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TECHNOLOGY SOLUTIONS

TECHMinutes
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Your Small Business Technology Information Source!

This Issue:

Our Top Tweets

@AshtonSolutions Lunchtime cookout for a few clients fell through, so we delivered pizzas instead. It's always nice when people smile when they see us coming!

@AshtonSolutions We are really excited about our newest client, **@holdenarboretum** and **@cbgarden** ! Onboarding is underway, and our engineers have really enjoyed learning about the two properties.

Kevin von Keyserling @kvkconnect More **#humboldtstrong**

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Access Control is Key to Your Business' Security

Access control is an extremely useful way to manage a secure computing infrastructure, and one of the best ways your organization can protect important data. However, with innovations in the way that access control is implemented, it's time to consider what you can do to secure your business' future in more ways than one. Let's discuss some best practices regarding access control, as well as some technologies that you can implement to further cement your business' security.

Ultimately, you should strive toward keeping employees out of information that they have no business having access to in the first place. For example, your human resources department might need access to sensitive information, such as Social Security numbers and dates of birth. Your accounting or finance department might have access to banking information for the purpose of direct deposit, or your business' own credit card numbers to perform transactions. These employees might need access to this information in order to do their jobs, but the same can't be said for other employees in your organization.

The ideal solution is to implement access on an individual basis or based on their roles within your organization. Your employees will only have access to information that is required for them to do their jobs, and nothing more. This keeps the risk factor associated with user access mitigated at all times so that you can focus on getting your job done.

Other ways you can provide secure access for your business' assets is by implementing other barriers for access, such as two-factor authentication, biometric scanning, and physical security measures. Depending on your business' specific industry, you'll want a

Understanding 5G Helps Highlight its Benefits

You've heard of 3G and 4G technology for your mobile devices, but have you ever stopped to consider what these phrases actually mean? Since the world is on the cusp of a 5G introduction, it's time to take a look at what these wireless technologies do, and how 5G can further expand on its formula.

Even though 5G isn't expected to arrive until at least 2020, it's worth taking a look at what we can expect to see in the future, and how it will affect your business.

What Does 5G Stand For?
If you're thinking that 5G stands for something elaborate, think again. All it stands for is "fifth generation," of mobile connection, as defined according to the IEEE 802.11ac standard of broadband technology. It's thought that 5G will take various aspects of connectivity to the next level, including user experience, enhanced services, system performance, and business management solutions. According to TechWorld, 5G must also achieve the following in order to even earn the title:

- One to 10Gbps connections to end points in the field
- One millisecond end-to-end round trip delay
- 1000x bandwidth per unit area
- 10 to 100x number of connected devices

"Success is never final, failure is never fatal. It's courage that counts."
- John Wooden

3 Business Communication Standbys

Communication is one of the most important parts of running a business, and if you're not communicating properly, it could spell trouble for your organization. Projects could be delayed and could ultimately cost your organization more money than they're worth. Thankfully, technology makes communication better, easier, and more efficient. Here are some of the ways that the best communication technologies can improve the way your organization functions.

Voice over Internet Protocol

Telephones have been around for quite a long time, but the way that they have been used changes with each new innovation. You may remember sitting at your desk with a corded phone, without the ability to move around. Mobile phones and voice chat applications make for a much more flexible way of taking and making calls. With the right software, you can use a smartphone, desktop, or laptop to make calls with your own personal devices. Voice over

Internet Protocol makes communication way easier and more affordable. It eliminates the traditional telephone lines that are difficult to scale and build around without major infrastructure changes and inflated costs. VoIP has the potential to completely replace your antiquated telephone system with a modern and more efficient one.

> *"Communication is one of the most important parts of running a business, and if you're not communicating properly, it could spell trouble for your organization. Projects could be delayed and could ultimately cost your organization more money than they're worth."*

Instant Messaging

Situations that require an immediate response often can't wait for an email conversation's inherent delay. While you could just use your phone to make the call, you don't necessarily know if the situation warrants a phone call. If you just need to know about a website or something similar, you waste no time but yours to send a simple IM. You don't have to worry about distracting anyone from a task, as they will simply respond when it is prudent to do so. Instant messaging works on both workstations and

mobile devices, so they can be exceptionally valuable for communication during collaborative projects.

Shared Cloud Applications

Cloud storage is a great way to ensure that anything related to projects and collaboration can be accessed by the team responsible for working on them. With cloud-based productivity suites, like Google Drive and Microsoft OneDrive, you can have multiple users working on the same document and spreadsheet in real time. This keeps everyone involved in a beneficial way that's simply not allowed for under other circumstances. There won't be any huddling around a single monitor or television screen--instead, each user will have the flexibility and connectivity to work on the projects on their own devices.

With these types of unified communications and cloud software solutions at your disposal, your employees will always be connected to what matters most--their jobs and your business. To learn more, reach out to us at 216-397-4080.

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Understanding 5G Helps Highlight its Benefits

- (Perception of) 99.999 percent availability
- (Perception of) 100 percent coverage
- 90 percent reduction in network energy usage
- Up to ten-year battery life for low power, machine-type devices

For reference, 3G and 4G also had their own unique improvements that allowed them to showcase how far mobile technology had come at the time. 3G focused on providing greater connectivity than ever before, whereas 4G worked hard to improve the speed at which this connectivity functioned. But 5G will be even faster, which makes it an even more exciting topic to consider for business, as well as consumer purposes.

The Downside

Despite the overwhelming advantages of 5G, there will inevitably be some downfalls that will need to be considered. Like any new technology, 5G is expected to be somewhat expensive to implement upon its inception, but this price will surely decrease as time goes on. New devices manufactured with 5G in mind will also feel the effects of this cost, making them more costly to pick up, but resilient to the effects of time as older connections grow outdated.

Furthermore, if one thing is for sure, there are still places in the world that are without a reliable connection to 3G or 4G, making the jump to 5G all the more daunting.

Thankfully, there is much industry support behind the implementation of 5G, even though it's still in development. Big names such as Samsung, Nokia, and Qualcomm are already investing in 5G, so it's only a matter of time before they put together something truly astounding for people all over the world.

Keeping all of this in mind, how will your business use 5G when it finally becomes available? Always consult Ashton Technology Solutions before investing in any new technology. To learn more, reach out to us at 216-397-4080.

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combination of these additional features to maximize your organization's network security.

> *"While these types of solutions are somewhat more in-depth and difficult to implement based on your location, they can be extraordinarily helpful for a business of any size.*

Two-Factor Authentication
At the very least, you should consider two-factor authentication, as it helps by adding an additional layer of security. Basically, you have to authenticate yourself further by providing a code that is sent to either a device or an email address that's associated with your account. These solutions are implemented with the purpose of making things more difficult for would-be hackers, as they

are unlikely to follow through with a difficult target.

Biometrics
If relying on a device doesn't suit your needs, then perhaps you can use your physical characteristics and properties to secure your office and devices. Some systems are equipped with the ability to scan fingerprints and irises, secret agent style, with the intention of only offering those with matching results access to important information or locations. These technologies are becoming more readily available, and some are even offered on commercial products like laptops and smartphones. It's a great way to make sure that hackers aren't able to access devices without your specific biological traits.

Physical Security
Sometimes you will have a physical location that you want to protect as

much as possible. Physical security often takes advantage of the above solutions, in addition to several others, to provide an adequate level of security for your chosen locations. Many business owners choose to secure their offices with card keys, security cameras, or electronic locks to keep outsiders from infiltrating. While these types of solutions are somewhat more in-depth and difficult to implement based on your location, they can be extraordinarily helpful for a business of any size.

Does your business need to reconsider access control for its most sensitive assets? Ashton Technology Solutions can help you substantially improve your organization's security. To learn more, reach out to us at 216-397-4080.

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Why the Internet of Things is Here to Stay

There are a lot of connected devices nowadays, but not all of them have a very practical purpose. Some of the more practical uses of connected technology range from security systems to thermostats, but other technologies can't necessarily be justified so easily. Why would a blender need to connect to the Internet? There are many more that are being added every day, which is why a lot of companies are concerned about this rise in connected technology.

The Internet of Things accounts for connected devices that have some sort of connective features. It's not out of the question for these devices to find themselves on your business' network, with or without your permission. Therefore, it's critical that you have a plan in place to control how their activity influences your company. If you don't, you could be risking your business' integrity.

Of course, it helps to know where the Internet of things will be heading in the near future--particularly if you want to prepare adequately for it. Let's take a look at what trends the IoT will bring in the future, and how you can prepare yourself for them.

The Internet of Things will be Commercialized
There has been a new initiative to further commercialize Internet of Things data in European countries. As reported by Forbes, the European Commission is going to follow in the footsteps of the United States by commercializing data collected with Internet of Things devices. In fact, 45% of data analytics decision makers already use this kind of IoT data, whereas only about 35 percent of French and 38% of companies in France and Germany do so.

Demand for Wearables will Dwindle, but Marketers will Benefit
Even though 12 million smartwatches will likely be sold by the end of 2018, the folks over at Forrester predict that wearables will remain a niche with limited

practical uses. Even if they are relatively popular for their user-friendly interfaces, there will be limited vertical growth in more professional settings. For an example of just how user-friendly and convenient this technology can be, look to Amazon's Alexa.

IoT will be Included in Design and Integration Planning
Prior trends showcased that Internet of Things devices could be used to collect and disseminate information. While this is still true today, there will be a greater focus on designing around these capabilities. Devices will still collect data in much the same way, but there will a greater emphasis placed on the software used behind the scenes that processes it and turns it into something that can glean insights. A similar approach should also be done for your infrastructure so that you don't have to worry so much about managing individual devices...

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http://bit.ly/2H1njqZ

3 Ways to Get Windows 10 to Boot Faster

Have you ever waited far too long for your Windows workstation to boot up? Chances are that you've seen first-hand how much time can be wasted during this process. If you want to save some time, you can review our three tips to help you speed up your Windows 10 computer's boot time.

Before we get started, however, a word of caution; always check with your IT department before changing any settings on your workstation. Ideally, you will have your IT department handle these changes on their own.

Use Fast Startup
Windows 10 has a special startup feature called Fast Start-up. It basically cuts down on the time it takes for Windows to boot up. Fast Start-up works by utilizing a special filing system that makes each subsequent startup process quicker. Rather than shut down completely or go into sleep mode, your device sits somewhere between the two.

To set up Fast Start-up, start by opening up your Control Panel and finding your way to Power Options. If you can't find it, just search for it in the search bar. Next, select Choose what the power buttons do. Locate the checkbox option for Turn on fast start-up. Once you're done, save your changes.

Edit Your Startup Programs
There are a lot of programs that start up alongside your Windows operating system, but you don't necessarily need all of them. What started as an attempt to improve the user experience has led to bloated system slowdown that ultimately betrays its original intent. By removing some of these from the startup process, you can considerably improve system speed.

To get started, open up your task manager by pressing Ctrl + Shift + Esc. You then need to click on the Start-up tab. You'll see all of the programs that open on startup, where you can remove any applications that you want. Just make sure that you work...

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More Victims of the Equifax Breach Discovered

The 2017 Equifax leak was a disastrous scenario, but recent revelations have discovered that even more victims were affected than was previously thought. Nobody ever wants to hear this kind of news, but there is an upside to this that shouldn't be ignored - learning from the mistake. We'll start with a refresher on what happened exactly, and what these new developments mean for your organization.

The Breach of 2017
Equifax is one of the three major credit reporting organizations, and it suffered a major data breach in 2017. Over 143 million users were affected by this breach and potentially had their personal information stolen or provided to hackers. For those who are curious, this is about 44 percent of the United States total population. It's pretty wild to think about. In October 2017, an investigation yielded more information that showed about 2.5 million more users were exposed than the original numbers let on. Thus, the total number of victims reached a staggering 145.5 million, or nearly...

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