technology to further your organization's mission and ensuring a more productive use of your staff's time.

In addition, access to CIO/CTO level advising guarantees your organization continues to stay on the correct path for future technology needs. This allows your resources to be more optimally utilized, while improving the delivery of information systems and enhancing the end user experience.

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Access to Highly Skilled Technology Consultants

The survey found that 46% of organizations do not have appropriate budget reserves to train their technology staff, which includes ongoing training on current systems and certifications. Lack of training results in a skill gap, which hinders an organizations' ability to maximize the potential of their technology investment, leading to a competitive disadvantage through a decrease in productivity.

"Many nonprofits do not have staff expertise in IT, nor the resources to keep up with the technologies needed."

The 2014 Nonprofit Technology Staffing and Investments survey, conducted by NTEN⁷

Without appropriate training, your IT staff will not be able to manage systems adequately in order to support their users.

By engaging with a cloud service provider, you are supported by a diverse team of technical professionals, who have expertise with current technologies.

This allows for your IT staff to focus on strategic alignment of technology, and more effective dissemination of organizational information to users.

When selecting a cloud service provider, always inquire about their training protocols. Reputable vendors continuously invest in training their staff to maintain competitiveness, which in turn provides your organization with a higher caliber of technical resources.

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LEARN HOW TO LEVERAGE THE AWESOMENESS OF THE CLOUD

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