This Issue:

How Our Help Desk Benefits You

You're likely aware that we have a Help Desk for our clients to leverage, but not all companies handle their support the same way. Here, we wanted to share a few reasons that we are confident that our approach to support is better for our clients.

This is, in part, thanks to the tools we use. While they are intended to make our jobs easier, the result is ultimately improved support for you. What follows are a few of the features that help us, help you.

Improved Organization
In most businesses, there is no...

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About Directive

We are a technology consulting firm specializing in technology implementation and management for businesses. We're known for providing big-business, Enterprise-Level IT services to small and medium-sized businesses.

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Promoting Data Privacy

Today, everything we do on the computer and on our phones creates data. Organizations that are good at utilizing this data, often look to capture everything that they can. This can leave the individual searching for a way to keep his/her data secure. Let's take a look at some of the best practices used to prioritize individual data privacy.

The first thing that needs to happen when you are looking to determine what steps you need to take is to identify your aims. In this case, it is all about taking control over your own data, and using those strategies to continue to keep your data secure. The thing you may be surprised to find out is that it's easy to get at your data. The real problem is getting it all under control.

Individual Data Security

Getting your data under control is like being in one of those money cubes where air blows random dollar bills everywhere, and actually getting control of all the money. Your data is everywhere, and grabbing all of it before time is up is a major challenge.

You already know that a breach of your data can end up threatening your financial security, but there are instances where it has gone far beyond that. With threats increasing in scope, and in number, if you are going to get control over your data, you need a strategy.

Identify Your Data

If you've been doing business on the Internet for a long time, it's probably inevitable that your personal data has been exposed. It's probably true that even some of your financial data can be bought and sold from someplace that you couldn't access if you wanted to. What's important is that you've made the decision to protect your data now. The first thing

Voice over Internet Protocol is a Valuable Tool

With the cost of doing business rising, it is no surprise that the decision makers at many organizations are looking to save a bit of money where they can. The cloud has proven to be a particularly popular way of doing so - especially through its replacement of traditional telephony with advanced communication methods, like hosted VoIP

Let's explore how hosted VoIP allows you to manage your investment into your communications without sacrificing the functionality you require.

Reduced Hardware Expenditures

If you've ever run phone lines from a distribution hub through the walls to the many points in a business that the traditional telephone service required, you know that it is quite the endeavor. Not only is it challenging work, it can be very time-consuming, and expensive to boot. A VoIP solution only requires a connection to the company's broadband, making it far easier to add and remove users as needed.

Furthermore, the biggest expense of the traditional business telephone setup, the PBX system, is actually no longer needed with hosted VoIP. This could potentially save your

"This is why I loved technology: if you used it right, it could give you power and privacy." - Cory Doctorow

Are You Wasting Money on Cloud Services?

Cloud services have proven to be extraordinarily useful for businesses of all types. With an immense amount of options to choose from, businesses can get anything from AI to Windows in the cloud. With so many services available, sometimes businesses will pay for computing resources that they don't use, cutting into their available operational capital. Today, we take a look at how businesses throw capital away by not keeping a close eye on their cloud-based resources.

One of the major value propositions cloud service providers use is that an organization can control the amount of computing they need. The scalable nature of the cloud seems as though it would be one of its great benefits; and, it can be, if it is managed properly. Unfortunately, when organizations pivot, there are often resources that are left behind. This can create a situation where those scalable and flexible solutions are actually costing you more money than they're worth to you.

That's not to say that cloud services aren't very attractive: they absolutely are. Unfortunately, if your strategy is to adhere to the scalable computing resources found in the cloud, you have to be sure that you are eliminating recurring expenses if you aren't planning on using them; and, many organizations aren't. They will routinely pay for recurring web services after their use is up, or after they make cuts to their workforce. This is wasted money, and if your organization doesn't have a strategy to keep track, it's problematic.

Additionally, companies that use hosted environments for development or virtual machines for application distribution may initially find cost savings by moving to the cloud, but over time, see those savings dilapidated as larger-than-needed VMs are left running and other computing platforms chew up resources that are billed per CPU hour or per gigabyte.

So how do you go about creating a strategy that will give your staff the resources they need, while also not having to waste money on unused cloud resources? Here are a couple tips:

- Track all online service licenses and correlate them with the number of employees that need that software to complete their jobs.
- Have a system in place where employees can find solutions to help them, while providing you the ability to block this Shadow IT software if it poses any threat.
- Clean up old volumes, snapshots, and machine images.
- When you turn on resources in non-production environments, make sure to set it to the minimum size requirements.
- Use the Reserved Instances option for any production resources and manage them closely. You could save up to 75 percent off your cloud investments.

These five tips will go a long way toward helping you control your cloud computing costs, and allow you to keep these cloud services working for your company instead of against it. Cloud computing can be a complete game changer for a business, but if you don't keep on top of it, you could be wasting a lot of very usable financial resources. Call the IT pros at Directive today at 607.433.2200.

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Promoting Data Privacy

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you'll do is to understand what data is targeted by the various entities you could come in contact with.

Personal information--or, what is known as personally identifiable information (PII) in cybersecurity circles--is basically any information that can be found on your personal information documents. Your name, address, date of birth, social security number, driver's license number, and any biometric data you may have is all considered personally identifiable information.

Where and When to Use PII
There is much more data that someone can use to identify you, but

understanding PII will allow you to, in turn, understand one of the biggest distinctions between someone looking to capture your information for sales and marketing purposes and someone looking to use that information to do more nefarious (and often intrusive) things.

Of course, the average consumer won't think twice about entering their name, phone number, and email address into a form on any given website, but most users will pause before giving over their credit card information, their medical history, or their social security number.

The thing is: it all matters. One major reason people fall for phishing scams is

because they are so used to lending over their personal information that they act on impulse and get burned. They should only give over ANY of their personal information if they are sure that the form they are filling out is on a reputable website with a security certificate. In most browsers, when you see a little lock in the address bar, it means that the webpage you are on is encrypted. The presence of that lock, coupled with the reliability of the company whose website you are on, are two critical variables to be cognizant of before you provide any personal...

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Voice over Internet Protocol is a Valuable Tool

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company thousands of dollars for each user. By switching from the capital expense of your own PBX system to the operational expenses associated with VoIP, the impact of such spending has less of an impact.

Improved Fee Structuring
Consider the bills you get for your telephone service - each minute raises the price, and more than you may expect. Long distance calling fees are often attributed to local calls and wind up costing subscribers more. Hosted VoIP can provide significant cost savings by eliminating and minimizing these kinds of expenses.

Let's break this down briefly. Rather than using costly telephone services to make calls, VoIP instead relies on broadband Internet. Nowadays, this alternative is pretty inexpensive, more or less required for modern functionality, and widely available through a

variety of regional carriers. As a result, it is available to you as that operational expense, as we mentioned above, with scalability, flexibility, and cost savings baked into its per-user deployment.

Mobility
VoIP also increases the value that businesses get out of their telephony by adding mobile capabilities via applications. Most VoIP systems have associated mobile apps available for download on Google Play or the App Store, making them much more flexible than the traditional desk phone without requiring the business to invest in company-

owned mobile devices. Furthermore, because these applications can work over Wi-Fi or a virtual private network, other investments can be avoided as a business puts a mobile strategy in place.

VoIP is effectively what you get if you take the traditional business phone system, keeping all of its most useful options, and add mobile capabilities while removing its major downsides like the high costs and fees and maintenance needs. If you're looking into ways to decrease your costs, you could do a lot worse than implementing a VoIP solution.

Interested in learning more about VoIP, or another business communication system? We're here! Give Directive a call at 607.433.2200 to learn more!

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You Don't Need to Search for the Benefits of Backup

Let me ask you this: does your business have a dedicated data backup and disaster recovery system? If not, we need to talk. A comprehensive backup and disaster recovery platform (BDR) can turn out to be one of the most critical parts of managing a business' IT infrastructure. By having a plan to turn to in the event a serious problem such as ransomware or a natural disaster descends upon your business, you can be better prepared.

If your organization were to suddenly lose a significant portion of its data, would it be able to continue functioning the way you need it to? If you can't guarantee that it could, a data backup and disaster recovery solution is exactly what you need. Don't deal in the realm

of "what if", you should protect your company with a BDR.

For several years, tape backup was the go-to solution for small businesses. Tape backup is the process of storing data on magnetic tape. This method, however, has numerous inconveniences; and, in the information age, companies simply can't afford to have a solution in place with so many detriments.

Why is tape antiquated? There are several reasons. It doesn't provide the automatic response that today's more-advanced systems do, it takes much longer to restore from, and it doesn't provide a virtualized copy of your data, ensuring that even if something tragic happens at your place of business, that you will have a copy of your recent data to work with as you pick up the pieces.

With a BDR, you get the convenience of having a network attached copy of your data coupled with the redundancy you

need to ensure that your data is protected. Best yet, the BDR can run automatically at preset intervals so that your company doesn't risk losing more than 15 minutes' worth of data. Furthermore, BDR uses the cloud to perform data backups, which provides a significantly better system for getting back in the game following a critical loss incident. The cloud allows for faster restoration times, less downtime, and more complete data backups. The cloud utilizes snapshot-based data backup, which only updates the current backup if the files have been changed making it truly the best way to go about protecting your organization from unforeseen threats.
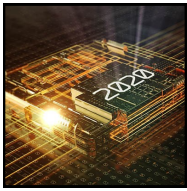
To get started with BDR, call the IT professionals at Directive today at 607.433.2200.

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Holy Moly It's 2020: 50 Years of Technology

Today is the first day of the third decade of the 21st century. For some, it's just another year, but for others it seems almost impossible that we've reached this point without floating cars and manned missions to Jupiter. Fifty years ago, some of the technology that is used in the course of doing business was simply fiction or conjecture. We thought it would be neat to take a look at some of the technological changes made since 1970.

Using our time machine, we want to travel through time to identify some technologies that have been invented in the past 50 years. The microchip (microprocessor) was invented in 1959, so that doesn't quite fit the criteria of our list. Multi-location networking was also a thing as the ARPANET had just rolled out the year before. These technologies were the predecessors for some of the best tech we've seen developed over the past 50 years.

We start in the 1970s...

1970s

Like most of society, the technology world was changing rapidly in the early 1970s. In quick succession, computing went from something that businesses and individuals only thought of in passing to a revolution that could change the world. New technologies that we would laugh at today were just reaching the market. Here is a brief list of some of the technologies that debuted in the 1970s:

- **Automated Teller Machine (ATM) -** Introduced automated banking.
- **Intel 1103 memory chip -** It was the first memory chip produced by Intel that introduced their dynamic random-access memory (DRAM).
- **Intel 4004 microprocessor -** Intel also released the very first microprocessor.
- **Email -** The first emails were introduced and sent over the ARPANET.
- **Xerox Laser Printer -** The Xerox 9700, the first laser printer was developed.
- **SuperPaint -** The first computer used for digital imaging manipulation was introduced.
- **Mobile Networking -** ARPA developed the first wireless network out of a van in San Francisco and tested out early versions of VoIP.
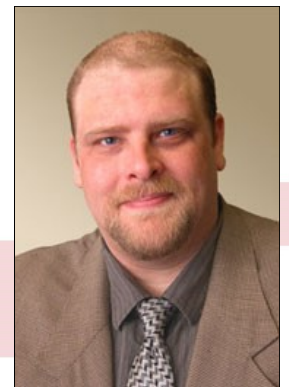- **The First Cell Phone -** Motorola introduced the cell phone in 1973.
- **Groundwork for the Internet -** European researchers created "networks of networks" in a process called internet-working.
- **Local Area Networks (LAN) -** Using ethernet, Xerox created the first commercial LAN. IBM and Datapoint also introduced solutions.
- **First Mass Storage -** IBM introduces their 3850 mass storage system. It stored up to 236 GB of data.
- **Business Networks Expand -** Packet-switched business networks like CompuServe, Telenet, and Tymnet are introduced, connecting business terminals to servers.
- **PC Wars -** Apple's first commercial personal computer, the Apple II was released in 1977 as were the Commodore PET, and the Tandy/Radio Shack PC called the TRS-80.
- **LaserDisc -** The forerunner to the CD, DVD, and Blu-Ray disk, the LaserDisk was expensive, but offered superior audio and visual quality than the tape-based systems of the time.
- **WordStar -** One of the most popular word processors of the early PC age...

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I'VE BEEN MONITORING THE CLOUD ALL DAY...