

White Paper

Enterprise Voice Transformation: Migration from TDM to IP

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IDC OPINION

Voice has been the primary method of business communication for more than a century. But business communications and the underlying infrastructure that enables that communication are being transformed. Voice is undergoing a radical shift, no longer defined by the legacy PBX equipment employed for decades that enables basic calling functionality, as organizations large and small migrate to IP-based and wireless communications solutions. The ubiquity of mobility, the changing nature of work as workers become more virtual and mobile, the convergence of voice and data networks, and the growing appeal of cloud delivery models are all contributing to this shift.

This IDC white paper examines the transformation of voice from legacy solutions to IP-based and wireless platforms. It explores business migration and analyzes results from IDC's 2017 *Voice Migration Survey*. In addition, it quantifies business subscriber migration from TDM to voice over IP (VoIP) and wireless solutions over the next several years based on IDC's Voice Migration Model.

CURRENT STATE OF ENTERPRISE VOICE

The way organizations communicate and collaborate with coworkers, customers, partners, suppliers, and others is rapidly being transformed. The ubiquity of mobility; new ways of working as workers become more distributed, mobile, and virtual; the simplicity of management as voice and data networks converge; and the growing appeal of cloud delivery models are key drivers of this shift.

The underlying infrastructure that enables business communications is also in a state of flux as organizations migrate from legacy TDM-based telephony systems to IP-enabled, applications-focused, and mobile-centric platforms. These platforms integrate advanced voice capabilities with IM, presence, messaging, conferencing, mobility, and collaborative applications enabling real-time unified (or integrated) communications and collaboration (UC&C) anytime, anywhere, and via any device. But the pace of migration and adoption of VoIP and mobile solutions varies depending on each organization's requirements and business objectives, existing IT infrastructure, and number of employees.

The transformation of voice from traditional TDM to more sophisticated IP-based integrated and mobile-centric services means that future growth of voice will come from integrated voice and data solutions and mobility services. TDM-based voice services will continue to play a role in the wireline voice market, but innovation, investment, and growth will increasingly favor VoIP and wireless.

The Business Case for Voice Migration

The main drivers of voice transformation are the need to more effectively control and reduce costs, better manage complexity, simplify the delivery and management of communications, boost employee productivity, and gain increased functionality and efficiency.

Organizations are migrating to VoIP because of potential cost savings and gains in employee productivity. VoIP is generally more cost effective to manage than legacy systems. Plus, many organizations' legacy infrastructure may be at or near end of life. VoIP is also more cost effective because of lower network operating and management costs due to converging voice and data networks. VoIP also facilitates new modes of work by enabling unified communications and collaboration capabilities such as IM, conferencing, and collaboration. Workers can communicate and collaborate more efficiently anywhere, anytime, and on any device via real-time integration of communications services such as extension and number mobility, desktop sharing, and web conferencing.

For most organizations, the decision to transform their communications environment includes an evaluation of whether to invest further in capital-intensive, premises-based solutions or to move some or all communications services to the cloud. Although on-premises solutions account for the bulk of voice deployments, enterprises are becoming increasingly comfortable with cloud service delivery models; as a result, more businesses, from small and medium-sized businesses (SMBs) to large enterprises with distributed workforces, are evaluating, trialing, and implementing managed, hosted, and cloud-based solutions.

Cloud-based voice and UC&C solutions deliver immediate cost savings. Options such as hosted/cloud-based VoIP and UC-as-a-service (UCaaS) solutions allow the enterprise to shift from an up-front capital-intensive model to a monthly recurring subscription-based model. Because such solutions are fully managed by the communications service provider (CSP), the business incurs little to no additional cost for hardware, maintenance, or management of the solution. Cloud service delivery models also offer more flexibility and functionality than TDM or premises-based voice and UC&C solutions – an important differentiator for companies competing in an increasingly complex and rapidly changing business environment.

For most companies, transforming voice communications is not an all-or-nothing proposition. Instead, pursuing a phased approach that leverages the organization's existing investments in legacy on-premises systems and migrating the parts of the business that benefit most from IP first ensure that the organization can continue operations with minimal disruption, yet reap the benefits of integration and migration. To that end, a growing number of voice migration implementations feature hybrid architectures, where some functionality is delivered from the cloud while other functionality is delivered via a premises-based platform. A cloud/premises-based hybrid solution enables the business to leverage its existing communications investments and integrate new components with the goal of transforming business processes.

Because each organization's situation and desired outcomes are unique, a range of options exists that can be tailored to meet the individual needs of the business. More importantly, having a trusted advisor guiding the business through the often complex transformation process is essential to ensuring a successful outcome.

VOICE MIGRATION

Voice Migration Survey

IDC fielded an online survey in September 2017 of 700 telecom and IT managers at United States-based businesses ranging in size from SMBs to large enterprises. The purpose of the survey was to better understand where businesses are in their transformation journey and to gain insight into enterprises' views on voice migration and enterprises' willingness and intent to migrate.

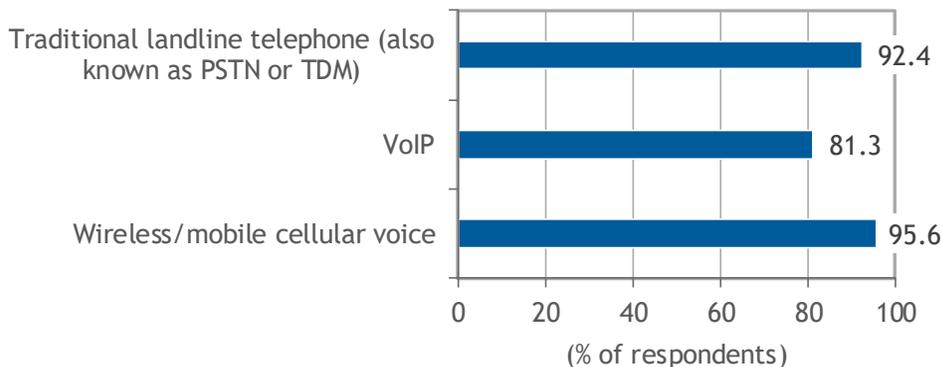
Key Findings

Not surprisingly, most organizations have a mix of TDM, VoIP, and wireless. As Figure 1 shows, TDM remains prevalent in the enterprise as 92% of businesses surveyed said they use or pay for TDM service. But many of these same organizations also have deployed VoIP and wireless within their organization. When asked about employee voice services usage, 39% of organizations said they have employees using TDM versus 28.9% that use VoIP and 35% that use wireless voice.

FIGURE 1

Voice Usage in the Enterprise

Q. Which of the following business voice services does your organization currently use or pay for (in full or a portion)?



Source: IDC's *Voice Migration Survey*, 2017

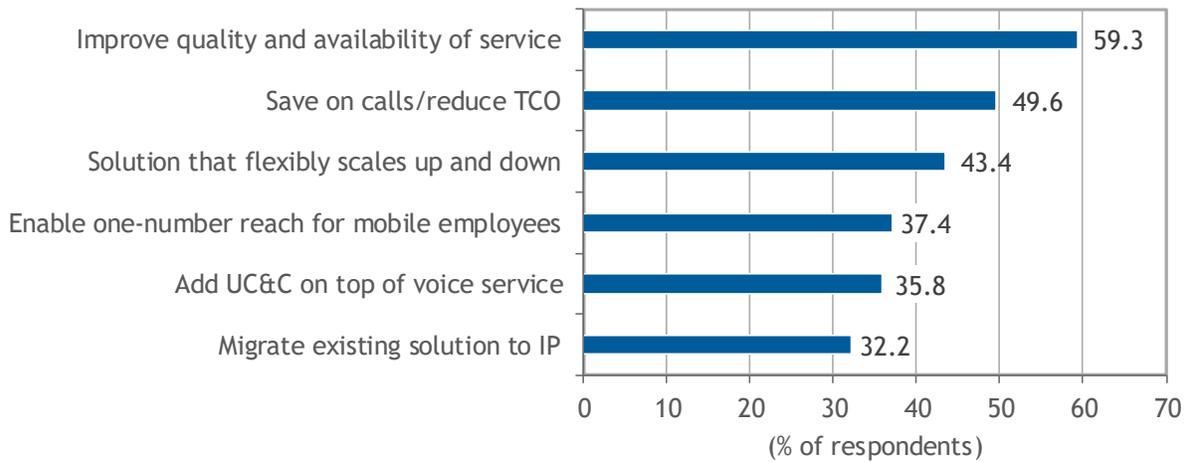
Although VoIP usage continues to expand in the enterprise, 35% of small businesses (5-99 employees) do not use VoIP at all, suggesting that small businesses remain uncertain about the value proposition of VoIP. Conversely, only 10.7% of midmarket businesses (250-999 employees) do not use VoIP, indicating they may be more receptive to migrating from TDM to VoIP.

As Figure 2 illustrates, most organizations rated improving voice quality and availability, cost savings, and scalability of voice solutions as their top voice communications priorities in the next three years. Responses vary by size of business: Large businesses ranked scalability (66%) as a higher priority than cost savings (47.3%), while enterprises ranked adding UCC on top of voice higher than flexibility.

FIGURE 2

Top Voice Communications Priorities

Q. Thinking about your business voice platforms or services, what are your organization's key priorities for the next three years?



n = 701

Base = all respondents

Note: Multiple responses were allowed.

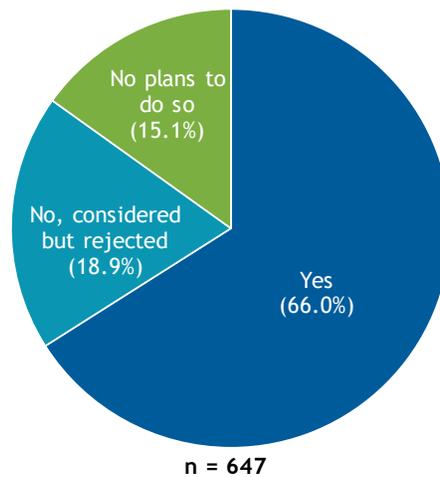
Source: IDC's Voice Migration Survey, 2017

Business interest in migration continues to expand as two-thirds of organizations with TDM plan to migrate employees from TDM to a VoIP or wireless solution (see Figure 3). Large businesses are most likely to migrate, with 76.8% indicating their organization has plans to do so. Small businesses are the least likely to migrate employees from TDM to VoIP/wireless; furthermore, 21.9% of small businesses considered but rejected TDM migration.

FIGURE 3

Business Voice Migration

Q. Does your organization plan to migrate any of the employees currently using TDM to a VoIP or wireless/mobile voice service?



Base = respondents with TDM

Source: IDC's Voice Migration Survey, 2017

Businesses are also at various stages on the migration journey from TDM to VoIP solutions. Nearly half (47.8%) of respondents indicated their company plans to move some portion of employees from TDM to VoIP in the next several years. Interestingly, small businesses are more inclined to migrate either none or all of their employees from TDM to VoIP. This suggests that small businesses are more at risk of churning from TDM than larger organizations. In addition, nearly two-thirds (61.4%) of businesses using VoIP plan to migrate some portion of employees from VoIP to a mobile/wireless voice solution, with most users being migrated within the next 6-24 months.

Drivers and Inhibitors of Migration

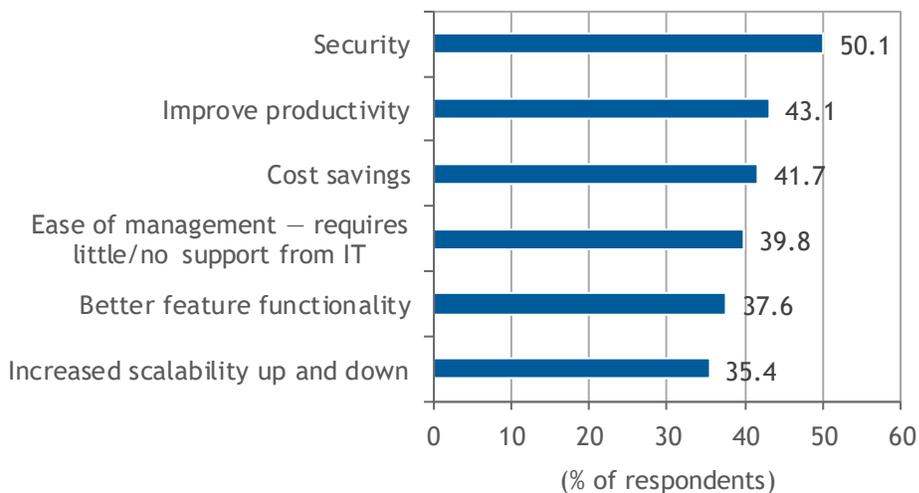
Security, productivity gains, and cost savings are the leading factors influencing businesses' decision to migrate voice services from TDM to VoIP or wireless/mobile cellular voice (see Figure 4). Small businesses (5-99 employees) are the only segment that ranked cost savings as the top factor, followed by productivity gains. Nearly one-half of large businesses (46.2%) ranked ease of management as the second most important factor in their decision to migrate from TDM.

Not surprisingly, the factors for investing in VoIP mirror many of the drivers of TDM migration. VoIP investment is tied to controlling and reducing costs, increasing internal employee productivity and efficiency, and providing better feature functionality to employees. Investment decisions vary by size of business: Businesses with 5-249 employees rated cost savings as the top driver for implementing VoIP, whereas large businesses said better feature functionality was the top driver. Midmarket companies rated improving employee productivity as the leading driver of VoIP investment. Ease of management is particularly important to businesses with fewer than 100 employees, with small businesses ranking ease of management as a more important factor in the decision to implement VoIP than reducing voice calling or capex spend.

FIGURE 4

Voice Migration Drivers

Q. *What factors will influence your decision to migrate your organization's business voice services from TDM to VoIP or wireless/mobile voice?*



n = 415

Base = respondents planning to migrate from TDM to VoIP

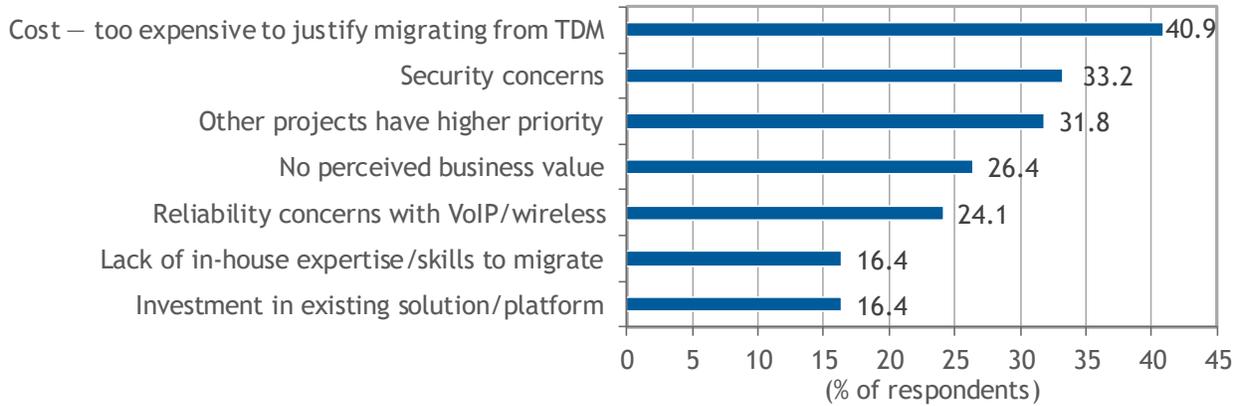
Source: IDC's *Voice Migration Survey*, 2017

For many organizations, cost was also an important factor in the decision not to migrate from TDM to VoIP and wireless services. Top reasons for not migrating from TDM to VoIP and wireless services were cost (too expensive to justify migrating), security concerns, and other projects having higher priority (see Figure 5). Responses were consistent across business size segments, except for large businesses, which cited reliability concerns about VoIP/wireless as the top reason for not migrating from TDM.

FIGURE 5

Voice Migration Inhibitors

Q. Which of the following factors contributed to your organization's decision not to migrate from TDM?



n = 220

Base = respondents not planning to migrate from TDM to VoIP/wireless

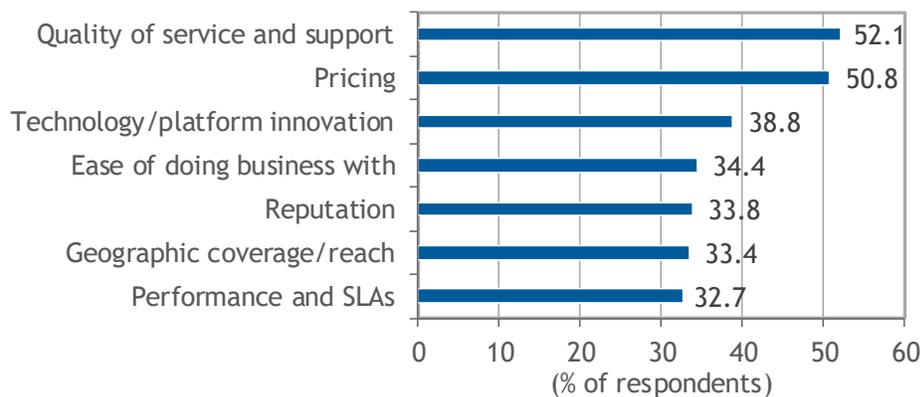
Source: IDC's Voice Migration Survey, 2017

For businesses migrating their voice communications, working with a trusted advisor that can guide them through the often complex transformation process is important to ensuring a successful outcome. The most important factors cited for CSP selection among organizations planning to migrate from TDM are quality of service and support, pricing, and innovation (see Figure 6).

FIGURE 6

CSP Selection

Q. When selecting a network services provider, what are the most important factors in the decision process?



n = 701

Base = all respondents

Note: Multiple responses were allowed.

Source: IDC's Voice Migration Survey, 2017

Voice Migration Model

Methodology

IDC developed a voice migration model that shows the decline of TDM over time as businesses migrate to VoIP and wireless services. Based on our ongoing communications services research, we captured subscriber metrics for wireline (TDM and VoIP) and wireless voice services. We then built in migration expectations based on IDC's 2017 *Voice Migration Survey*, an online survey of 701 United States-based businesses. Finally, we allocated voice subscribers to one of six mix types and quantified how they overlap and change over time:

- Mix type 1: TDM-only subscribers
- Mix type 2: TDM and wireless subscribers
- Mix type 3: VoIP-only subscribers
- Mix type 4: VoIP and wireless subscribers
- Mix type 5: TDM and VoIP subscribers
- Mix type 6: Wireless-only subscribers

We also segmented subscribers by size of business to reflect the different pace at which organizations of varying sizes will migrate:

- Small businesses: 5-99 employees
- Small and medium-sized businesses: 100-249 employees
- Medium-sized businesses: 250-999 employees
- Large businesses: 1,000-4,999 employees
- Enterprises: 5,000 or more employees

The output is IDC's Voice Migration Model, which is a subscriber forecast that depicts how TDM subscribers decline over time and migrate to VoIP and wireless services, segmented by mix type and size of business.

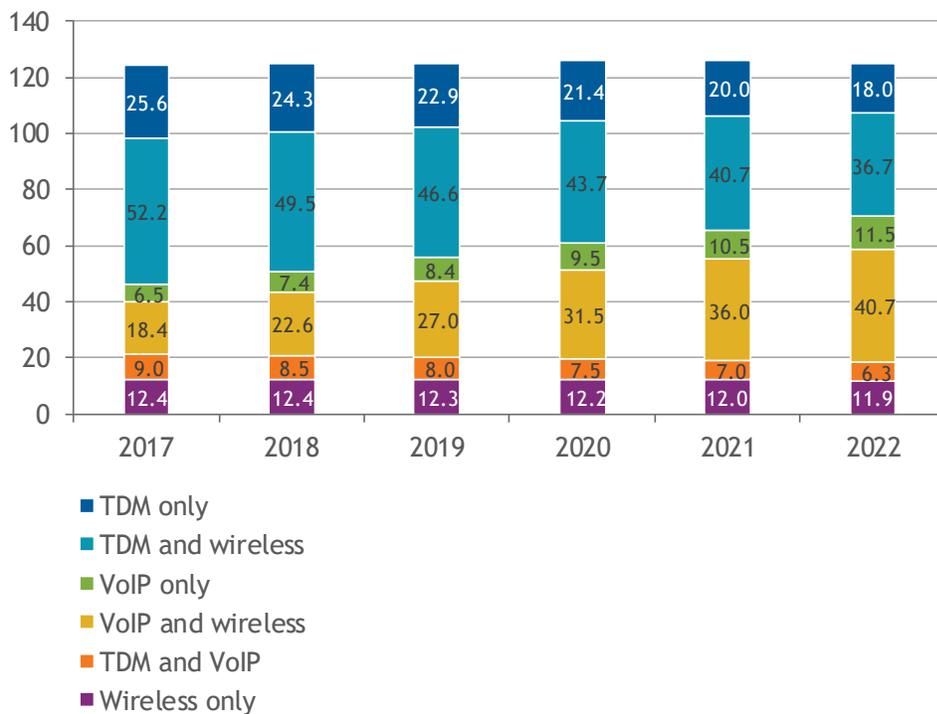
Key Findings

Businesses are migrating from TDM to VoIP and wireless voice solutions, although migration is happening at a slower pace than many in the industry originally anticipated. However, organizations are finally accelerating their migration plans in an effort to reduce costs, manage complexity, and increase productivity and collaboration.

Figure 7 presents the Voice Migration Model forecast for unique business voice subscribers by mix type. Business voice subscribers are forecast to increase slightly from 124 million in 2017 to 125.1 million in 2022, a gain of 1.1 million subscribers and a five-year CAGR of 0.2%.

FIGURE 7

Voice Migration Model: Business Subscribers by Mix Type, 2017-2022 (M)

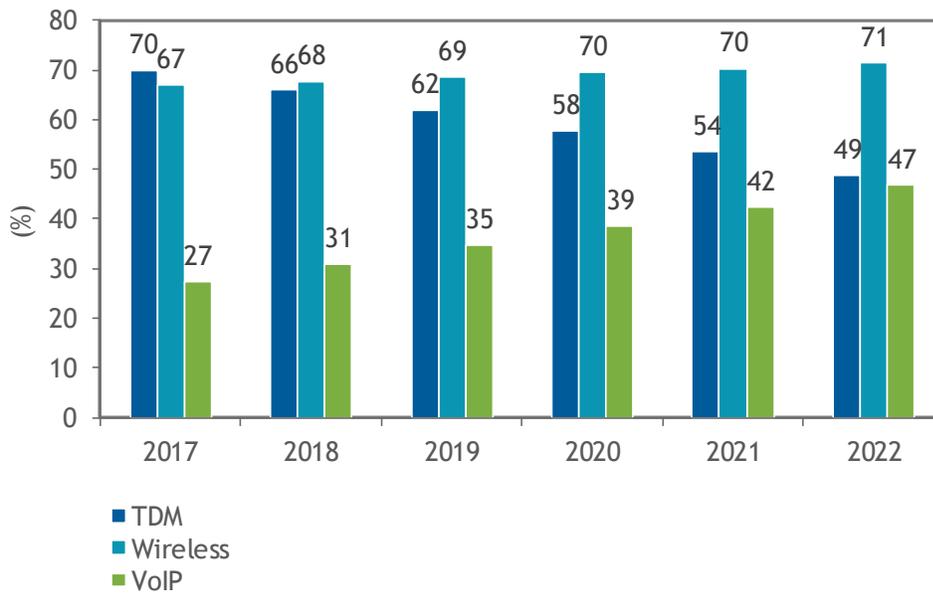


Source: IDC's Voice Migration Model, 2018

Figure 8 illustrates that even though most businesses still use TDM today, the pace of enterprise migration from TDM to VoIP, and to a lesser extent wireless services, will dramatically increase over the next five years. TDM's share of business subscribers aggregated across the three TDM mix types (TDM only, TDM and wireless, and TDM and VoIP) will decline from 70% in 2017 to 49% in 2022. Comparatively, wireless subscriber share will remain relatively flat over the forecast period, increasing slightly from 67% in 2017 to 71% in 2022, while VoIP's share of subscribers will nearly double, expanding from 27% in 2017 to 47% in 2022 as more businesses adopt VoIP and UC&C solutions.

FIGURE 8

Voice Migration Model: Share Shift by Voice Technology, 2017-2022

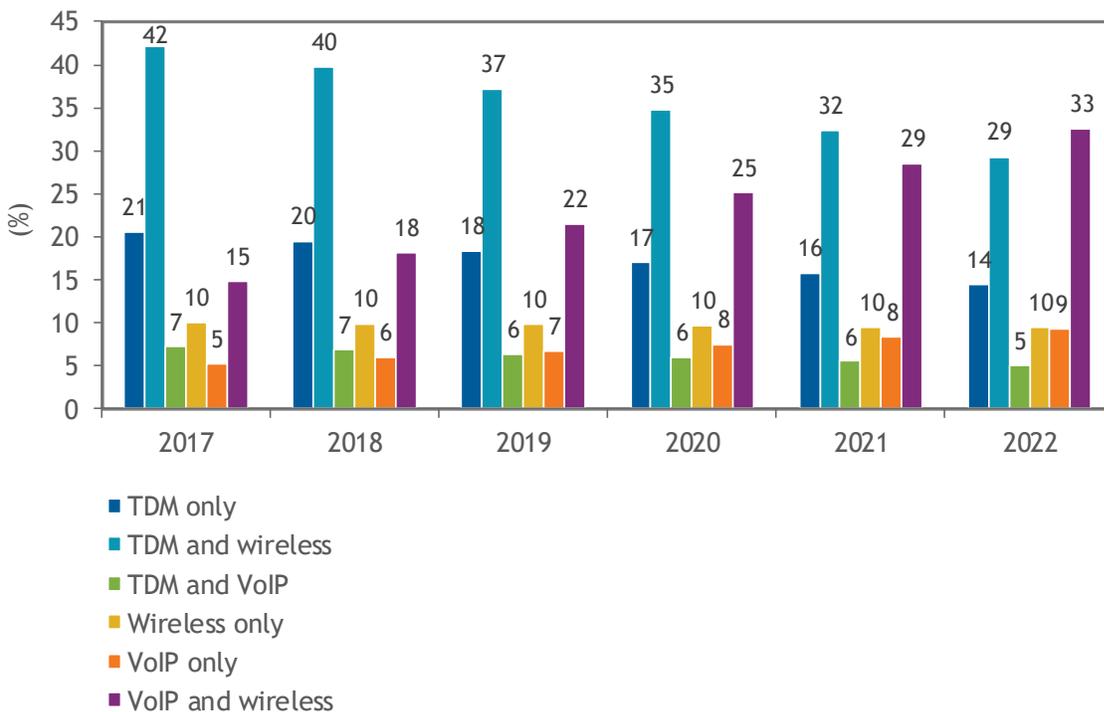


Source: IDC's Voice Migration Model, 2018

Figure 9 depicts the subscriber share shift for the six mix types over time. While less than one-fourth (21%) of businesses have TDM only today, 42% have a mix of TDM and wireless services; however, TDM and wireless share will decline rapidly over the forecast period to 29% in 2022 as business migration from TDM-based voice service accelerates. Subscriber share for TDM and VoIP also will decline slightly over the forecast period, with VoIP gains not enough to offset TDM subscriber losses. However, VoIP only and VoIP and wireless will both gain share over the forecast period as businesses upgrade their voice services to new, IP-based, integrated and mobile-centric solutions. In fact, the share of VoIP and wireless will double from 15% in 2017 to 33% in 2022.

FIGURE 9

Voice Migration Model: Share Shift by Mix Type, 2017-2022



Source: IDC's Voice Migration Model, 2018

Business subscriber migration from TDM to VoIP and wireless varies by size of business. Enterprises are migrating from TDM to VoIP more quickly than smaller organizations. In 2017, 63% of enterprises subscribed to a TDM solution (TDM only, TDM and wireless, or TDM and VoIP) versus 74% of SMBs with TDM. By 2022, 42% of enterprises will have TDM compared with 51% of SMB subscribers with TDM. Small business adoption of VoIP and wireless solutions is also rapidly expanding as small business subscriber share of VoIP and wireless is expected to more than double from 14% in 2017 to 32% in 2022.

Voice Transformation Considerations

Multiple challenges confront enterprises as they navigate the migration path from legacy voice to real-time IP communications and collaboration solutions.

Deploying IP solutions and migrating voice and data communications onto an integrated, IP-based network are complex tasks and involve several challenges. Businesses need to assess where they are today, where they want to be tomorrow, and what business benefits they are looking to achieve as they embark on the voice migration and transformation journey. Key issues to consider are:

- When is the right time? Should changes be made gradually or all at once? Should users be migrated from TDM to VoIP or wireless service gradually or all at the same time?
- How does the organization protect and take advantage of its existing investments as it migrates to a more sophisticated, IP-enabled and applications-specific voice environment?
- How does the company ensure that its voice transformation journey supports the company's business objectives?
- How will mobilization, globalization, and virtualization impact the business?

CONCLUSION

Voice transformation is an evolutionary process that entails moving from legacy systems to new, IP-based unified or integrated and mobile-centric solutions that enable real-time communications and collaboration anywhere, anytime, and on any device.

The key to success for organizations embarking on transforming how they communicate, collaborate, and work is to work with a trusted partner that can guide them through the often complex process. Moreover, because each enterprise's situation and desired outcomes are unique, working with a partner that can present a range of options and tailor the options to meet the needs of the enterprise is crucial to ensuring a successful outcome.

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