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**Directive Celebrates 23 Years!**

This month, Directive celebrates our 23rd year in business! Started by Chris Chase in 1993, Directive continues to provide superior IT support and web design services for companies all over central New York.

We appreciate the relationships we've developed with our long-time customers, as well as, new clients who have joined the Directive family. Customer service is always our top priority!

From Managed IT and IT Infrastructure, to Web Design and Marketing, we have the experience to provide technology services to meet the needs of any business.

Let us know how we're doing! We'd love to get feedback from our clients and friends! Contact us or give us a shout on Facebook or Twitter!

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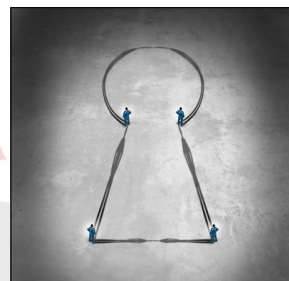
**The Advantages of Image-Based Data Backup Over Traditional Backup**

There's no question that data backup is absolutely critical for the success of any modern-day business, but how does your organization go about it? Just like how we rely on quick snapshots to capture moments with our smartphones or digital cameras, most backup solutions take advantage of image-based backup technology. How does this kind of data backup work, and what are the benefits it provides your business with?

**How Image-Based Backups Work**

Image-based backups are widely considered the best choice for any small business's data backup needs. Just like taking a picture of something with a camera, an image of your hard drive is like a snapshot of it as it appears in that moment. Image-based backups offer great flexibility when it comes time to recover the data, like if your business experiences a data loss disaster like a fire or hardware failure. The massive benefit of images are that they can track changes that are made to a file over a period of time, and they are capable of applying changes to these files to recreate them as they were at a specific moment. Keep in mind that these changes vary by solution, so it's tricky to identify a set method.

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**It's Quite Possible for Managed IT to Coexist With Your In-House IT Service**

Technology can be a fickle thing for small and medium-sized businesses, especially if they don't have a dedicated staff whose sole responsibility is handling the maintenance and management of IT. It becomes much easier to simply out-source the responsibility to a managed service provider, but even choosing this has implications that should be considered before making such an important decision.

Especially today, when the latest technology solutions can make or break your business plan, it's important to maintain a competitive advantage with your business's technology. Your infrastructure should effectively leverage its technology to

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## Your Business Must Think Long-term and Short-term When it Comes to IT



For your business's IT, it's important to consider both the short-term and long-term benefits of new technology

solutions. However, which of these offers the greatest return-on-investment in terms of profitability and workplace efficiency? Some might argue that short-term IT (think break-fix IT) is more in line with a business's immediate needs, while long-term IT (i.e. managed IT) considers longevity and proactive thought.

A recent study performed by Tech Pro Research suggests that short-term IT is vastly more agile than long-term IT, but doesn't suggest that either are superior over the other. According to the study,

60 percent of respondents feel that short-term IT can be beneficial to their business strategy, but only 47 percent are currently taking advantage of short-term IT solutions. We suggest that short-term and long-term IT deployment are both necessary, and have different purposes and practicalities.

### Benefits of Short-Term IT Investment

In a sense, short-term IT deployment can be seen as impulsive. It's designed to help your business resolve a current issue as efficiently as possible. In fact, 81 percent of respondents to Tech Pro Research's survey claim that the quicker deployment of solutions was the primary reason to be trusting in short-term IT. Other benefits include the ability to leverage IT staff more effectively, and better alignment with business objectives. These solutions are often more in

line with what a business needs, as they are implemented on an as-needed basis. There is no guesswork as to whether or not they will benefit your IT infrastructure down the road.

Contrary to short-term IT deployment, long-term solutions are designed to provide a return-on-investment over a given amount of time, and to reduce overall expenditures by taking preventative measures.

### Shortcomings of Short-Term IT Investment

While there are quite a few benefits of short-term IT investment, there are also quite a few shortcomings...



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## The Advantages of Image-Based Data Backup Over Traditional Backup

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### The Benefits of Image-Based Backup

The primary benefit that snapshot backup has over other types of backup solutions is that snapshots are far less resource-intensive than tape backup processes that have to take full copies of every single file on the network. Furthermore, taking multiple tape backups of your data can lead to significant downtime, since you usually can't access the files while the backup is being processed. Additionally, tape backups require manual restoration, meaning that they must be initiated and restored manually. Due to the immense strain backups put on your server, tape backups are generally performed after hours to avoid expensive downtime.

Think of it this way; traditional backup solutions look at your files. Every time the backup is run, it copies all of your files and stores them on the backup media (typically another hard drive or a tape). Image-based backups don't look at the files specifically; rather, it looks at the actual physical hard drive and copies over the 1s and 0s. This process is much faster and more effective, and the back-

up device can quickly determine what's new and only focus on backing up the differences.

When it comes to restoring the data, you see an even greater improvement to performance. Where restoring from traditional backup devices usually means you need to restore everything all at once, slowly transferring each and every file over and writing them onto the hard drive, image-based restores allow for very rapid deployment from your backup media. The time difference could be several hours. On top of that, this gives your business the capability to virtualize from your backup solution if your main server is down, reducing downtime even more. In a worst-case scenario, a server malfunction could lead to days of downtime, but with properly implemented and managed image-based backups, the downtime could be reduced to minutes.

In comparison, image-based backups aren't nearly as large or time-consuming as the typical tape backup solution, allowing you to take multiple backups of files throughout the day that have changed since the last backup session.

Naturally, this allows your business to take multiple backups daily due to your backup solution only affecting files that have changed. Plus, image-based backups are automatic, so you can take full advantage of them without worrying to remember setting up the tape backup before leaving the office in the evening.

### A Backup and Disaster Recovery Solution

By now, it should be apparent that image-based backup technology should be the preferred method of data backup whenever possible. Not only is it superior to other modes of data backup, but it's also vastly more versatile and less resource and labor-intensive than the alternatives, like tape. However, image-based backup will only get your business so far if you have no way to quickly deploy your backups.

This is why Directive offers a comprehensive data backup and disaster recovery solution. Our BDR device takes...



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## It's Quite Possible for Managed IT to Coexist With Your In-House IT Service

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improve operations and communications, and managed IT is important for this core necessity of any technology solution your business implements. Here's why outsourced IT is a commonly chosen method of technology management, as well as some potential complications that come with the territory.

### Why a Business Outsources IT

One of the key reasons that a business outsources their IT management and maintenance is to save valuable time and assets that in-house employees would spend managing their technology. If your organization doesn't have dedicated IT personnel, the responsibility of maintaining technology falls on the

shoulders of your staff, who likely don't have the time and skills necessary to perform the maintenance your network needs in order to remain at the top of its game. This is why remote maintenance and management services are such valuable solutions for business owners.

These days, businesses are capable of outsourcing much more than just tech maintenance and support. With new technologies like the cloud taking hold of the business world, the need for professional, business-orientated tech consultants grows every day. Organizations need companies that have the technical know-how to implement new solutions for all aspects of running a business, like managing a network, maintaining data

backups, hosting email clients, and so much more. Basically, any aspect of your organization's technology infrastructure, from your IT maintenance to the full management and hosting of virtual infrastructures, can be outsourced to improve operations.

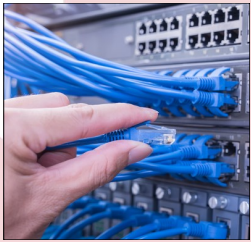
### The Primary Challenge: Coexistence

The big issue at hand is that outsourcing IT responsibilities can potentially create a conflict with your current in-house IT services. For example, your old technology solutions that have been around since your business was founded may...



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## Reevaluate Your Network Switches Due to Increased Demand of Wireless Technology



Your computer network is only as strong as its weakest link. One of the most overlooked links is your network

switch, and if your IT infrastructure is becoming more dependent upon wireless technology, then you're going to want to perhaps upgrade your network switches.

One of the most significant developments in IT networking comes from BYOD. By now, you've likely heard of BYOD (Bring Your Own Device); it's a rapidly-growing IT trend where employees are bringing their personal devices to the office and using them for work purposes. Due to the influx of BYOD devices flooding office networks in recent years, a network switch predating BYOD probably isn't up to BYOD's increased demands. Consider these common examples from NetworkComputing of how mobile devices connected to your network can increase the strain placed on your switches:

*More devices mean more bandwidth requirements, and it's hard to figure out*

*what the BYOD devices are going to be doing, whether it's just plain download bandwidth, something time critical like VoIP, or a sudden surge like Apple iOS version updates. And once end users are tied to a new way of using devices, network teams are often forced to adapt. BYOD not only means bring your own devices but "because you're overly demanding."*

It's also worth noting that all of these BYOD devices are wireless and that a single employee may operate multiple wireless devices, like a laptop, smartphone, and maybe even their workstation. In a 2015 survey by ESG, it was shown that "more wireless endpoints is the foremost driver for network switch upgrades, with 44 percent of respondents rating the wireless deluge as a top factor."

The same ESG survey rated speed as the second most significant reason for enterprises upgrading their network switches (33 percent). These days, companies are looking to get the maximum speed possible out of their WiFi and they're turning to 802.11ac (gigabit wireless) in order to achieve it. If your business chooses to adopt gigabit wireless technology, you're going to want to

make sure that your network switches can handle the increased speed, which will more than likely require a switch upgrade.

At Directive, we want to help your business take full advantage of your company's wireless technology. The best way to do this is to make sure that your network can handle the increased traffic demands of BYOD and high-speed WiFi. If your network switches aren't designed to accommodate this, then they will act as a bottleneck and prevent you from getting the most productivity possible.

Call us today at 607.433.2200 for an in-depth evaluation of your network to ensure that your switches and other network devices are up for the task of handling the latest IT solutions. We can even equip you with the latest wireless technology in order to provide your business with the competitive edge. At the end of the day, you don't want the performance of your entire IT infrastructure to be hindered by...



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## Gmail Now Notifies Users if an Email Comes From a Shady Source



Whenever you receive an email, there's

the possibility that it's a spam message sent to infect you with viruses or malware, or to just waste your time. This chance isn't just negligible; in fact, it's enough to warrant concern for anyone utilizing email as a communication medium, including business owners. Thankfully, users of Gmail will soon be having a much easier time knowing the origin of their messages, and whether or not they were sent over a secure connection.

Gmail will soon inform users of whether or not messages were sent to them over an unencrypted network, in the hopes of improving online security for all users (and providers) of webmail. It's a way of increasing awareness, as well as emphasizing the necessity of encryption for sensitive online services. While Gmail already takes advantage of an HTTPS encryption protocol for its own mail service, this is only a small step toward increasing the

security of online email services. The HTTPS only encrypts the browser's connection with the server, rather than all of the traffic to and from senders and receivers.

In other words, unless the email provider is taking full advantage of encryption while messages are in transit, external parties could potentially be snooping around looking for information that doesn't concern them. Providers like Google, Comcast, Microsoft, Yahoo, and some others, are taking advantage of protocols that can limit outside intervention by using STARTTLS.

As explained by ZDNet:

*A lot of providers don't support STARTTLS, meaning that any email encrypted by the sender can't be read when it's received on the other end. This so-called opportunistic encryption works when both email providers support STARTTLS. If one doesn't, then the other provider falls back to an unencrypted form.*

Therefore, the most important aspect of this new email encryption protocol is the fact that it will encourage email providers to offer the

same security measures that big names like Google and Microsoft do.

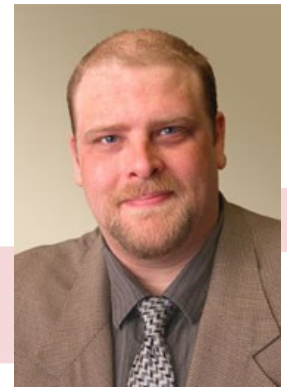
While this new encryption notification policy can improve the way you read and interpret emails, you don't want to rely on this method to keep your business's communications solution safe. What you want to integrate is a comprehensive security protocol that's capable of defending your business's infrastructure from a variety of both internal and external threats, like viruses, malware, and spyware. While a firewall and an antivirus solution can go a long way toward limiting your business's exposure to threats, you want a more powerful solution that encompasses all aspects of network security.

The perfect solution for a small or medium-sized business is the Unified Threat Management tool, which combines a firewall and anti-virus solution with preventative measures like content filtering and spam blocking capabilities. Such a...

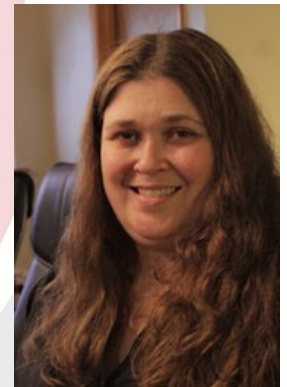


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We partner with many types of businesses in the area, and strive to eliminate IT issues before they cause expensive downtime, so you can continue to drive your business forward. Our dedicated staff loves seeing our clients succeed. Your success is our success, and as you grow, we grow.



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