

## The Biggest Cloud Advances In The Last Decade



*Thomas Fox is president of Tech Experts, southeast Michigan's leading small business computer support company.*

Yes, believe it or not, we have closed out yet another decade in technology. As we are entering the second generation of the

“Roarin’ 20s,” it felt like the perfect time to look back on the ‘10s.

Even though cloud technology was widely available prior to 2010, the technology has made significant strides in gaining acceptance as the defacto business solution. From communications to storage to backup, the cloud is now where it is at.

### In the beginning....

There were three cloud giants that emerged. Between Google, AWS and Microsoft, the cloud market was valued at an astonishing \$24.65 Billion.

Early in 2019, it was projected to be as high as \$150 Billion by the start of 2020, although official numbers aren’t available at the time of this writing. And the staggering growth it is no surprise to those who have been in the cloud industry for some time. With statistics like the following, as reported by TechJury, you won’t be surprised either:

- 80% of companies report operation improvements within the first few months of adopting the tech.

- Small and medium businesses find it 40% more cost-effective to employ third-party cloud platforms than maintaining an in-house system.

- 94% of businesses report significant improvements in online security after moving their data to the cloud.

In the 10’s was when cloud solutions truly came into their own, thanks to the efforts of these original cloud giants.

### And then there was...less?

Serverless, that is. Born just 6 years ago, in 2014, Lambda was launched at the 2014 AWS re:Invent conference, with Google and Microsoft close at their heels.

Serverless computing is not exactly serverless, it just moves the software compute power from internal systems to a cloud provider’s infrastructure, enabling the ability to scale at significantly greater rates than traditional software solutions. And so was born software-as-a-service.

### Minimize and contain

In 2013, Docker was introduced as the first platform-as-a-service provider, offering enterprise grade container platforms.

CIO says a “container consists of an entire runtime environment: an

application, plus all its dependencies, libraries and other binaries, and configuration files needed to run it, bundled into one package.”

Containers achieved popularity due to their ability to enable workload portability, essentially making it so a developer could write something in one place and then run it anywhere, driving the substantial growth predicted by Research 451. In 2016, the research firm predicted the market would grow from \$749 Million to more than \$3.4 Billion by 2021.

Out of containers grew microservices, enabling reduced costs and enhanced resource efficiency by running apps on smaller services, and further accelerating development of new technologies.

### Cloud becomes commoditized

Dedicated connections to providers such as Amazon (2011) and Azure (2014) and now the technology is so advanced that any business can connect an existing infrastructure to the cloud.

Further commoditizing cloud solutions was the introduction of virtual private clouds, where users can piece off a portion of the public cloud for their own private use.

Deloitte Consulting’s chief cloud strategy officer and industry expert,

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## VoIP Poised To Replace Traditional Phone Lines

*“The phone number associated with the device is not tied to one particular device in one specific situation. Instead, several devices can be tied to the same extension, and you can decide which device should ring at which time.”*



Jason Cooley is Support Services Manager at Tech Experts.

VoIP (Voice over Internet Protocol) is not a new technology, although many of us are just learning of this internet-based communications protocol.

First used in 1970, VoIP uses your local area network (LAN) to send small digital packets over the internet to the recipient. Advances in the reliability and sound quality have encouraged end-users and businesses alike to cut the cord on the traditional phone-line and adopt the more versatile, and yes, less expensive telecom solution.

As we see it, there are nine reasons VoIP outperforms traditional phone lines aside from the cost. They are:

### Scalability

Your business is not static. It is cyclical. Guessing each upgrade cycle how many lines you will need is frustrating and can be expensive. If you guess too high, you pay much more than you need to.

If you guess too low, you can stagnate your business growth. Additionally, legacy solutions have a limit as to how many phones can be connected – but VoIP does not. The possibilities are limitless when it comes to VoIP.

### Agility

The key to gaining a competitive

edge is moving faster than your competition. VoIP solutions can manage changes in volume and users within minutes and removes any ceiling that might affect your communications solution as you grow.

### Mobility

In this modern work environment, employees are demanding more flexible work arrangements, including the ability to take and make calls from anywhere.

Statistics even show how flexible work arrangements also increase employee productivity, allowing workers to still connect even during

uses to communicate.

### Flexibility

Digital communications technologies like VoIP and Unified-Communications-as-a-Service have one huge distinctive advantage over copper lines: flexibility.

The phone number associated with the device is not tied to one particular device in one specific situation. Instead, several devices can be tied to the same extension, and you can decide which device should ring at which time.

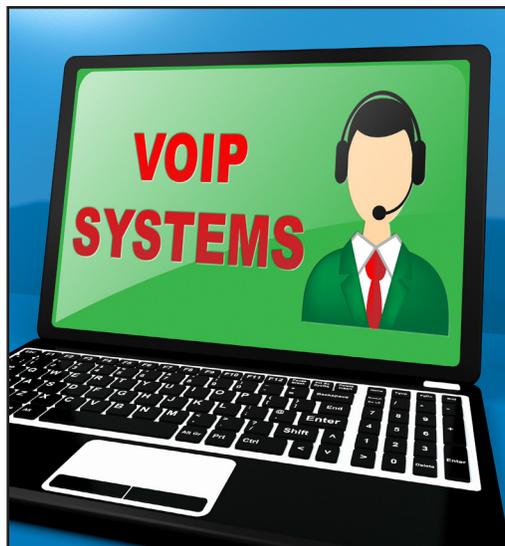
Or, if you forgot to change your call flow and need your calls to reach you only on your cell phone and you have left the office, internet-based dashboards enable you to make those changes on the fly and from any internet-connected device.

### Reduced complexity

In the golden days of business telephony, the effort and expense to install a PBX was costly - between paying for the certified individual to set up, install all devices, and do adds, moves, and changes

throughout the span of the technology’s lifetime, to the simple cost of buying the equipment, paying for the electrical needs to run it and the space to house it.

Every interaction with the system required certified engineers. A new employee’s ability to communicate was dependent on the schedule of the technician to be able to add the user. But VoIP removes all of



a sick day or outside appointment. VoIP enables this type of mobility through a simple dashboard that allows you to choose which line will get the call.

### Advanced features

VoIP is evergreen. Meaning it will always deploy the most advanced features on the market with no additional cost to you as the end-user.

Updates are automatically filtered and deployed to your location through the same lines the device

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## Most Small Business Breaches Could Be Prevented

The majority of breaches that affect small and medium businesses like yours could have been prevented through the use of today's technology. Here are 14 ways you can protect your business:

### Security assessment

Establish a baseline and determine when your last security assessment was.

### Spam email

Most attacks occur from infected emails. Be sure you secure your accounts. We can help you determine the right level of protection for your business.

### Passwords

Set company policies surrounding passwords and external devices in your business. Examples include restricting USB drive access, screen timeout limits, enhanced password policies, and limiting user access to certain files.

### Security awareness

Educate, educate, and then educate some more. Employees are the single greatest risk to an organization of a cyber breach by employees inadvertently clicking on a link in an email or downloading a file that contains the virus or ransomware.

### Advanced endpoint detection and response (EDR)

Technology advancements have enhanced the traditional methods of virus protection, adding protections for fileless and script-based attacks and can even roll back systems after an attack. Give us a call at (734) 457-5000 (or email at [info@mytechexperts.com](mailto:info@mytechexperts.com)) to learn more about these features and how they can replace your current virus protection software.



### Multi-factor authentication

Multi-Factor Authentication is the process of requiring two modes of identity checks when logging into accounts with sensitive and personal information, such as bank accounts or social media.

This additional layer of protection can be critical in ensuring your data does not become lost.

### Computer updates

Automate key software, such as Microsoft Office and OS, Adobe, and Java, to protect your network from the latest attacks. We can provide "critical update" services to your business and help you keep your business protected from these malicious sources.

### Dark web research

A little known secret is the reality that many users' login credentials have been placed for sale on Dark Web sites. Continuously monitor these sites and update credentials as needed if you find your corporate credentials up for sale to the highest bidder.

### SIEM/log management

SIEM, or Security Incident & Event Management, uses data engines to review all logs from all covered

devices, protecting your systems from unauthorized access.

### Web gateway security

New cloud-based security products can detect web and email threats and block them - before they reach your network and users.

### Mobile device security

Don't neglect to secure your employees' mobile devices and tablets. Many attackers target these devices, believing them to be forgotten by most businesses.

### Firewall

Advanced firewall technology today enables intrusion detection and intrusion protection features. Ensure these are enabled on your corporate firewalls, and if you don't know how, call us today.

### Encryption

Encrypt files both at rest and in motion, especially on mobile devices, laptops and tablets. Cell phones are an unexpected attack vector.

### Backup

Utilize multiple forms of backup, from cloud backup to on-premise and offline, further reducing the risks of a ransomware attack preventing access to your data.

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## VoIP Poised To Replace Traditional Phone Lines, continued

these complexities. The solution is mostly software-driven, instead of specialized hardware, and accessed with a simple graphical user interface (GUI).

Day to day management of the solution can be handled by administrative personnel, reserving your IT staff for the more complex needs of your business.

### Security

A myth has surrounded VoIP and cloud solutions almost since inception. There has been a perceived security risk to a corporation's data that has persisted, even though the myth has frequently been debunked. Recent studies have found that on-premise solutions are at the same amount of risk of a breach as cloud solutions, and sometimes even greater risk.

A survey by Alert Logic back in 2012 actually found that on-premise solutions were at a greater risk of compromise and data loss, with on-premise solutions being attacked 61.4% and cloud solutions only 27.8%. The fact is, as your service provider, we put your security at the top of our mind when devising and

offering solutions such as VoIP and other cloud offerings. Our staff is certified and participates in frequent educational opportunities to learn about the latest cyber-security risks and protection strategies.

### Quality

VoIP is not new and has been used in some form since the 1970s. It has recently gained popularity as the technology has grown and proven itself to be a serious competitor to the traditional telephone.

Because VoIP has been in use for almost 50 years, many of the original sound quality issues have been resolved. Thanks to innovations in sound compression and advancements in IP connections, VoIP actually provides superior sound quality as long as there is a high bandwidth and robust internet connection.

### Business continuity

You may have heard horror stories about VoIP connections and outages. And while in those early years, these stories were warranted. Internet connections were wildly unreliable, and since VoIP ran over these connections, if they went down, so did your phone.

But now, internet providers have made considerable strides in the reliability and strength of their IP connections, making outages rare.

Add in cellular technologies as a failover, VoIP solutions can actually failback on the cellular 4G or 5G network and continue services in the event of an internet outage, meaning you remain connected regardless of the status of your internet connection.

It is no longer a matter of if, but when the copper lines that have serviced our telephones for generations will be phased out. Major carriers, such as AT&T and Verizon, have listed a sunset date for the maintenance of these copper wires to occur next year. Yes, in 2020, if a copper line goes down, the operator will not need to replace the line, but instead, transfer your service over to the digital solutions.

Start your migration today, and avoid the headache of a forced migration when you are least expecting it. Talk with one of our staff today to see how we can help you manage the transition and keep your business connected.

## The Biggest Cloud Advances In The Last Decade, Continued

David Linthicum, put it this way when discussing virtual private clouds, "That was a big change and not expected to happen, and suddenly, all the objections people had around what public cloud is fall away."

### Everyone goes SaaS-y

The rise of containers and the commoditization of the cloud enabled the next generation of cloud services: Software-as-a-Service

or SaaS. Gartner reports that the market is projected to grow at a rate of 17.5%. Although SaaS was introduced at the beginning of the decade, it wasn't until 2016 that the solution became the dominant solution for software delivery, surpassing on-premise, licensed software. A subset of SaaS, known as infrastructure-as-a-service (IaaS) is the fastest growing segment in the market, shaking up the technology industry as we know it.

### Business continuity moves "Up" in the world

Business continuity and disaster recovery has been a business priority since operations moved to computers, even more so when computers became connected to the world wide web. But in 2014, organizations began to test the theory that all of their data could be backed up to "the cloud."