

# Church & Ministry Leadership IT Update

Presented by:  Nick B. Nicholaou, President

 MBS, Inc. ([www.mbsinc.com](http://www.mbsinc.com))  
 Email: [nick@mbsinc.com](mailto:nick@mbsinc.com)  
 Twitter: @mbsnick

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## Workshop Premise

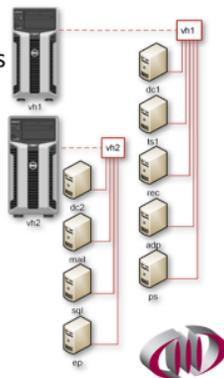
Church and nonprofit ministry leadership is responsible for the effective use of technology, but may not want to get into the details of making it work.

This workshop will help leaders grasp current and emerging trends in local computer networks, cloud computing, mobile technologies, and IT staffing and outsourcing.



## Local Area Networks (LANs)

- Virtualization is King!
  - Many still think of having \_\_\_\_\_ physical servers
  - Current technology means:
    - Multiple \_\_\_\_\_ servers running on one or two physical servers
  - Benefits are financial, ecological, and practical
  - And virtualization is \_\_\_\_\_! 
- WiFi
  - What a mess!
  - More 'art' than 'science'



# Macs & Windows Computers

## Macs

- Good to use since using Intel chips
- Microsoft Office 2016 Mac
  - Office 2015 introduced Outlook
- Still the most vulnerable OS
- Don't bother adding to Active Directory
  - Only benefit is password policy
  - Difficult to implement & maintain

## Windows

- Windows XP – past end of life
- Windows 7 – solid
- Windows 8 – unpopular
- Windows 10
  - Early testing looks good!
  - \_\_\_\_\_ upgrade!

**Note:** Be sure to only use \_\_\_\_\_ or higher versions



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# Google Apps & Microsoft O365

## Google Apps

- Free Version has Restrictions
- Registered and recognized 501(c)(3)— searchable in the IRS database; Google does not recognize the equivalence the IRS gives to churches
- You must certify you do not discriminate in hiring/ employment practices with regards to, among other issues:
  - Gender identity or expression, or
  - Sexual orientation



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# Google Apps Qualification Issue

Google for Nonprofits

This is a screenshot from their website

## Membership Application

Only registered and recognized 501(c)(3) nonprofits headquartered in the United States are eligible for membership. Fiscally sponsored organizations are not eligible. For more questions on eligibility, please see our [eligibility guidelines](#).

Note: If you are a previous grantee of any of the individual Google for Nonprofits offerings (e.g., Google Ad Grants, Apps for Nonprofits, the YouTube Nonprofit Program), we encourage you to apply for membership in the Google for Nonprofits Program to access additional benefits. You will not need to re-enroll in offerings that you are already receiving today.

### Nonprofit status

- \* I certify that:**
- My organization is a registered and recognized 501(c)(3) in the United States.
  - My organization does not discriminate on any unlawful basis in either hiring/employment practices or in the administration of programs and services.
  - My organization does not discriminate on the basis of sexual orientation or gender identity in hiring/employment practices.
  - My organization may receive this donation under its own policy and applicable laws and regulations; this donation will not negatively impact Google's current or future ability to do business with my organization; and this donation will not be used to corruptly influence any government official to obtain or retain business or any improper advantage.



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# Maximizing Your Network— *Virtually!*

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President, Ministry Business Services, Inc.

Reprinted from CTI's *Your Church Magazine*

There's a new technology in town, and it's a pro at helping you maximize your network— budgetarily and operationally. But there's one catch: it's free. Yup! *Free!* The first time I heard about it I asked, "Can it possibly be any good?" I think you'll be just as surprised as I was.

## What is this strange new technology?

The most expensive component in your network server is its processor chip. Yet if you look at the percentage that chip is actually being used, you'll likely find that it's usage is less than 10% of its capacity. This technology takes advantage of the extra capacity and allows you to run *virtual* servers on one *physical* computer. That means less computers running as servers, which will save you money.

## Doesn't 'free' always have a catch?

Though that's always the right question to ask, the answer is not always. In this case the software that would meet the needs of nearly all churches really is free. The companies offering it make their money on larger operations, and the percentage of churches that need the more expensive versions is small.

The only cost is that of installing the software. That either means time spent by your staff, or funds to hire an engineer who knows how to configure virtual server hosts. But before you wonder whether or not it is really worth doing, here's a quick list of the benefits I'll expand upon further in this article:

1. Fewer physical servers are needed to run your network, saving money on hardware.
2. Increased reliability and stability of your network.
3. Easier network administration.
4. Better disaster recovery and business continuity.
5. Lower electrical power usage.

## Historical Perspective

Excess processor capacity was first noticed and exploited in early mainframe computers in the 1960s. Engineers and programmers found ways to get more out of those computers' processors, increasing their value and return on investment (ROI) to their organization.

It wasn't until the 1990s that engineers and programmers started doing something similar for PCs. That's when VMware created software allowing one PC to run *multiple computers* at the same time! Because these computers are not separate

hardware computers but are actually running within another computer, they're *virtual*.

## Does It Require an Advance Computer Science Degree?

It's actually very easy to set up a virtual computer! Once the software is installed that enables this functionality, all you do is click on a button to create a new virtual machine. It asks what the operating system will be, how large of a hard drive and how much RAM it will need, and then it's ready to go! The virtual computer runs in a window on your desktop and can be completely configured as though it were a separate computer! The first thing you'll do is install the operating system of the virtual computer, and so on. Exactly like setting up a physical server.

## So... more on the benefits...

1. *Fewer physical servers.* Remember that most servers' processors are severely underutilized. Though they may spike in utilization at any given time, those spikes are short-lived and not tied to activities on other servers.

We have talked with church and ministry IT managers who have said they reduced their physical server count from more than 20 down to 3 or 4! From 70 down to 10! In our office we went from 10 down to 5!

Brunswick Street Baptist Church (Fredericton, New Brunswick, Canada) is in a century-old building. Rick Wightman, their IT Director, said, "With a small budget and almost no real estate to put gear in, we pursued virtualization as a way of providing services in a manageable way while staying inside our physical footprint."

2. *Increased reliability.* One of the best ways to improve network reliability and stability is to take many of the various services performed on a server and split them out to different servers. This decreases the number of conflicts and facilitates restarting a service without affecting other services. Examples of services that are often separated are

mail, database, communications, security, backup, and so on.

Virtual servers, even though running on the same physical computer, are truly separate servers. This technology makes it easily and affordably possible to separate services. It also makes it possible to set up test servers for new software and patches. "Virtualization has also allowed us to be more adventurous since we can experiment without incurring additional overhead for the gear to support it, or potentially poisoning a production machine. We provision a new machine and if it doesn't suit us, delete it. If it does we can decide how to place it in the mix," added Wightman

3. *Easier network administration.* One of the features of this technology is the ability to take 'snapshots' of virtual servers on a scheduled basis. Depending on the amount of hard drive space available, this may allow you to keep many snapshots available so that if you had to, you could restore a server to a previous moment in time with a couple of mouse clicks. This can be very helpful in overcoming a malware infection or crash that has corrupted data. It's also easier administration because you might have a half-dozen or more virtual servers running on one computer, and switching between them is all done simply with a mouse click.
4. *Better disaster recovery and business continuity.* Though the host computer should be one that is appropriately engineered for its role, the software that allows hosting virtual servers can run on almost any recent computer. So if you had a physical server completely crash get stolen, or destroyed you could get your network back up and running pretty quickly by simply taking some desktop computers and putting the virtual server software on them.

Lakeview Church (Indianapolis, IN) Network & Systems Manager, David Szpunar, said their physical server count only decreased from 11 to 9. But he has

setup 40 virtual servers! “Almost every virtual server has a dedicated task, and that has increased our reliability and improved our backup significantly.”

5. *Lower power usage.* Fewer physical servers means less power consumption, which requires less air conditioning. Some utility companies even offer incentives to virtualize!

### **Three Vendors**

Currently there are three software providers for this technology: Microsoft, VMware, and Citrix. Though Microsoft may eventually win, the market is currently dominated by VMware, the company that invented the technology. A survey published by Information Week (October 15, 2007, page 40) showed that 77% of business technology professionals’ computers run VMware. (Both Microsoft and VMware offer free versions of their server virtualization software.)

In our firm’s lab we began our testing with Microsoft’s solution, found it problematic, and switched to VMware. VMware is easy to use, stable, and powerful; we haven’t looked back. You can download a free copy for use on as many host computers as you’d like at [www.vmware.com](http://www.vmware.com).

Virtual computers— especially as servers— make a lot of sense. They are easy to configure and use, and are cost effective ways to get more out of your hardware investment. They are easy ways to earn those words we all hope to hear, “Well done, good and faithful servant.”

Nick Nicholaou is president of MBS, a consulting firm specializing in church and ministry computer networks, operational policies, and CPA services. You can reach Nick via email ([nick@mbsinc.com](mailto:nick@mbsinc.com)) and may want to check out his firm’s website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

# The Impact of Windows XP Support Ending

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President, Ministry Business Services, Inc.

Reprinted from *Christian Computing Magazine*

Microsoft announced the date they will stop supporting Windows XP. The date they announced is April 8, 2014; and it's almost here! There's panic in the streets! If you have Windows XP computers, how will Microsoft's announcement affect you? What do you need to do?

## Microsoft's Support Policy

All companies choose a cutoff date to support older products. Here's how Microsoft said it on their website:

"Microsoft has provided support for Windows XP for the past 12 years. But now the time has come for us, along with our hardware and software partners, to invest our resources toward supporting more recent technologies so that we can continue to deliver great new experiences."

Let's face it. Twelve years is a long time for any software solution! So their decision makes sense, and no one is upset with them over it. They announced that support for Windows XP will end on April 8, 2014. What does that mean? Again, quoting their website:

"...after April 8, 2014, technical assistance for Windows XP will no longer be available, including automatic updates that help protect your PC. Microsoft will also stop providing Microsoft Security Essentials for download on Windows XP on this date."

Okay, so they won't offer technical support or write patches for flaws after the cutoff date. They go further to say:

"If you continue to use Windows XP after support ends, your computer will still work but it might become more vulnerable to security risks and viruses."

It's this last statement that has folks panicking, and it's very likely cash-flow and marketing driven. But there's no need for panic... the sky is not falling.

## Should You Update or Replace Your Systems?

The quick answer to this question is, "Yes!" Windows 7 (XP's successor) has been in the marketplace for nearly four years now, and it is very stable. Windows 8.1 (Win 7's successor) also looks good, but has some user interface challenges that most enterprise users (companies, corporations, etc) are avoiding. Windows 9 may be released before this year ends as Microsoft works hard to recapture the trust that was lost with Windows 8 and to recapture the cash flow they lost when their operating system sales dropped because of Windows 8.

However, there are reasons to not replace a Windows XP system. Some applications won't run on anything released after Windows XP. That limitation is extremely rare, but could be a reason to not move forward. I should mention, though, that as an IT engineering firm we have not run into this issue. Oh sure; old versions of some apps won't run on anything after XP, but any company wanting to stay in business has released subsequent versions of their solution.

So, if you don't have any applications that can only run on XP or older operating systems, you really should upgrade. If you have some applications that can only run on XP and older operating systems, you should look for a replacement for those applications so you can move forward.

But YOU DON'T HAVE TO UPGRADE if you don't want to! Really!

## How Can You Protect Your Systems?

Microsoft writes patches to fill vulnerability gaps in its software that some bad guys want to use to exploit systems. But that is only one piece of your defense system. There are a few others that, if you have them in place and current, will help you going forward.

- *Firewall.* Your systems, whether at the office or at home, should be protected by a firewall. At home your router/ modem provided by your Internet Service Provider (ISP) may be your firewall. If that's true, contact your ISP and make certain it is protecting you appropriately (protection may not be turned on, for instance). At work you probably have a piece of hardware (like a SonicWALL, our favorite firewall) or software protecting you. The key is to make certain that your subscriptions are current (the manufacturers constantly update these systems to protect you against newly created/ discovered threats).
- *Email SPAM Filter.* Many threats come via email. They can be embedded in graphics (like photos, logos, etc) or in links. SPAM filters (like Barracuda, our favorite) block about 85% of all email because the email is identified as intended to harm the recipient. Thus good SPAM firewalls reduce the vulnerability of using email.
- *Practice Safe Internet Browsing.* A couple of good browsing policies are:
  - Be cautious which links and websites you visit. If it looks suspicious, avoid it.
  - Never enter personal information on a site that is not secure.

So, should you replace your Windows XP systems? Yes! It's time! ;- ) Do you have to replace them before April 8<sup>th</sup>? Probably not.

Nick Nicholaou is president of MBS, an IT consulting firm specializing in church and ministry computer networks, VoIP, and private cloud hosted services. You can reach Nick at [nick@mbsinc.com](mailto:nick@mbsinc.com), and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

# Wise Cloud Strategies

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President, Ministry Business Services, Inc.

Reprinted from ECFA's *Focus on Church Accountability*

Church and ministry leaders are being tasked with making *Cloud* decisions, but need to know whether their decisions are good or bad, wise or unwise. This brief article will give you a framework for working through *Cloud* decisions.

## What Is *The Cloud*?

There are many ways to define the cloud, which makes listening to most IT experts challenging when they talk about this topic. Some refer to accessible data and applications (apps), some refer to datacenters (warehouses full of servers), some say it has to do with types of processors, and some say it's all about being green.

All of that may be true, but what a church or ministry manager needs to know is that *The Cloud* refers to the fact that data and applications are hosted on a server that computers and mobile devices can access via the Internet. Technically the server can be in an off-site datacenter, or it can be in your building.

## So, What's The Big Deal About *The Cloud*?

*The Cloud* is a game-changer for those who use computers and mobile devices. It's as big of a game-changer as was the PC, Windows, and the Internet. It will impact how you and your team do ministry, and how you budget for IT in your organization. The good news is that, implemented strategically, it will save your organization time and money, and will help you focus on your mission.

## What Should Go In *The Cloud*?

Most already have websites in *The Cloud*, many have social media sites, and some are putting their email and data in *The Cloud*. And while the answer to that question may seem obvious to some, it's important to understand that there are basically two halves to *The Cloud*, and to understand what should go in which half.

*Public Cloud.* When most of us think about *The Cloud* we think about its public side. The public cloud refers to servers and services that anyone can access, and it's where we put our websites, where we engage in social media, and share photos and videos. It includes services such as Google Apps and Dropbox.

*Private Cloud.* The private cloud refers to servers and services the general public cannot access. These are usually servers and services one must be pre-authorized to access and are usually not discoverable by the general public. This is where corporate email, VoIP, and data servers should be. As corporate America is moving into *The Cloud* it is doing so in the private side to protect sensitive data and communications; that is what churches and ministries should also be doing.

## The Challenge

Many are advising and recommending that organizations put what should be in the private side of *The Cloud* into the public side. For the most part they don't understand the fiduciary responsibilities associated with managing a church or ministry, and the risk of being in the public cloud.

For instance, there is a movement by many to use Google Apps and Dropbox because of their low cost. The problem is that the data put in the public cloud can be less secure than it should be, and not as secure as a corporation needs it to be. Those may not be the right places for a corporation's sensitive data and communications. Consider, for example, what could happen if the following types of data were available to the public at large:

- Congregant or donor database information (contact info, contribution info, etc),
- Sensitive inter-office communications about personnel, constituents, etc,
- Data files such as minutes, HR files, etc.

If an organization is going to adopt cloud strategies, these types of data must be kept private. Thus they are best held in the private side of *The Cloud*. That means seeking out a hosting vendor that can keep your private data private.

## How Do I Know Our Data Is Safe in *The Cloud*?

Corporate America is a good place to look for this answer because those leading large corporations usually have a good grip on their fiduciary responsibility to protect their company's data. When I researched what their trends are, I found that they are moving their own servers to *The Cloud* rather than relying on generally available services (public cloud). That doesn't mean data in the public cloud can't be safe, but it takes extra measures and, unfortunately, leans heavily on the users' work habits.

If you choose to move your servers into *The Cloud*, the data on them will be at least as safe as if they were in a server room on your premises— probably more so! Using best practices on those servers like those you would if the servers were local (strong passwords, good firewall, etc), your data should be safe. If you choose to use public cloud services, have a conversation with your IT person and check with the service provider to make certain all appropriate safety measures are in place.

## So, What's *The Cloud*'s Advantage?

That is a wise question! Adopting cloud strategies can reduce personnel costs and the need to make large capital investments in hardware, software, and engineering. Though the cost will likely be the same as a well implemented network strategy over 3-4 years time, it outsources the cost of buying, engineering, supporting, and maintaining the servers and services at the core of your local area network. It reduces— and often eliminates— the need to employ IT staff above simple help desk functions.

In a January 12, 2004 Fortune Magazine interview Peter Drucker, the father of modern management, said, "The inefficiency of knowledge workers is partly the legacy of the 19th-century belief that a modern company tries to do everything for itself. Now, thank God, we've discovered outsourcing, but I would also say we don't yet really know how to do outsourcing well."

*The Cloud*, strategically done, is wise outsourcing. It helps churches and ministries focus on what they've been called to do, and eliminates the distraction that having unnecessary IT responsibility brings.



Nick Nicolaou is president of MBS, a consulting firm specializing in church and ministry IT and CPA services. You can reach Nick via email ([nick@mbsinc.com](mailto:nick@mbsinc.com)) and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.



## Choosing a Private Cloud Vendor

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When looking for a private cloud vendor, focus on these three things:

- *Expertise.* Look for a vendor that is already providing the services you're looking for. If a vendor wants to charge you to create the technology you seek, look to see if there is someone already providing a similar solution so you have a sense they can deliver first.
- *Vendor sensitive to your mission.* As a church or ministry you won't typically call for support yelling, screaming, and threatening lawsuits. But if you're considering a vendor whose primary focus is for-profit organizations, that is what you're competing with. Find a vendor who will prioritize your softly spoken requests.
- *The datacenter.* Datacenters boast various ratings. Redundancy and security are the hallmarks of a good datacenter.
  - Tier 1 has no redundancies (up to 28.8 hours of downtime annually)
  - Tier 2 has partial redundancy (up to 22.0 hours of downtime annually)
  - Tier 3 has full redundancy (N+1, up to 1.6 hours of downtime annually)
  - Tier 4 is completely fault tolerant (2N+1, up to 2.4 minutes of downtime annually)

# Consumerization of IT

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President, Ministry Business Services, Inc.

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Computer use is going through a significant change... one that is challenging the status quo of most church and ministry networks. The IT world refers to it as the *Consumerization of IT*, and it is growing. What is it, and what does it mean for your church system?

## What It Means

There was a day when the big IT discussion among church and ministry leaders was centered on the questions of *Why would a church want a computer?* and *Why would we want to connect our computers?* Those discussions are long gone now that most have computers and all of them are connected!

Computers come in all sizes today:

- Servers
- Desktops
- Laptops and Notebooks
- Netbooks
- Tablets
- Smartphones

Yes, I included tablets and smartphones! They are capable of doing all that many of our users need to do, and that is affecting the way we design systems! In fact, it is part of the foundation of this move towards IT consumerization.

Simply said, this term means that people want to use computers with which they are familiar and comfortable— even bringing *theirs* in to work!— rather than necessarily those historically provided by employers. This is a shift as large as the microcomputer in the 1980s and the Internet in the 1990s, and will impact every organization.

## Why It Is Growing

Computer platforms like Windows and Mac have become more similar in their abilities, yet they are still fairly different in style and methodology. The keystrokes are similar, but different enough to warrant the preference to stay on their familiar platform to maximize their productivity. In addition, the abilities and applications available to run on tablets and smartphones is increasing rapidly, making those mobile devices capable alternatives for many IT functions like email, calendaring, task management, word processing, and even spreadsheets!

The argument that is gaining traction is that if someone already has a capable device they can work on, and they are familiar

enough with it to be productive, why make them switch to a different platform or device that will slow them down due to lack of familiarity? And from a profit, or productivity perspective, it makes sense. It also makes sense if companies won't have the expense of buying and maintaining these devices, though that is debatable.

## Why Are IT Managers Pushing Back?

For years IT managers have been working to secure their networks in part to improve their reliability and uptime. One of the standards in IT is to never let an unauthorized computer access the network for many reasons, including:

- The computer could be infected with malware that could impact the entire network.
- The person using the computer could copy sensitive files, like the contributions database for unauthorized use.

I agree with that strategy— or at least I did. The state of IT, which is constantly changing, is moving in a direction that nullifies nearly all of the reasons to push back against IT consumerization— but only if done strategically. I say that because the new direction is toward cloud-based services and data storage, but many don't understand the strategic issues behind how to do cloud services well and thus expose their ministries to many potential perils.

## How to Prepare For It

As you consider cloud services and data storage, there are two critical points that need a lot of focus in the decision-making process:

1. The Cloud has two sides: Public and Private.  
As leaders of our churches and ministries we have the responsibility of making decisions that are in our organization's best interest. It's like when a parent makes a decision for their toddler. The toddler doesn't have the decision-making capacity to make good decisions, so it is incumbent on the parents to make good decisions on the toddler's behalf. The same is true for church and ministry leaders.

Understanding the difference between the cloud's public and private sides is important when deciding which datasets to put there.

- The public cloud refers to servers and services anyone can access. It includes Facebook, websites, etc. Photos and videos are appropriate to be located, or *hosted* in the public cloud. That means it's okay to use services like Facebook, YouTube, etc for them. They are files we want the public at large to find and see because they are often part of what might be called the marketing campaign that helps us reach previously unreached audiences. They also help us keep relationships and communications up-to-date with those already connected to our ministries.
  - The private cloud refers to servers and services you cannot access unless you have been preauthorized— just like the servers in your building. To take advantage of their services and data store requires knowing how to find them (a specific URL or IP address) and a login ID and password.
  - Email, databases, instant messaging, and file storage should be kept private within the organization, and thus should not be hosted in the public cloud. Rather, these should be hosted by providers and services that are on the private side of the cloud.
2. Not all datacenters are created equal. Datacenters are typically very large facilities where there are many racks of servers, multiple Internet provider connections, and multiple legs of electrical power. The better your datacenter, the more likely your servers and services will have a high degree of uptime. Conversely, the poorer your datacenter, the more likely your servers and services will not always be up and available when you need them to be. Thus choosing a quality datacenter is very important.

The Uptime Institute has established a four tier rating system for datacenters. The lowest tier is I, and the highest is IV.

- Tier 1 datacenters have no or little redundancy and experience up to 28.8 hours of downtime annually.
- Tier II datacenters have partial redundancy in power and cooling, and experience up to 22 hours of downtime annually.
- Tier III datacenters have what is referred to as N+1 fault tolerance with no more than 1.6 hours of downtime annually. That means that whatever is needed to run the hosted systems (N legs of power, internet connections, etc), there is at least one additional of everything to provide better uptime.
- Tier IV datacenters have at least two times the necessary components that a Tier III datacenter has, and is referred to as 2N+1 fully redundant. Tier IV datacenters have less than 2.4 minutes of downtime annually.
- Churches and ministries should only consider Tier III and Tier IV datacenters, and preferably will set their minimal limit for critical services such as email and their database as being in Tier IV datacenters.

Working through those issues will help raise protection levels dramatically, and will make the move towards consumerization of IT much more comfortable. And, as in all we do in church and ministry management, will help bring those words we long to hear from our Master: "Well done."



Nick Nicholaou is president of MBS, a consulting firm specializing in church and ministry IT and CPA services. You can reach Nick via email ([nick@mbsinc.com](mailto:nick@mbsinc.com)) and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

# Microsoft O365 – What You Need to Know

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President, Ministry Business Services, Inc.

Reprinted from *MinistryTech Magazine*

Last year I reported a charity license issue breakthrough that now has many considering migrating to Microsoft Office 365 (O365). There are some limitations you need to know about, and there are ways to save considerable dollars. Here's what you need to know.

## The Charity Licensing Issue

Until last Fall Microsoft had this restriction in its O365 charity licensing program:

“Organizations that engage in discrimination in [employment practices] based on... gender identity or expression... [or] sexual orientation... other than as allowed by law are not eligible to participate in this program.”

This was an issue for many Christian churches and ministries. Thankfully we were connected with the right people in Microsoft (no small feat—and possibly even miraculous!) to address the concerns of those who had issues with that language. The result was that Microsoft made some changes in October that eased those concerns!

- Microsoft added a statement to their website that says, “The only exception to this [anti-discrimination] policy is for religious organizations that are exempt from laws that prohibit such discrimination.” (see <https://www.microsoft.com/about/corporatecitizenship/en-us/nonprofits/whos-eligible/> under “Anti-Discrimination Policy”)
- Microsoft also added some FAQ points that explained its intention. The FAQ clarifies why Microsoft is excluding religious organizations from the anti-discrimination policy. It also answers two important questions about how to determine if an organization may be exempt from discrimination laws and whether Microsoft will be policing compliance. The FAQ can be found at <https://www.microsoft.com/about/corporatecitizenship/en-us/nonprofits/faq/> under “Program Eligibility”.

Organizations interested in O365 charity licensing discounts must still be 501(c)(3) tax exempt, or under the umbrella of a larger organization (like an association or denomination). But the non-discrimination language issue has been solved for most.

## What About Google Apps?

Google still has LGBT employment non-discrimination restrictions in place for charity licensing, which can be found at <https://www.google.com/nonprofits/account/signup/us>. Churches that want to use Google's business tools under their charity licensing program should note these restrictions.

## O365 Limitations

O365 is a great option, but it is not for everyone. Here are some limitations we're aware of that, if important to your organization, may mean avoiding or limiting the benefits you choose to implement:

- Passwords must be complex and at least 8 characters, but cannot exceed 16 characters (unless integrated with your local network's Active Directory – AD).
- If you have a local area network managed by AD:
  - Integration between local network AD and O365's AD is problematic unless the local AD has been appropriately cleaned up; you may be best off not trying to integrate the two. Ideally, though, they should be integrated.
  - Changes to AD, when integrated, can take awhile to replicate across both ADs, though password changes and disabling accounts are supposed to happen instantly.
- OneDrive (in place of an on-site file server)
  - Many churches and ministries rely on a large file folder structure for shared files that may have departmental security.
    - OneDrive currently doesn't handle that. There is a beta client showing promise, however.
    - Another possible solution is O365 Sharepoint.
  - OneDrive does not work well for Mac users. In its current version, the beta client does not resolve this issue.
  - Not nearly as simple to use as Dropbox or Owncloud.

- Exchange (email, contacts, calendars, etc): For churches that send large group emails, unless using a 3<sup>rd</sup> party communication service, relay, or mailing list product, O365's Exchange Server limits when sending emails:
  - 30 messages per minute, and
  - 10,000 recipients per day.

## Best O365 Practices that Save

Even with the limitations mentioned above, it is likely your church or ministry would benefit from O365 at some level! Here are some best practices approaches.

- For non-academic charities, there are basically two licensing options (see <https://products.office.com/en-us/nonprofit/office-365-nonprofit-plans-and-pricing/>):
  - E1 – FREE!
    - 300 user maximum.
    - Does not include the fully installable version of Office, but does provide online browser-based versions.
    - File storage in OneDrive, up to 1tb per user.
    - Exchange Server.
    - IM, teleconferencing, video conferencing.
  - E3 – \$4.50/month per user – Everything included in E1 plus:
    - No user limit.
    - The fully installable version of Office and mobile apps.
    - AD management.
- There's another option that may make the most sense for many.
  - Combine the free E1 with O365 ProPlus for Nonprofits (only \$2.00/month per user), listed at the bottom of the web page!
  - The O365 ProPlus for Nonprofits option includes the fully installable version of O365 and mobile apps.

### **Can You Still Just Buy Office 2016?**

Many prefer to just buy their Office app, paying a one-time fee with no further subscription fees. You can still do that, and the charity licensing cost is still about the same; just contact your preferred vendor.

So whether you only want the installable version of Office, or want to add to that an Exchange server and more, Microsoft O365 now makes a lot of sense for many more Christian churches and ministries.

Nick Nicholaou is president of MBS, an IT consulting firm specializing in church and ministry computer networks, VoIP, and private cloud hosted services. You can reach Nick at [nick@mbsinc.com](mailto:nick@mbsinc.com), and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

# BYOD (Bring Your Own Device)

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President, Ministry Business Services, Inc.  
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Information Technology (IT) is working through another radical metamorphosis, and the final appearance is not yet clear. The ultimate cause is the nature of technology—it's constantly changing!—but the current mutation is a result of The Cloud. The issue at hand is BYOD; and it's a wave that is just beginning. There are management, legal, and even tax implications! Let's work through 'em...

## What is BYOD?

In my firm's engineering of LANs (Local Area Networks) we're running into an increasing number of church and ministry staff that would prefer to bring in and use their own computer rather than the one provided by their organization. Some are jokingly referring to this as SYOM—Spend Your Own Money! Staff's motivation is sometimes because the ministry-provided computer is older and slower; other times it's because the platform of the user's computer is more familiar and comfortable to the user (Windows vs Mac, for instance). Traditionally the answer from IT has been, "No!" because IT Directors are being diligent about protecting the organization's data—a very valuable asset.

But that traditional answer is starting to get a lot of pushback, and the trend is that the users will win in many cases. IT Directors are having to look at ways to protect the organization's data in new ways to accommodate this growing trend; and one of the solutions is in The Cloud. There are methodologies being developed to help, and their strength is growing.

## Is this a good thing?

That is a great question! It can be for a couple of reasons, but it has a dark side too.

Software is becoming more platform independent, meaning it can run with similar strength in Windows, on a Mac, and in Linux. That platform independence is feeding this revolution, and organizations like that files will be available across all platforms, though formatting will likely be an issue at times.

Users can then justify their request by saying they will be more efficient and productive in their favorite operating system or platform. Organizations will be able to reduce IT purchase budgets and simply give an allowance if so inclined, based on the user's role in the organization.

The downside is that organizations will need to support users on more platforms, and some manufacturers don't offer enterprise-friendly support options like next day on-site replacement of parts, etc. This is requiring a shift within organizations' IT departments.

## What about software copyright & ownership?

Those of us who focus on doing everything with integrity are wrestling with this. I recently had the opportunity to talk with tax and legal experts who focus on The Church about this, and I think we ended up in a place they felt comfortable with from a legal perspective and which is practical from an IT perspective.

The concern we discussed is that of how software is beginning to be distributed: via App Stores peculiar to the platform of the device. Apple, Microsoft, Google, and others have their App Stores, and they are usually tied to the individual's ID within that store. So, for instance, when Apple recently offered its operating system upgrade to Mountain Lion, it meant I had to buy it through their App Store, download it, install it, and then seek reimbursement from my employer. It's the reimbursement part that has raised concerns over taxability and ownership.

Most apps purchased through App Stores are under \$100. We had full consensus that these were reimbursable without income tax implications even though their license was tied to the user's ID, but only if it was for a bona fide work-related need and it was fairly inexpensive (i.e., under \$100). Some apps, like Adobe Creative Suite, still cost much more than that and should still be purchased by the organization directly and installed with their media (and uninstalled upon the termination of work-related need). Fortunately those types of apps are still distributed through a more formal process, like packaged CDs and DVDs.

## Planning for BYOD

A colleague asked me recently what we're recommending for hardware turnover. I responded that because of BYOD it's becoming a non-issue. Here's my thinking:

- When advising customers to buy computers (servers, desktops, notebooks, etc), we normally say they're good for about four years.
- With BYOD on the horizon, we're advising clients to purchase the computers they need, but to figure that by the time they're ready for replacement, they may not need to replace them.
- BYOD may be largely implemented within two years.

BYOD is growing, and exactly where and how it looks when it is more mainstream remains to be seen. But the bottom line looks like it will be good for The Church.

✎ Nick Nicholaou is president of MBS, a consulting firm specializing in church and ministry IT and CPA services. You can reach Nick via email ([nick@mbsinc.com](mailto:nick@mbsinc.com)) and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

option of choice. The downside, though, is that it will increase the challenge of offering good internal technical support to team members because many will be using software unfamiliar to other members of the team.



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# Reasonable & Essential BYOD Policies

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BYOD—*Bring Your Own Device*—is an IT wave that is sweeping corporations. IT Directors are understandably uncomfortable about this. Adopting enforceable policies will make the difference, however, in BYOD's success in any organization.

## What Is BYOD, Exactly?

There is a growing number of requests among computer users to use whatever device they own and prefer when at work. In our network consulting we have been seeing it for a few years in the form of employees asking us if they can use their personal computer instead of the one provided to them. Thus, *Bring Your Own Device*.

Sometimes it is because the employee is used to working on a more powerful system than the one they're being provided. Other times it is because the employee prefers a different operating system than the one running on the computer being provided to them.

Because of some of the advances operating systems, computer hardware, and Cloud Computing have brought about (Microsoft Office for Mac, automatically synchronizing files, virtualization, etc), the lines are getting blurry between operating system platforms like Windows and Mac OSX. Some are thus celebrating the fact that now people can use Windows, Mac, or anything else they feel most comfortable with when at work.

Management is wondering about the costs and savings this trend will bring. Up for discussion are employee productivity, compromised data and networks, and workstation purchase savings.

## Why Are IT Directors Uncomfortable?

IT Directors see the risks of letting "unconfigured" and "unmanaged" systems connect to the network. They are the ones responsible to ensure that essential data and systems are always available so that staff can be productive. They are also the ones who see the impact of supporting multiple platforms and configurations. Their teams are the ones who get calls after hours because something is no longer working and, left unchecked 'til morning, may affect the ability of staff to get their work done.

But many believe the benefits outweigh the risks— cost reductions, program efficiency and productivity increases, changing workforce adaptability, and an improved user experience.

## What Policies Should We Have?

This is an evolving area in IT that is still fairly new. Very few policy guidelines have been published, and they are mostly about the use of personally-owned smartphones. Policies need to be approached in a few categories: the employee's responsibilities, the employer's responsibilities, termination procedures, and a signed acknowledgement.

### *Employee Responsibilities*

- To be productive.  
Employees who request to use their personal computers and/ or devices must understand that they are responsible to be productive. Thus any such BYOD request, if granted, will require that the employee be at least as productive as they would have been using the systems normally provided by the employer. Standards of productivity are the responsibility of management, and employees who are not as productive on their personally-owned computers and/ or devices will be required to use employer-provided systems.
- To be cooperative.  
Personally-owned computers and/ or devices, if allowed to be used at work, must meet minimum standards. Those standards will be set and modified from time to time by the IT Department, and may address minimum processor chipsets and operating system versions, amount of RAM and storage, and the use of specific employer-provided applications such as productivity suites, anti-malware tools, email clients, and more. Use of substitute applications must be approved by both the IT Department and the employee's direct supervisor.
- To be responsible.  
The employee agrees to maintain their personally-owned computers and/ or devices that have been approved for use at work at a level that keeps the employee productive at levels set by management and meets or exceeds the IT Department's minimum system requirements. The employee is responsible for any costs due to failed hardware, configuration and/ or software issues, and theft or breakage.

- To protect.  
The employee agrees to maintain the security of their personally-owned computers and/ or devices to protect the data and integrity of the employer's systems. The employee agrees to report immediately, or as soon as possible, if a device with employer's data is lost or stolen, and to let the employer install software that could delete the employer's data if the employer so desires, with or without notice. The employee agrees to submit their personally-owned computers and/ or devices approved for use at work for inspection by the IT Department from time to time to confirm that the system is being properly protected against malware and other threats. The employee agrees that the employer may see data and files that could otherwise be considered private, but agrees to hold the employer harmless against any claims against loss of privacy in exchange for the employer agreeing to allow the employee to use his or her personally-owned computers and/ or devices for work.

### *Employer Responsibilities*

- To provide a productive environment.  
The employer agrees to provide a suitable work area to help the employee be productive at levels required by management. In case the employee's personally-owned computers and/ or devices are not available due to required repairs (for which the employee is responsible), the employer will provide a substitute workspace using employer-owned computers and/ or devices for a reasonable period of time.
- To be reasonably accommodating.  
When an employee requests permission to use their personally-owned computer or device at work, the employer agrees to be reasonably accommodating if the employee can demonstrate that their productivity will meet or exceed the productivity standards set by the employer.

- To be supportive.  
The employer is not responsible to support the employee's computer or device. However, the employer will give help desk support at the same level as it does for employer-owned computers on the use of software provided by the employer.
- To Explain Exempt vs Non-Exempt issues.  
Some employees are subject to overtime rules based on State and/ or Federal law. The employer is responsible to explain the employee's exempt or non-exempt status, and how it impacts work time recordkeeping.

#### *Termination Procedures*

If an employee is terminated by the employer or initiates termination of the employment relationship, the employee agrees to remove all employer-owned software and data from their personally-owned computer or device, or to provide it to the IT Department to allow the IT Department to remove it for them.

#### *Signed Acknowledgement*

The employee and the employee's supervisor will sign an agreement acknowledging the BYOD policies in place. The acknowledgement will also state that the employer may modify the BYOD policy at any time and without prior notice.

BYOD is a new area of IT policy. Like all policies— especially those with potential privacy issues— yours should be reviewed by a competent attorney. With policies like these and more, BYOD can work to the benefit of the employer and the employee.

Nick Nicholaou is president of MBS, an IT consulting firm specializing in church and ministry computer networks, VoIP, and private cloud hosted services. You can reach Nick at [nick@mbsinc.com](mailto:nick@mbsinc.com), and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

# Strategic IT Outsourcing

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Recessions are uncomfortably challenging in many ways. However, they also help us improve our organizational health and mission focus. We find ourselves having to analyze and justify our expense choices, and when doing so the term outsource becomes a major part of our analysis. While we see it as a cost-cutting opportunity, it is really much more than that. It improves organizational health tremendously.

## Peter Drucker's View of Outsourcing

In a [January 12, 2004 Fortune Magazine interview](#) Peter Drucker, the father of modern management, said, "The inefficiency of knowledge workers is partly the legacy of the 19th-century belief that a modern company tries to do everything for itself. Now, thank God, we've discovered outsourcing, but I would also say we don't yet really know how to do outsourcing well. Most look at outsourcing from the point of view of cutting costs, which I think is a delusion. What outsourcing does is greatly improve the quality of the people who still work for you."

## True Confessions

I must admit that I've fallen into that trap myself, believing that to do things well, our organization should do it all in-house. The benefits seem to be quality control, dedication to our mission by those doing the work, and maybe a little pride in that it also means that our team is growing, which gives the illusion of success.

The truth, however, that Mr. Drucker points out is that this model is inefficient and costly. There are many roles for which outsourcing will not only lower cost; it will raise the quality of output. And for some of those roles, managing them distracts me from focusing on our mission.

## The "Pieces" of IT

Ministry IT staff tends to fall into four categories. Depending on the scope and needs of your ministry, some might be easily outsourced.

- **Programming.** Some ministries need programmers to customize the applications they use because there aren't any that meet their unique needs. Having worked with churches and ministries in the IT field for more than twenty years, I think more *feel* they have this need than actually *do* have it. But even those that truly have the need for custom programming probably do not need fulltime programmers on staff. This is often a great area to outsource.

I'm often privileged to serve clients in helping them find software solutions. At the outset of those projects I tell their staff that the best solution will probably only meet 80%-85% of their needs. Those who successfully convert to new systems adjust their processes to compensate for the remaining 15%-20%.

The illusion is that the perfect solution *is* available. That illusion sets up expectations that result in never finding a good solution and/or never being satisfied with the one finally chosen. Some even make the mistake of deciding to write their own software. What they don't realize until it's too late is that doing so will cost immensely more in funds, time, and lost team productivity, and will never be completed.

- **Hardware.** Some ministries choose to support their own computers. Rather than purchasing extended manufacturer warranties, they staff to do their own repairs. The cost is more than hardware and time, it also includes personnel—and it is usually inefficient. This is also a great IT area to outsource. And it can be done simply by purchasing extended manufacturer warranties in which the manufacturer will come to your office and fix whatever's wrong on the next business day or by contracting with a local vendor.

**Infrastructure.** Many ministries make the mistake of hiring network engineering staff, which is costly, and figure it'll make sense because that staff can also do user-level technical support. However, most who are good at network engineering are not the best personality types to do user-level technical support.

Also, the best network design strategies come from those who have designed, installed, and then had to support a lot of networks. Since network projects happen infrequently (typically annually), and since the best networks require very little support, this is also often a great area to outsource.

- **Help Desk.** Many ministry computer users require a level of technical support that is above that required by their secular counterparts. Answering their questions and resolving their IT problems quickly in a culturally relevant way is important to ensuring a good user experience.

Help desk is the one IT area that most ministries should *not* outsource.

## Looking at the Bottom Line

The first three IT areas are expensive to keep in-house. Programmers and engineers are worth a lot in the marketplace, and so their personnel costs are higher. Having hardware support in-house actually increases team downtime while increasing personnel costs due to higher staffing requirements.

Help desk staff, however, are not as expensive to hire. And if they are not programmers or engineers, they can be selected based more on their familiarity with software and ability to communicate and empathize well, helping those team members who need support to feel better supported.

This is an outsourcing strategy that makes good management sense for most ministries. I think it would gain the approval of Mr. Drucker, but even more so, of our Lord from whom we want to hear, "Well done, good and faithful servant! ... Come and share your master's happiness!" (Matt 25:23, NIV)

Nick Nicholaou is president of MBS, a consulting firm specializing in church and ministry IT and CPA services. You can reach Nick via email ([nick@mbsinc.com](mailto:nick@mbsinc.com)) and may want to check out his firm's website ([www.mbsinc.com](http://www.mbsinc.com)) and his blog at <http://ministry-it.blogspot.com>.

“...freeing those in ministry from business distractions.”

### BIOGRAPHICAL SKETCH: Nick B. Nicholaou

Nick Nicholaou is President of MBS, Inc., a team of management consultants specializing in ministry management and operations. While in executive service for the auto manufacturing industry, he and his wife Grace sensed God's call to found MBS. Since 1986 Nick and his team have been serving ministries in consultative and hands-on roles in operations and administration. His specific areas of expertise include organizational management, crisis resolution, and strategic implementation of technology.

In 1996 MBS was honored by the Christian Leadership Alliance (CLA) for its role in assisting ministries nationwide. Then in 2002 CLA honored Nick with their Distinguished Service Award for excellence in serving ministries. Prior to that Nick was honored as NACBA's 1993 inductee into their Hall of Fame for his contribution to the field of church management.

Nick has been published hundreds of times.

- In books
  - The Church Leader's Answer Book
  - Church and Nonprofit Organization Tax & Financial Guide (1999 - 2007 editions)
  - Saving Money And Buying Smart
  - Leadership Handbooks of Practical Theology, Volume 3
- Quoted in ZiffDavis' *eWeek* and *LAN Times*
- In journals
  - *Christian Computing Magazine*
  - *The Clergy Journal*
  - CTI's *Christianity Today*, *Leadership Journal*, and *Your Church*
  - ECFA's *Focus*
  - NACBA's *Ledger*
  - *Church Business*
  - CLA's *CMA Report and Outcomes*

He has also been interviewed on syndicated radio and podcasts, and is a former member of the ECFA (Evangelical Council for Financial Accountability) Standards Committee.



Nick and his team have served thousands of Christian churches and ministries nationally, and he speaks on a regular basis at national and regional conferences from coast to coast.

Nick's Contact Info:  
714.840.5900, x525  
[nick@mbsinc.com](mailto:nick@mbsinc.com)

Blog: <http://ministry-it.blogspot.com>  
Website: [www.mbsinc.com](http://www.mbsinc.com)