



Where Vision Meets Execution

The Copper Sunset Countdown: Preparing for the End of Traditional Telephony

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The State Of The PSTN

The telephony service most of us grew up with has been in slow decline for many years, but is now very much in terminal decline, and the implications for businesses go well beyond replacing legacy forms of telephony. The PSTN - Public Switched Telephone Network - has provided businesses with rock-solid, reliable phone service for decades. Technology evolution has since brought viable alternatives - namely VoIP - and the PSTN's viability has been under threat for some time.

That threat became very real in August 2019 with [FCC Order 19-72A1](#), which marked the beginning of Copper Sunset, where US service providers were no longer obligated to maintain the PSTN. Since then, these carriers have stopped investing in legacy infrastructure and are on a clear path to phase out the PSTN.

Not only have subscribers been moving

to IP-based forms of telephony, but with the rise of mobility, the need for landline service has been rapidly declining. In 2023, only 1.3% of US households were landline-only, and only 22.2% were a combination of landline and wireless - whereas both metrics were closer to 50% in 2003.

Compounding this trend, US residential subscriber rates keep rising to reflect the high cost of maintaining the PSTN as demand falls for these services.

Overall, the state of the PSTN is bleak, and unless the FCC changes course on Copper Sunset, businesses need to be thinking about a future without legacy telephony.

How Businesses Will Be Impacted By Copper Sunset

The PSTN will not disappear overnight, but there are several areas of impact that businesses need to be preparing

for. Post-PSTN solutions are in the market today, so IT leaders should start planning now, rather than being reactive when service offerings are scaled back or shut down altogether. To help formulate that planning, here are four key areas where Copper Sunset will impact businesses.

01 Telephony

By nature, this must be the starting point for any discussion around Copper Sunset. To varying degrees, most businesses have been using VoIP for some time, but segments remain that

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are fully based on legacy telephony services. For the latter, the key benefits of VoIP will be lower cost, richer features, and greater flexibility to integrate with other applications. IT also benefits from being able to route telephony traffic over the core data network, eliminating the need to manage a separate, dedicated voice network.

The user experience for VoIP is no different from legacy telephony, so there are no barriers to adoption from end users, and they may not even know there's been a change in technologies. In most cases, the transition is seamless, and the biggest hurdle will likely be getting IT to accept giving up control over telephony as it moves to the cloud. As carriers sunset the PSTN, this may well be a welcome change, since resources to support legacy telephony will become scarce.

When considering telephony alone, there will be little downside to a PSTN phase-out. However, telephony is just one element of the PSTN that impacts businesses. The PSTN also supports two other vital functions, namely fax and emergency services. These have been effectively supported by the PSTN for decades, but each has distinct requirements that are not so easily supported by cloud-based connectivity.

Fax usage may be less common today in office environments, but it remains a core communications tool in sectors such as healthcare, financial services and the public sector. As these verticals consider migration away from PSTN, they will need purpose-built solutions to support fax over IP networks. The same applies to emergency services – especially in campus-based settings – where alarms and critical communications need to be supported in spaces such as elevators, escalators and safety/security callboxes.

02

The Cloud Opportunity

Telephony on its own will be impacted significantly by the PSTN phase-out, but

in a strategic sense, there is a bigger opportunity for IT leaders to consider. The shift from legacy telephony to VoIP also means a shift from premises-based telephony to cloud-based platforms that support VoIP.

Most businesses have long been using the cloud for other applications – CRM, security, storage, etc. – and once they are comfortable that the cloud can support mission-critical applications like telephony, the move to VoIP is easy. This represents more than moving on from legacy telephony, however, and that's the bigger opportunity here.

Aside from reducing costs, VoIP also means that IT can finally move off the PSTN island and allow it to be integrated with other communications channels and workplace applications. In this context, VoIP can be viewed as a stepping stone to UC – Unified Communications – which has become the standard model for supporting workplace productivity.

By migrating from PSTN, businesses will now be positioned to fully adopt cloud services, and with that comes the cloud-based version of UC, namely UCaaS – Unified Communications as a Service. As such, the move to VoIP is also a first step to UCaaS, creating an organization-wide opportunity that goes well beyond what legacy telephony could ever provide.

03

Business Continuity Risks

While the impacts outlined above are positive for the business, IT leaders could still choose to stay the course with PSTN for as long as possible. Change is never easy, especially when it comes to technology, where the status quo is well-entrenched, and continues to perform at a high level.

This mindset may still be prevalent with telephony, but it's not a viable long-term strategy. The underlying attributes that made PSTN the gold standard for so long will become liabilities at some point as carriers continue with Copper Sunset. All networks require maintenance, but as that falls away for the PSTN, network performance and resiliency will inevitably decline.

With telephony remaining mission-critical to all businesses, holding firm with PSTN represents significant risk.

Carriers will no longer be able to deliver “five 9s” service reliability, and the call quality that made telephony the channel of choice will cease to be a sure thing. Getting support for MACs and trunking issues will become challenging, as will be the speed of restoring service when network outages occur.

Not only does this negatively impact the user experience for telephony, but on a broader scale this presents a business continuity risk. Aside from being harder for employees to communicate with each other, customers will face challenges with your contact center.

This also extends to the other aspects of PSTN – fax and emergency services. Think about how degraded network performance impacts patients trying to renew vital prescriptions, or for anyone stuck in an elevator during a power failure. As such, if choosing to stick with PSTN, there is a much bigger impact to consider than just having calls drop more than usual.

04

Data Security Risks

This represents a different set of risks, namely those that come from the decision to adopt VoIP and cloud as part of the migration from PSTN. The above section outlined the risks from staying with legacy telephony, but there are more impacts to consider when making the change.

Legacy telephony is underpinned by premises-based networks and hardware-based endpoints. Depending on the age of your telephony deployment, your endpoints may be fully analog, partially digital, or fully digital. These endpoints would mainly be desk phones, but could also include switchboard consoles, cordless phones and fax machines. More recent deployments would also include PC-based soft phones and clients that run on mobile phones.

Whatever the mix, each endpoint will have data tied both to the device and

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back to the network that provides connectivity. Some of that data will be highly sensitive, such as passwords and user profiles, but could also include call logs and transmission records. Some of these endpoints may remain in use with PSTN migration, but others will not be IP-compatible and will need to be replaced or upgraded.

Regardless of the mix, there are important data security risks to consider, especially for businesses in regulated sectors that have compliance requirements. When moving off PSTN to IP, these data sets need to be carefully managed. Not only do they need to be fully and cleanly migrated to IP-based endpoints, but care must also be taken to ensure that no data remains on endpoints that will no longer be used.

Future-Proofing Business Communications With PSTN Migration

While there are many impacts to consider with PSTN migration, the overall impact will be positive,

presuming the right steps are taken. Nothing is for certain, but this transition is manageable, and for businesses that properly assess the impact, the benefits will outweigh the risks. To help future-proof your investment in business communications, here are three foundational elements to build your plan around.

01

Recognize The Bigger Picture Impact

In conventional terms, thinking about the PSTN begins and ends with telephony. That notion has long been true, as business telephony lived in a parallel universe to everything else in the enterprise. To some extent, that still holds today, but in the world of VoIP and IP networks, telephony is just another data application and is now integrated with all the other tools we use in the workplace.

When migrating from PSTN, IT leaders need a broader vision to be future-proof. Telephony can no longer be viewed as a standalone application, and the bigger picture needs to be about how all forms of communication are integrated, with a common platform, interface, and user experience. That's what UCaaS provides, and to realize that IT leaders need telephony to become IP-based.

On a practical level, migrating from PSTN to VoIP will yield cost savings – along with getting away from ever-

rising costs for legacy telephony. However, that really should be secondary to having the ability to bring telephony into the multichannel fold, and all the new capabilities that come with UCaaS.

02

Consider The Broader Vendor Landscape

PSTN has always been associated with legacy service providers, who had a monopoly hold on the telephony market prior to the 1984 AT&T divestiture. That may have been over 40 years ago, but incumbents still hold a dominant position in the business market. To maintain that position, these carriers offer a variety of cloud-based alternatives – VoIP, UCaaS, mobility – so there are many options for businesses that want to stay with their incumbents.

There are many reasons why businesses would want to move on – especially SMBs who feel underserved by big carriers – and there is no shortage of cloud providers to choose from for telephony and UCaaS. Some have their roots in legacy telecom, while others are cloud-native, but they are all capable of replacing your incumbent, often at lower cost and with more flexible options for integrations and adding new services.

If just considering telephony and UCaaS, these choices are fairly



straightforward. In terms of future-proofing, however, there are other challenges to consider with the non-telephony requirements – fax and emergency services. As mentioned, these applications require purpose-built solutions, and you won't get these from your incumbent carrier.

These use cases are different from telephony, where POTS capabilities need to be replicated for IP networks without compromising performance, especially for compliance requirements.

For IT leaders new to PSTN migration, this will require learning about these particular offerings, from both specialty providers, and cloud providers with specific modules for fax and emergency services. On the fax front, leading providers would include eFax, Fax.cloud, iFax, and SRFax. For supporting emergency services, leading offerings would include DataRemote, Ooma, RingCentral and vCom.

03

Embrace The Maxim Of Constant Evolution

To truly get the best results from PSTN migration, IT leaders must move on from the legacy telephony model. The PBX installed base remains large for a reason. Aside from these systems being built to last, they were fully evolved from Day 1. Once deployed, a PBX had a complete feature set that remained static and served businesses

well over its lifespan without needing major changes or upgrades.

That experience is unique to legacy telephony, but for every other technology used by businesses, the norm is constant innovation. This is especially true for cloud-based applications and platforms, but open systems make change easy to support. Today's applications are anything but static, where evolution is constant, and always adapting to the changing needs of business communications.

This is how communications technology brings new value to businesses, whether it be better ways to collaborate, easier ways to communicate, or lowering the cost of communications. None of this is native to the PSTN, which was built to do one thing – provide reliable, high-quality telephony service. With VoIP, that value proposition is now just a feature, and the bigger story is about agility and adaptability in an ever-changing world.

As a capstone here, the need for constant evolution so far has only been in the context of business communications. Migrating from PSTN to cloud provides this, but it also sets the stage for AI, which is the next wave of transformative technology.

The PSTN migration story stands on its own just for telephony and UCaaS, but for a future-proofing strategy, nothing is more important than AI. This has now become a must-have for all

businesses, and moving from premises to cloud is the fundamental first step for getting there. The longer businesses stick with the PSTN status quo, the harder it will become to adopt AI, and given how quickly things evolve in this new world, that could be the biggest risk of all.

Conclusion

For IT leaders - and business leaders overall - there should be no doubt that the days of PSTN and POTS are numbered. This may be hard to accept given how dependable legacy telephony has been for so long, but technology evolution has brought innovation and new value to business communications.

Each business will take its own path in migrating from PSTN to IP-based communications, but for every scenario, there will be more to do than just updating the phone system. VoIP represents the future of landline

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telephony, but other critical communications modes must also be updated, namely fax and emergency services. These will require purpose-built solutions, so PSTN migration must be viewed in a broader context beyond VoIP.

Given how mission-critical all these communications modes are for any business, IT leaders need to take a strategic approach that considers the overall impact of Copper Sunset. Telephony is just one part of the equation, but by implementing the

right set of solutions for a complete POTS replacement, the transition to IP will be seamless. Not only will that bring new capabilities from VoIP, but also a state of cloud readiness to future-proof the business for the next waves of technology innovation.



About J Arnold & Associates

As Principal of J Arnold & Associates, Jon is an independent research analyst providing thought leadership and go-to-market counsel with a focus on the business-level impact of disruptive communications technologies.



About Aizan Inc.

Aizan Inc. is the U.S. division of Aizan Technologies Inc., a Toronto-based institution with over 25 years of expertise in voice and messaging solutions. We power *The Voice Marketplace*, a cutting-edge suite of voice-centric products and services, and provide tailored solutions backed by full-stack development capabilities. Our systems route over 600 million calls annually, totaling more than 1.6 billion minutes of call time, ensuring seamless and efficient communication at scale. Let us turn your challenges into innovation.

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