



Reinventing Core Communications: Strategic Imperatives for Growth

Publication Date: February 2024

Evan Kirchheimer, Cindy Whelan, Roz Roseboro

Catalyst

Telco revenue has stagnated over the last decade as traditional approaches to growth have faltered. Globally, annual telco revenue was \$1.99tn in 2014, but declined slightly to \$1.98tn by the end of 2022. Service providers are busy re-inventing themselves, having almost universally adopted transformation strategies. Intensive investment in fiber and 5G rollouts, however, are beginning to prompt questions about growth and business models. These investments have enabled greater network throughput, but most providers have failed to reduce operational expenditure (opex).

In the context of the search for new revenue and efficiencies, voice (residential and business) and unified communications, including enterprise chat, video collaboration, and application integration capabilities (collectively “core communications”) have hardly been in the spotlight. As mature domains, many telcos see these services as reliable workhorses rather than opportunities for innovation. Omdia forecasts that PSTN subscribers will decline at a CAGR of 14.5% from 2022 to 2028, but despite this decline, we believe PSTN voice will linger on for years due to regulatory requirements and the need for providers to deliver some type of telephony. Meanwhile, business communications is becoming increasingly competitive: prominent vendors are dominating the large enterprise segment, and cloud-only providers are delivering services over the internet, eating away at what had been a reliable and primary telecom service.

Meanwhile, aging voice infrastructure deep in telco networks or at customer premises, coupled with dwindling voice engineering skill sets, are creating risk and increasing costs. There is risk associated with hesitating to address voice communications modernization. Service providers must begin thinking about how to optimize their voice communications portfolios or watch them become boat anchors that take up important company resources.

This report discusses factors that service providers must consider when weighing the transition of core communications to the cloud and provides guidelines for cloud models, with a focus on operational and commercial innovation. Specific points include:

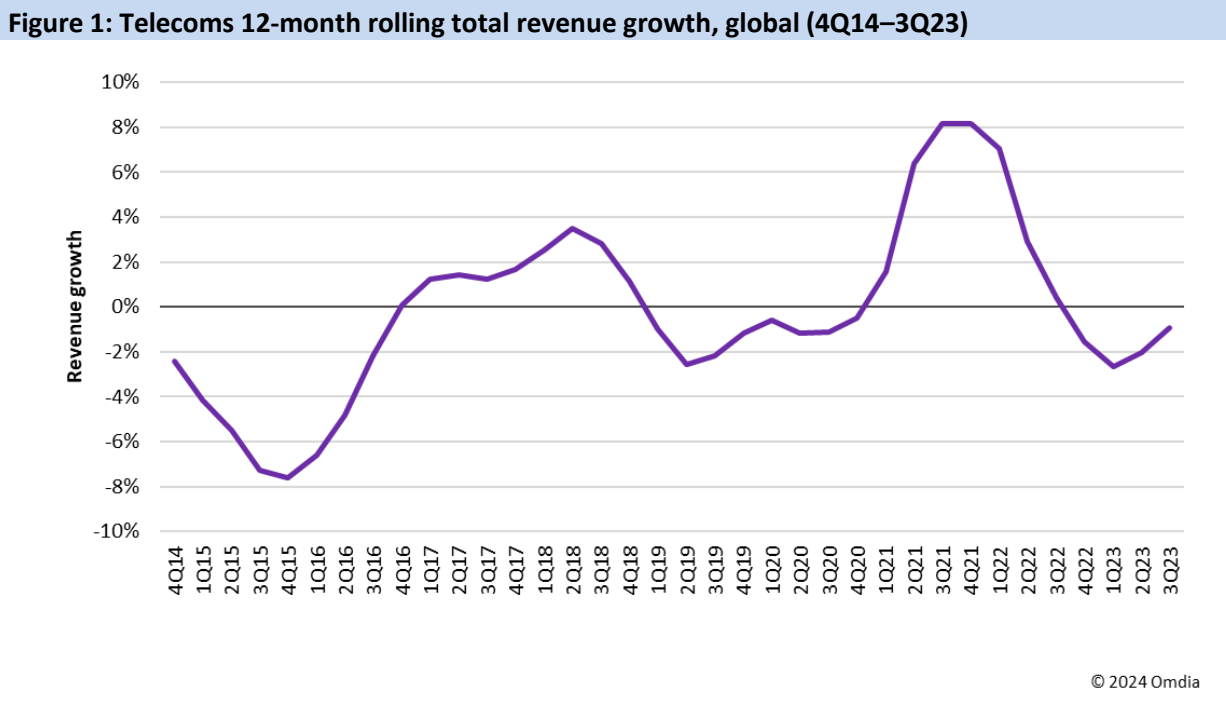
- Opex pressures and other risks that telcos face, and how these translate into outsourcing of communications platforms, specifically to vendor-hosted clouds
- The drivers, benefits, and risks of cloudification and the risks of maintaining the status quo
- Core communications cloud models, each offering a different emphasis on brand and customer segment
- What innovation means in the context of core communications, with an exploration of innovation in operations and customer experience
- How to proceed, with an analysis of the importance of the telco operations and IT stack in the journey toward a communications cloud
- Recommendations when deciding to migrate core communications to the cloud.

Setting a core communications strategy: Navigating the challenging path between cost and revenue

As service providers reposition to become technology enablers and “techcos,” telecom leaders will hold different views on the business models and services that will empower the industry to grow and prosper. However, there is a broad consensus across the industry about the obstacles that telcos currently face as they undertake their transformation.

Despite steady investment, meaningful revenue growth has failed to materialize

The consistent lack of revenue growth over the last decade has created a significant challenge for operators. Omdia tracks service provider revenue in over 150 countries. **Figure 1** illustrates our finding that while there were times of low-to-moderate revenue growth over the last decade (particularly during the mass 4G rollout and pandemic) when telcos’ role as critical service providers heightened, for the most part, performance has been consistently mediocre. Globally, the industry recognized roughly the same revenue in 2022 as it did in 2014.



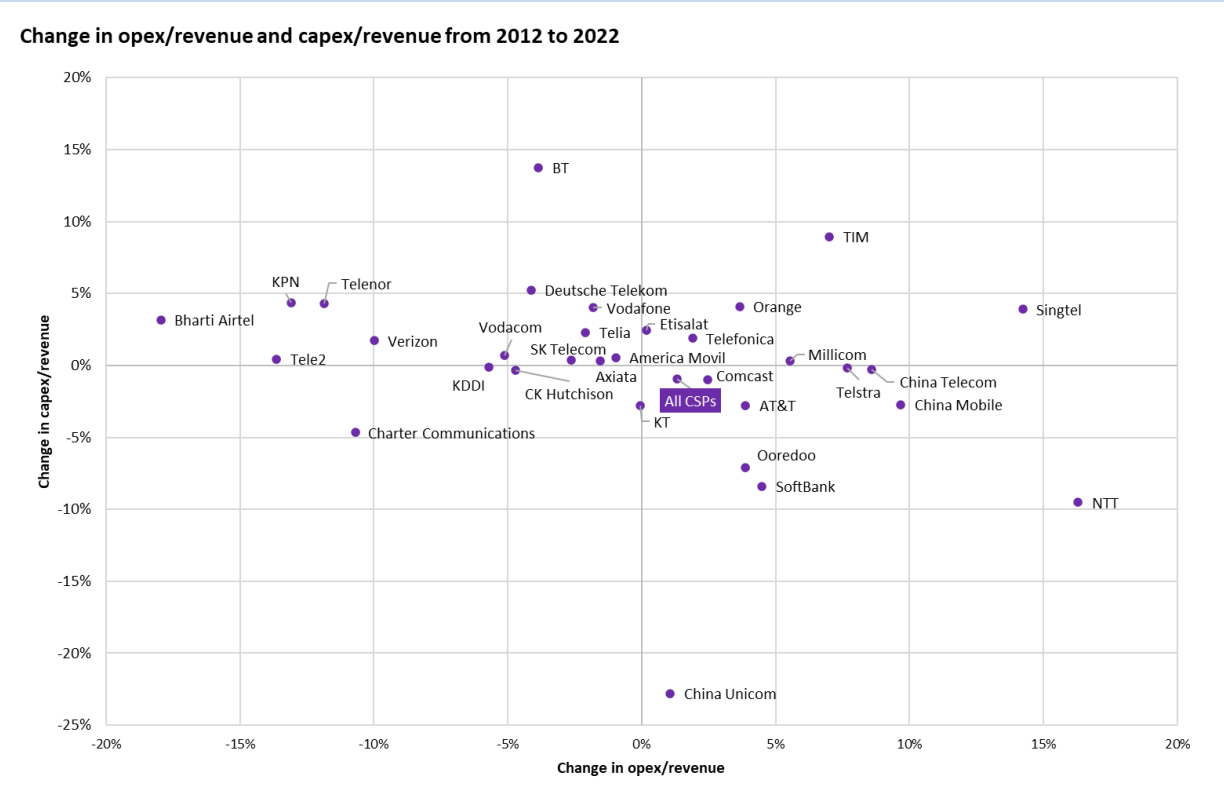
Source: Omdia

Investment in network technology failed to deliver desired opex reduction

Omdia’s data on the operational (opex) and capital expenditure (capex) of the top 32 telco groups (see **Figure 2**) reveals another challenge: telcos have spent considerable sums on new technology for their networks, but these investments have not resulted in reductions in opex as a percentage of top-line revenue. In short, investments to date have not yielded relative efficiencies, because they have not triggered revenue growth.

Figure 2 reveals that, among all major providers, only Charter Communications has engineered a reduction in both capex and opex relative to revenue. While some providers have reduced their opex/revenue ratios by 10%, they have grown capex to do so. The bulk of telcos cluster in the center, with no meaningful changes to either ratio. Across all 32 telcos, the ratio of capex/revenue declined 1% from a decade ago, with opex/revenue ratios increasing 1%. In other words, much like revenue growth, progress in transforming business models has been elusive.

Figure 2: Change in opex/revenue and capex/revenue from 2012 to 2022 (top 32 telco groups)



Source: Omdia

As they look for revenue growth and cost savings, telcos have moved from one generation of technology to the next. Network vendor marketing may claim otherwise, but the reality is that the past decade of investment has resulted in networks that are increasingly complex and consequently remain expensive to operate. However, they seemingly deliver less agility and innovation and are less capable of driving new revenue opportunities. They do handle much more bandwidth more

efficiently, but service providers have failed to monetize this increase in speed, service quality, and traffic volume.

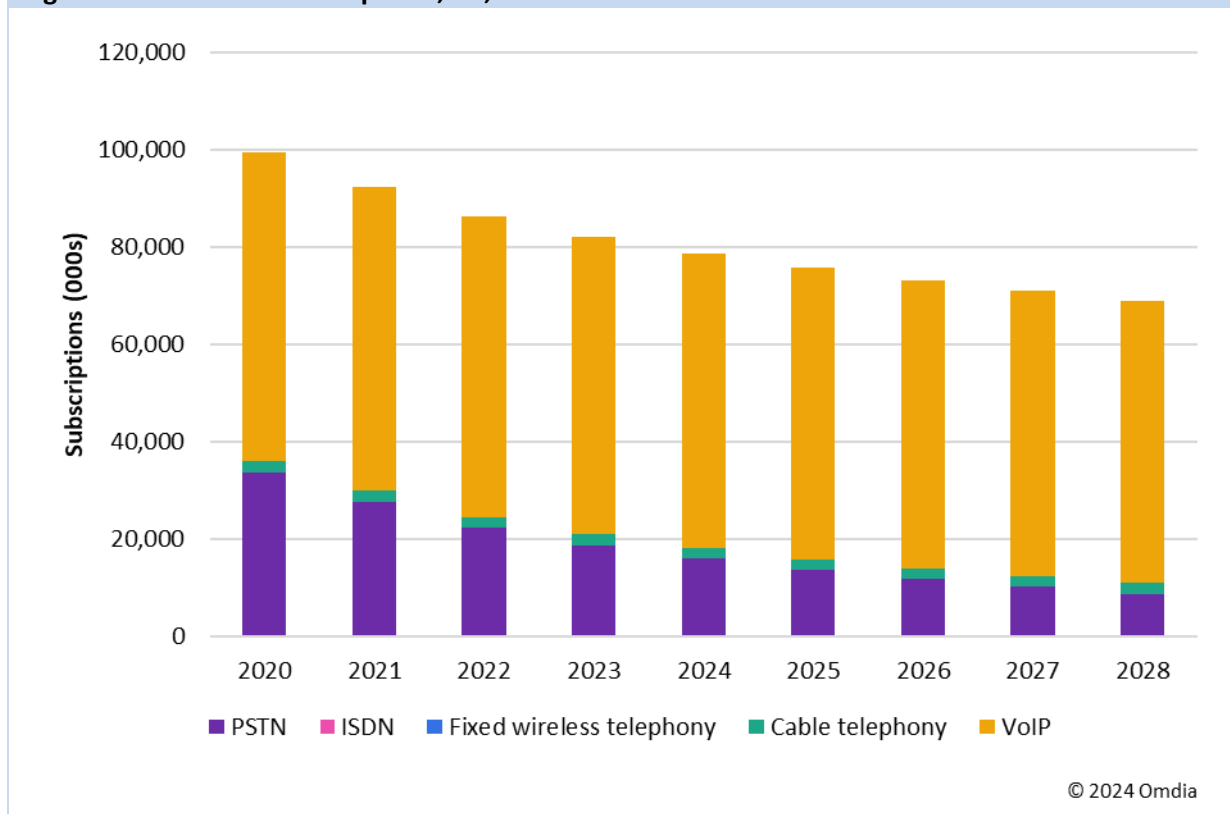
While new technologies can reduce bandwidth costs and increase capacity, the revenue growth from these efforts has fallen short of expectations. The increase in operational expenses against lower-than-expected revenue cannot support the margins that service providers require to pursue transformation based on genuine innovation.

Core communications: Mitigating risks and exploring opportunities for innovation

Despite the focus on 5G and fiber build-outs, service providers have a range of other services in their portfolios. In their latest efforts to transform, many telcos emphasize their digital services and reference the higher growth rates that those services typically enjoy. Managed security services, SASE-infused SD-WAN secure networking services, private networks, and managed multicloud services (reselling public cloud enhanced with security, connectivity, and support, often along with professional service and migration capabilities) predominate. Others are emerging quickly, including artificial intelligence (AI)-based B2B services at the edge, which include remote monitoring, physical security, employee safety, and smart manufacturing paired with campus connectivity (via private LTE or 5G, fixed services, or even 5G-advanced PSTN slicing). These have parallels in the residential segment, where telcos have built roles as major TV providers and content aggregators, and in the sale and delivery of smart home services. Smart Wi-Fi is garnering more attention as operators look to create efficiencies in supporting quality in-home connectivity and improving consumer experience.

However, one domain that is often overlooked and rarely benefits from any significant focus is voice (residential and business) and unified communications (UC). We will refer to these collectively as “core communications services.” This portfolio requires careful management, but Omdia research indicates that many providers have yet to address the risks involved in maintaining legacy services such as traditional voice, nor have they actively looked for opportunities to innovate these mature services.

Telcos have been delivering voice services largely in their current forms for decades. They are now facing the challenge of managing residential voice businesses in decline, along with business communications services that are growing modestly but reliably. **Figure 3** illustrates what is hardly a surprise: fixed voice subscriptions are in steady decline in the US. By 2028, an estimated 30 million will have evaporated since 2020. Revenue from fixed-line services will more than halve during that same period, and ARPU will decline from over \$37 a month to under \$26 a month.

Figure 3: Fixed voice subscriptions, US, 2020–28

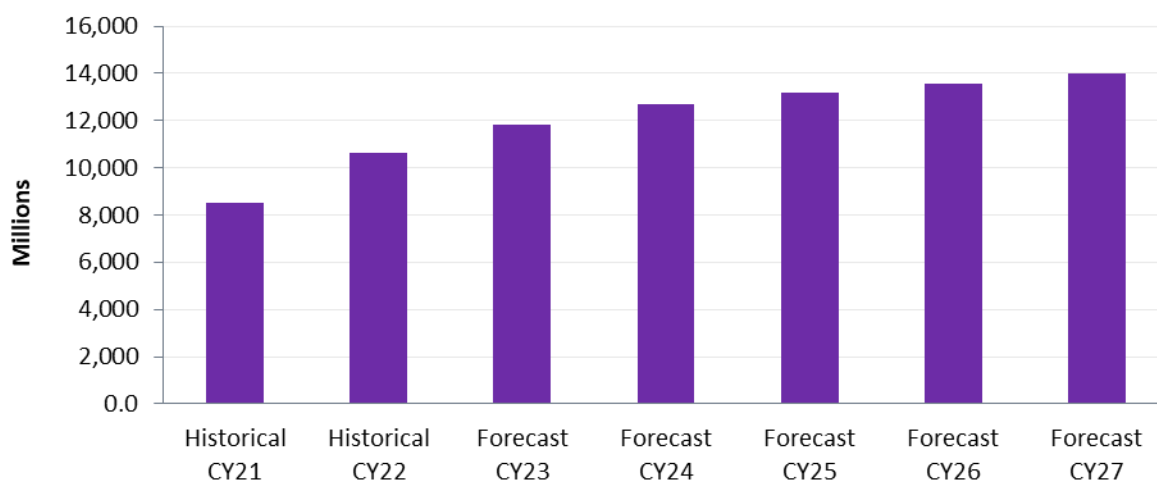
Source: Omdia

While many telcos are keen to maximize the use of voice network equipment that has been paid for in full and depreciated, the persistence of voice and its slow decline presents risks:

- The erosion of margin seems inevitable, yet universal service and regulatory requirements persist
- Despite the “aging out” of residential customers, many business segments (health and safety in physical infrastructure, critical heavy industries and utilities, and public sector) and some small business segments will continue to require ultra-reliable voice services
- Skilled voice network engineers are a scarce resource and becoming even more scarce as retirements loom
- Equipment to maintain the legacy service is often in a precarious state, with tandem switches dating from the 1980s in central offices to campus PBXs from the 1990s with brittle line cards
- Some major vendors of legacy voice and UC platforms have made strident, public commitments about maintaining support for platforms created years ago by companies that they have since acquired. However, others are more proactively pushing for migrations to new solution stacks that reimagine the voice and collaboration experience. These new solutions incorporate improved meeting room technology to simplify use for employees and partners, and add AI-driven capabilities that improve authentication, transcription, and scheduling.

Omdia does expect moderate growth in some core communications services, such as unified communications as a service (UCaaS), which is in demand by the B2B segment. In North America, revenue per UCaaS seat is expected to decline from \$13.92 per seat per month in 2022 to \$11.66 per seat per month by 2027, a 9.5% CAGR. However, growth in UCaaS seats over that period will drive absolute UCaaS service revenue growth of \$5.5bn for the period. By 2027, Omdia expects annual revenue for the UCaaS services market in North America to reach \$14bn (see **Figure 4**).

Figure 4: UCaaS revenue, North America, 2021–27



© 2024 Omdia

Source: Omdia

These revenue trends highlight the fact that telcos are now operating in a hostile market. They have struggled with flat growth and continuing opex pressures, which are factors that will only increase. There is market and financial skepticism about service providers' continued investments in 5G without very clear paths to monetization. Fiber builds are a high priority but much of this activity has been stoked by public investment. Ignoring core communications services by not fully accounting for the risks involved in continuing to sell residential voice will only add to the pressure, as will not recognizing that margins are declining even though UCaaS sales opportunities are increasing.

Are core communications services candidates for significant innovation? While AI is seen as a potent balm for operational efficiency challenges, few in the telecom industry think of core communications as an opportunity for innovation. If service providers "face forward" when it comes to core communications, Omdia believes they can find opportunities for innovation in delivery and customer experience, as well as in building margin by enhancing core telephony with AI for applications such as sentiment analysis or sales effectiveness.

The key to developing a coherent strategy for core communications rests on satisfactory answers to the following key questions:

- Given the risks outlined above, can the mix of core communications services spanning residential and business customers continue to deliver decent margins?
- Are there real paths to innovation, even in a service as long standing as voice?

New approaches to optimize and innovate in a mature service area

Core communications services are important elements within a service provider's portfolio, but service providers must consider new approaches to make these services economical rather than a drag on the broader business. Today, service providers rely on solutions from multiple vendors to support this product set. While they manage legacy voice infrastructure for residential and mass market customers, they partner with an SaaS vendor for business communications solutions, and often have relationships with other suppliers for functionality such as emergency calling, number porting and management, and billing. This creates a complex environment that can increase costs and operational complexity, and works against the service provider's goal of retaining margin. Service providers must simplify the delivery of core communications to counter these challenges. Service providers told Omdia that they are looking for partners offering a full-stack solution – a platform that is highly efficient to operate and that delivers the features and functions needed to deliver services in today's increasingly digital marketplace. What is the best path forward for providers to achieve simplicity and revenue stability for these offers?

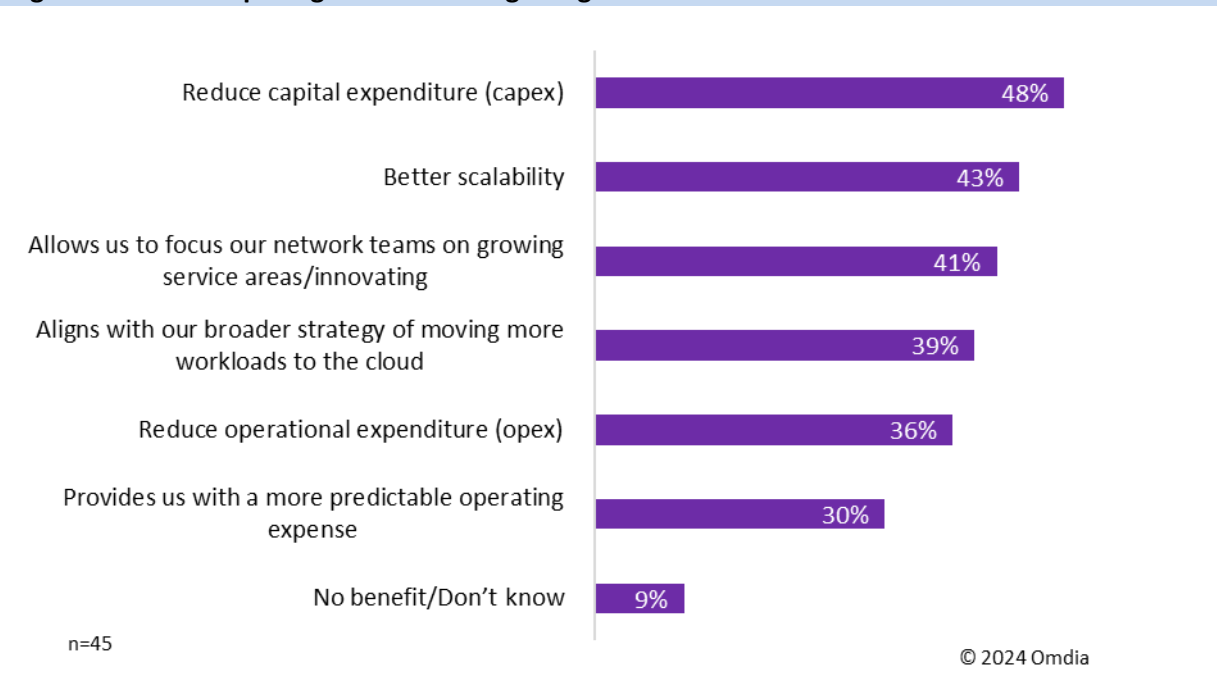
Moving to the cloud offers benefits, but providers have concerns

Service providers have traditionally operated under the strategy that ownership of network infrastructure is critical to their ability to innovate and generate the revenue and margins needed as a foundation for business growth. They have invested in this infrastructure for decades, but steadily increasing costs for equipment, power, IT, and other service elements consistently hold down margins. Service providers now realize the costs of platform ownership can hinder growth by limiting their ability to invest in other strategic and lucrative areas.

In the broader enterprise segment, the idea of hosting applications and outsourcing infrastructure in public clouds emerged over a decade ago as a potential solution to this challenge. Service providers were understandably cautious about this concept, but as cloud technologies have matured, providers have found that moving workloads to the cloud gives them a path to reduce capex and move to an opex model.

Service providers have embraced the cloud for some solutions, including UC tools made available to larger customers, but they have been reluctant to migrate their legacy voice infrastructure to a cloud delivery model. A recent survey conducted by Omdia indicates that service providers believe there are advantages to delivering voice solutions using a public cloud platform (see **Figure 5**). Capex reductions and scalability top the list of areas that can benefit providers' bottom lines by reducing costs and increasing agility. The ability to redirect internal expertise to more strategic growth areas is also seen as an important driver. One service provider interviewed for this report noted that "every dollar spent on copper is one less to spend on fiber." While the reference was to physical infrastructure, the philosophy applies to operations: the talent of employees who are managing stagnant legacy services could be better directed toward innovation and development.

Figure 5: Most compelling reasons for migrating core communications to the cloud

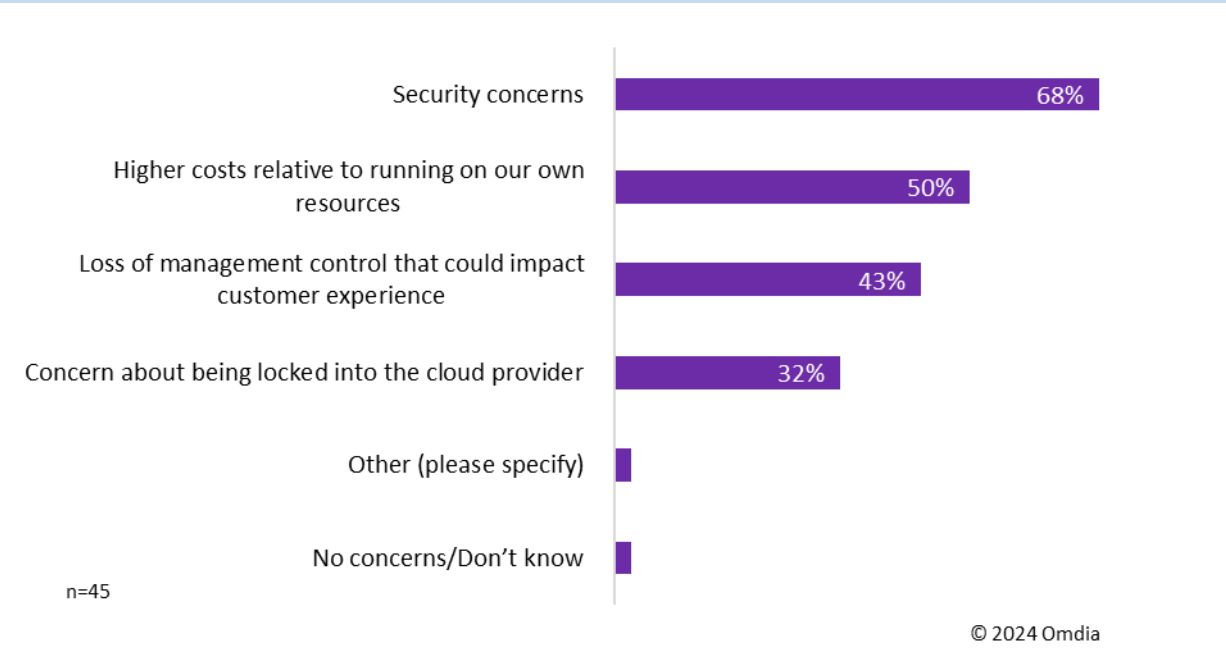


Source: Omdia

Service providers considering the cloud for core communications also note there are important risks to be considered (see **Figure 6**). Security, cost, and control are often top concerns when providers or enterprises contemplate the move from an on-premises environment that they have tightly controlled for decades to a solution delivered through the shared environment of the public cloud. When it comes to security, service providers have stringent internal and external requirements that must be met. They must protect against the financial and reputational risks that could come with a security breach. Cost concerns include moving from a purchase model to a monthly “rental” model, and perceptions that monthly usage costs will eventually outweigh costs to simply buy equipment outright. There may be other charges such as data egress costs, which increase as data is moved out of storage – a valid concern for some telco workloads that are highly dependent on data transport.

As cloud solutions have matured and adoption has increased, service providers have addressed these issues to varying degrees. However, for some in the telecom space, the mindset still favors retention of physical infrastructure for communications services. Cloud providers, whether hyperscalers or vendors with solutions in hyperscaler clouds, must robustly address these concerns to gain more traction in the service provider market.

Figure 6: Key constraints on service provider core communications cloud migration



Source: Omdia

Providers must rethink voice and UC delivery models

The market for traditional business voice services is shifting as consumer voice customers move to mobile and messaging solutions. However, a substantial base of customers for these services remains, and there is also opportunity for growth from B2B communications services. To optimize revenue and growth for both segments, service providers must rethink how these services are managed, delivered, and enhanced.

The cloud offers clear benefits in terms of cost to serve the remaining legacy base more efficiently and the flexibility to create solutions that will be attractive to business customers. However, today, service providers are using a mix of legacy infrastructure alongside some more current solutions. This increases operational costs and limits the providers’ abilities to innovate and tailor solutions to meet customer needs. Throughout research for this report, Omdia has heard not just about the scarcity of engineers with the right skills to maintain existing estates, but a fear of tinkering with equipment that is often decades old and in some cases even brittle from age.

This situation supports the rationale for a full-stack, cloud-based core communications solution that supports a licensing model to allow providers to tailor offers to each business segment. Such a platform would reduce the need to bring together multiple vendors offering various service elements, instead enabling service providers to direct their focus on going to market and customer experience. This approach can reduce costs, but also supports increased innovation by allowing service providers to harness technologies such as AI to gain and monetize insights about customers.

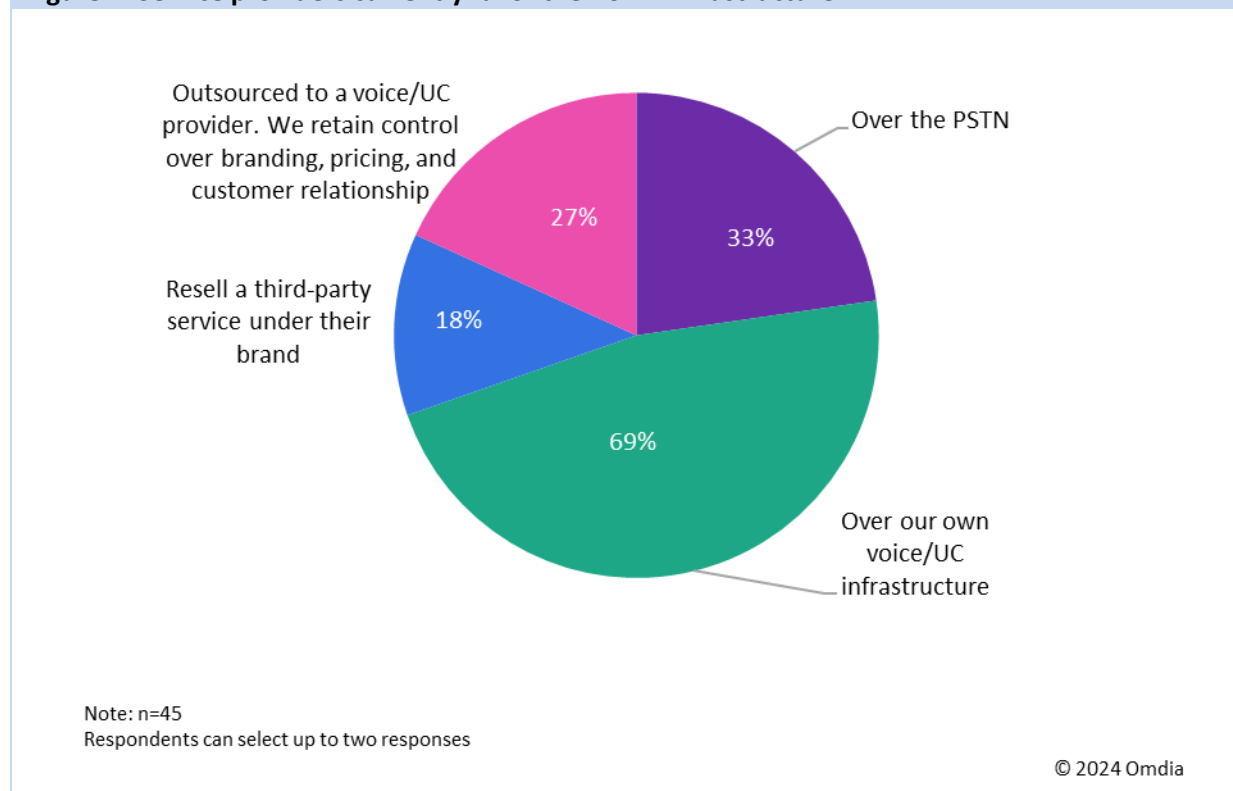
Managing voice portfolios in a digital world

Managing core communications comes down to two options for service providers: ownership or partnership. Both offer benefits and risks, and the decision to take one path or the other will come down to a variety of factors, including cost, internal resources, regulatory requirements, customer needs, and often providers’ cultural mindsets.

Many providers still deliver voice over their own infrastructure

As would be expected, most large service providers operate their own voice infrastructure (see **Figure 7**). They have had this infrastructure in place for decades, it is fully depreciated, and it still works. Furthermore, there are regulatory requirements that these providers must follow. Often, there may not be a compelling reason to migrate away from this infrastructure, at least until the costs or risks of maintaining the status quo reach a tipping point. Instead, service providers often seek opportunities to gain revenue from cloud services without removing the legacy infrastructure. This approach will sometimes result in segmentation by customer size, with service providers meeting the needs of mass market customers (residential and very small businesses) with traditional voice services and deploying cloud-based solutions for mid-market and enterprise customers.

Figure 7: Service providers currently favor their own infrastructure



Source: Omdia

While maintaining existing infrastructure may seem like a safe bet, operating in this legacy domain will continue to become more difficult for several reasons:

- As long-time telco employees retire, the number of employees with the skills and interest to operate this legacy infrastructure is shrinking

- The lack of automation in legacy systems requires more manual intervention, increasing operational costs
- The substantial power requirements of legacy infrastructure will drive up utility costs
- Inflexible platforms inhibit providers' abilities to innovate and create new revenue streams
- As these legacy platforms have been acquired by companies with cloud-based voice and UC solutions, development of the legacy platforms has effectively stopped. The vendors will continue to maintain these platforms for existing customers, but innovation investment will be focused on more modern solutions.

Major service providers are embarking on network transformation initiatives to address these issues. Their goals are to improve operational efficiency, save costs, and support future technology innovation by migrating customers from legacy infrastructure to modern IP technologies. Chief among these efforts is removing legacy equipment and simplifying their networks. Providers report that migrations to newer platforms have resulted in energy cost savings of as much as 30% annually. In addition, some providers are offering current employees the opportunity to learn new technologies and are using internships and targeting recent graduates to build up a workforce that can support new technologies as others retire.

Partnerships offer a path to optimize delivery of core communications

An approach that can align with internal restructuring initiatives is establishing partnerships to support the modernization of core communications solutions. In the last several years, service providers have become more amenable to relying on partners to provide both the foundation for their UCaaS solutions and act as hosts, determining this as a more cost-effective path to managing a low-growth service area. The challenge in this model has been branding, feature set, and cost. Often, these agreements require that a partner's brand remain intact with a service provider's offer, and services are sold in predetermined packages at a flat rate, limiting feature differentiation and margins. Service providers should explore opportunities with partners offering more flexibility in these areas.

Aligning strategy and customer segments

Service providers typically deliver their core communications portfolio under a fragmented infrastructure approach defined by customer type: residential, small and midsize business (SMB), and enterprise. Residential customers may be served via legacy voice services or possibly IP voice in some markets. SMBs are usually served through a voice infrastructure delivered over one softswitch or hosted VoIP platform, and enterprises are offered business communications features through infrastructure delivered from yet another vendor. This disjointed approach results in significant capital and operational expenses for providers. As discussed in the previous section, service providers should consider a single voice infrastructure that can serve multiple customer types as a path to the efficient delivery of core communications solutions.

Regardless of their infrastructure approaches, as service providers develop core communications strategies, they must ensure their offers align with customers' changing needs.

Serving residential customers efficiently

Despite advances in technology and growth in the adoption of mobile communications, there is still a substantial base of customers that rely on fixed-line telephony services, including legacy PSTN services. Some customer types will be reluctant to move away from these legacy services, even as the monthly fees for this connectivity continue to increase. These customers may have concerns about the reliability of digital voice or mobile services, particularly in an emergency, or may lack adequate mobile or broadband coverage. This base will churn away over time, but in the interim these services must be managed in a manner that dovetails with service providers' overall transformation strategies. These customers need a simple service with guaranteed connectivity and solid customer care.

Delivering enterprise features at an SMB scale

SMBs are defined as companies with less than 500 employees. This segment is largely underserved by service providers, and it is where over-the-top (OTT) providers have made the most inroads. SMBs prioritize value and reliability over communications services and internet, but face challenges managing costs while growing their business in today's economic environment (see **Figure 8**).

Figure 8: SMB's top business challenges

Source: Omdia

This segment needs a solution that is simple and includes tools that are critical to managing and growing a small business. Finding new customers and promoting their businesses to grow online sales are significant issues for SMBs, but they often do not have access to, or cannot afford, the tools that can help them accomplish these objectives. Advanced analytics are available to large enterprises and customer contact centers but rarely to SMBs – yet the SMB market could benefit from the application of AI or other data analytics to their businesses' operational or customer experiences. Service providers delivering solutions to their customers via a single platform can extend those features from enterprises to SMBs. Since the same tools are available to enterprises and SMBs, providers should have the flexibility to build pricing structures that will fit SMB budgets. SMBs are also increasingly mobile, so support for a mobile app, as well as a native dialer that offers a single identity between fixed and mobile devices, is important to them. Lastly, branding is often important to this segment. SMBs cannot afford to make a mistake and select a provider that does not deliver what they need. Service providers can leverage their brands to appeal to SMBs.

Enterprises want an integrated solution that addresses diverse needs

Enterprises have access to the broadest range of core communications features from vendors and service providers, but they are also likely to have one or more solutions already in place and strong vendor preferences or aversions. With enterprises' adoption of hybrid work models, they require collaboration environments that deliver seamless communications between onsite and remote participants, and fixed and mobile communications. Enterprises want to reduce the mix of technologies and vendors in their collaboration environments and create a single, easy-to-use

business mobile communications solution that integrates business communications across all devices.

Enterprises are also focused on specific vertical use cases and AI-enabled capabilities that give them the capabilities and analytics to gain insights into operations and data to refine business strategies. Service providers with strong professional services are well positioned to help enterprises assemble a solution that integrates communications tools to streamline internal and customer-facing interactions, and one that delivers data to inform future business plans.

Evaluating and choosing models: Service platform and delivery options

In Omdia’s 2023 report on emerging telco cloud partnerships, *The Future of Telcos and the Cloud: New Business Models and Paths to Growth for 2030* (February 2023), we identified five business models that shape both the nature of the relationship between telcos and their cloud partners, and the opportunities that further cloudification of networks, operations, and services may afford telcos (see **Table 1**).

Table 1: The five telco-cloud business models

Model	Description
Buy-from	A cloud provider sells cloud services to communications service providers (CSPs), with the aim of moving workloads from premises-based and CSP-owned infrastructure to the public cloud.
Marketplace	Cloud providers offer CSP connectivity services on their marketplaces. CSPs set up their own B2B cloud marketplaces or draw on hyperscaler economies of scale as part of their B2B managed services propositions.
Sell-through	CSPs resell a cloud provider’s services, often with a focus on unified communications or office productivity suites.
Side-by-side	Cloud providers and CSPs align and launch services jointly for enterprises that want their compute and connectivity suppliers to bundle relevant offers such as VPN and cloud.
Co-investment	Deep collaboration between CSPs and hyperscalers to co-develop and launch new unified services, the components of which would not be complete or able to stand alone without the others.

Source: Omdia

The sell-through model is particularly pertinent to the world of voice and unified communications. As discussed earlier, the industry has witnessed a broad move from telco-owned voice and UC technology stacks to vendor-hosted core communications platforms. In this model, service providers act as a major channel for core communications vendors to both small and large businesses.

Passive sell-through versus integrated sell-through

The sell-through model relieves service providers of the need to maintain their own core communications infrastructure, and it often leaves some room for service providers to innovate and differentiate, even though their competitors may base their services on identical vendor platforms. However, even within this model, there is a bifurcation between passive sell-through and an approach that we have termed “integrated sell-through.”

In the passive sell-through model, the core communications platform vendor retains branding, with the service provider effectively reselling a vendor’s suite (via licenses) and bundling the offer with related network and additional communications services, plus support. In the integrated sell-through model, the service provider will retain its brand, and most often fully integrate the vendor’s platform into its own service and support bundles, and even retain control of pricing. The end-user business or consumer customer is none the wiser as to who provides the actual technology platform.

Each approach has its benefits and drawbacks, as we explain in **Table 2**. In almost all our discussions with service providers, though, the most voiced catalyst to move to a vendor cloud model for core communications was realizing the benefits of a single platform in terms of integration, support, and skills resourcing.

Table 2: Passive sell-through versus integrated sell-through

Approach	Benefits	Potential drawbacks
Passive sell-through (Examples include RingCentral, Cisco Webex, and Microsoft Teams)	Offload platform responsibility Pre-packaged/well-established feature tiers Ease of implementation Some opportunities to differentiate (integration with campus systems, support, analytics/dashboards, automation/self-service) Appeal to higher-tier B2B segments that request specific vendors	Loss of brand equity Less pricing flexibility and lower margins Licensing complexity Not necessarily a single platform (different and uncertain vendor legacy platform roadmaps) Platforms focused on unified communications do not offer the full range of traditional telecom services, including residential
Integrated sell-through (Examples include Alianza)	Service provider retains brand equity Offloads platform responsibility Ease of implementation More opportunity to differentiate (as above, plus pricing, packaging, and even feature sets) Some ability to influence feature development/develop “on top” – integration with other offers/seamless customer experience Often a single platform with little legacy baggage	May not be designed for large enterprises or any B2B customer requesting a specific vendor solution Requires full integration into native service stacks to effectively monetize High degree of trust essential, as vendor brand not prominent

Source: Omdia

Service providers told Omdia that they are keen to align customer segment requirements (residential, SMB, and large enterprise) with their resources and service offers. Tier-1 telcos will naturally take a heterogenous approach, adopting and adjusting both the passive sell-through and integrated sell-through models, working closely with selected partners while keeping customer segments front of mind. Smaller, regional telcos will need to carefully consider the prevalence of small businesses in their territories and the need to support rural residential locations as they roll out fiber to the premises. In these cases, we expect that the integrated sell-through model will be the most appealing.

Taking the leap: Understanding the total cost of “doing nothing”

We have already discussed the qualitative risks involved with service providers continuing to maintain their own core communications infrastructure, but it is also critical to understand the importance of measuring the costs in quantitative terms. In short, how can service providers determine if moving to the cloud will help them manage and monetize core communications services more effectively, and deliver the services more efficiently?

Cost of maintaining existing estates

Understanding the cost of maintaining existing estates can be challenging. Factors to assess include hidden costs such as:

- The opportunity cost of valuable IT and engineering teams focused on legacy network maintenance instead of new service development in higher-growth domains
- Facilities and power required to maintain older dedicated equipment
- Necessary marketing and sales support for legacy services
- Training and education as staff with voice expertise age out
- Security and risk management for older estates, including physical security
- Managing multiple vendors and partnerships
-
- The end of life of legacy equipment could pressure providers to move quickly to a new platform rather than taking measured approaches.

However, there are also more direct and immediately tangible expenses associated with voice services. **Table 3** lists the major elements of core communications expenditure in the traditional service provider-hosted model. Softswitches and their associated feature and support roadmaps are one concern, but associated session border controllers (SBCs) will also need to be refreshed, and there will be continued requirements to ensure full network security. Getting spare parts for this equipment is truly a challenge: some operators have told Omdia that they have resorted to eBay to source components that have long been out of production.

Table 3: Voice network cost of ownership

Cost type	Typical elements
Capex	Softswitches (VoIP application servers, clients, IMS core, media servers, network monitoring, fraud prevention, servers/storage) SBCs Network security/DDOS PSTN (media gateways, SS7 networking, LEC trunking, 911/999/112) Spares
Opex	Third-party maintenance and support Voice network, ops, and IT staff dedicated to the legacy infrastructure (sysadmins, engineering, NOC and support, legal/regulatory compliance, vendor management, routing tables, etc.) Platform hosting – data center space/power, cooling, bandwidth Network expenses (PSTN) – long distance minutes of use and termination costs, StirShaken, 911 data/network, branding, fraud payments

Source: Omdia

Moving beyond cost reduction and toward innovation

Moving to the cloud will either eliminate or greatly reduce some capex and opex costs outlined above. For example, capex for new switches, associated hardware, gateways, SBCs, and other physical infrastructure will be eliminated. Staff headcount for network management can either be reduced or, where a service provider prefers (particularly those with ties to a local community), redeployed. Space and power requirements will be reduced, as will expenses for managing the core elements of a carrier voice network such as transport circuits, E911, and long distance services. A simpler network will lower providers' overall risk profiles.

However, viewing cloud migration as purely a cost play would be a mistake. Without a fixed-cost structure burden, telcos should redirect a proportion of savings toward innovation. But how?

Providers have options, but must balance cost savings with the need to differentiate

Service providers can continue to manage their own core communications estates, but an increasing number will migrate to vendor-hosted models, whether following the straight sell-through or integrated sell-through models, or even a mix of both.

Several telcos interviewed for this research stressed the importance of continued investments in core communications portfolios, even after migration of their core communications services to the cloud. Investment drivers include the need to leverage their core strengths and customer relationships and to stand out from competitors – especially as the functionality of major vendor UC suites has become largely undifferentiated.

What do these investments typically involve?

- Digital experience. This includes customer dashboards and analytics for service status and management, but also for changes and employee or consumer self-service for ordering, feature option selection, billing and payment, and service status.

- Access to an ecosystem. Packaging, selling, and supporting related services such as secure networking, integration with campus equipment, and enhanced support. This often includes related services such as call recording.
- Automation, analytics, and AI enablement. Highly related to digital experience, this covers automated provisioning and fulfilment, plus added services enhanced by AI, such as sentiment analysis for non-contact center calls and call volume analysis.
- Mobility. This is especially important for mobile-first SMBs that do not want fixed telephony connections; telcos may offer business mobile convergence with a native dialer UC experience for mobile business requirements.
- Offer integration. A classic example is the “fiber-plus” approach, which is especially relevant for the residential segment and involves bundling voice on top of fiber for an incremental monthly fee. It involves tight product and offer integration, ease of self-selection, and automated provisioning.
- Skill redeployment. As core communications experts gain experience in cloud environments, these new skills can be redeployed in the telco – but only with investment in training and education. Similarly, the nature of support calls into the contact center will change, and agents will need to be trained in newer services and the resolution of more complex cases.

Breaking the status quo: New paths to innovation

When considering service innovation, operators are often stymied by the status quo. The traditional approach usually involves adding or enhancing features to differentiate based on functionality. Beyond that, innovation is not usually linked with core communications, and it may seem counter-intuitive to consider the role of innovation in a thoroughly mature domain.

However, we think innovation in core communications should be a priority. Developing a strategy will require service providers to reconsider what innovation means in the context of a well-established service.

The color of innovation

Voice will never go away, though in time it will no longer be delivered over copper, and service providers will inevitably rely less on their own infrastructure to process calls as the decade wears on. Despite changing methods of delivery and management, Omdia believes there will always be a need for voice, whether in key public safety or infrastructure scenarios, or for any other application where human-to-human interaction is a necessity. In the words of one operator, there simply is no other universal addressing scheme for remote human-to-human interaction.

Given the expected lifecycle of voice in the coming years and the move to new models for communications, telcos must face forward and devise ways to make the most of their core communications heritage and expertise.

Operational innovation: More efficient management and delivery

If there was a single benefit of migrating voice to a cloud model that multiple operators claimed stood out, it would be, in the simplest terms, that they want to make compelling promises to customers, whether residential or business, and then keep them. This translates to a C-level focus on customer experience, which has filtered down to customer service and product organizations as a mandate to simplify, reduce manual intervention, and prevent and fix service issues, either before they fully happen or as soon as possible after a customer is affected.

Cloudification of core communications can lead to a reduction in manual intervention (especially if there is a single vendor-owned platform providing the bulk of services) through a more comprehensive deployment of AI for predictive maintenance, alarms, reporting, and resolution. It also enables more innovative and comprehensive reporting and self-service options across core communications and related services, such as private networking and managed security, to increase insights into root causes, fault identification, and quick rectification. Reductions in manual intervention also translate into cost reductions.

AI-driven innovation

AI is top of mind for most telco strategists and service provider product teams. How can AI be applied in telco environments to offer more compelling services to consumers and businesses? Again, its applications to core communications beyond the contact center has not necessarily captured the imagination, but perhaps it should. Currently, deep analytics and AI-driven sentiment analysis are cocooned within contact centers, a domain that is perhaps among the most measured in any business. This means many businesses without large, formal contact centers have missed the opportunity to learn more about their customers and pivot tactics in line with customer sentiment. What could this mean in pragmatic terms?

- Presentation of customer information: Pop-ups have been confined in the contact center, but in an evolving core communications market this functionality could enable front-line workers in retail and small professional offices to benefit from knowing callers and their details without having to undertake cumbersome lookups in separate customer information systems.
- Analysis of customer sentiment: Small businesses or remote branches of large businesses will have additional customer insights available to make product, services, and strategic business decisions.
- Improved meeting experience: This would be supported by real-time translation, note taking, scheduling, and automation of agreed actions.
- Resource planning: Outside of contact centers, businesses will be able to better plan for customer traffic peaks and troughs.

It is extremely unlikely that telcos would be able to develop this type of functionality themselves, but all vendors interviewed by Omdia indicated their AI investments were on the cusp of paying off in terms of platform features and functionality, if they hadn't already.

Service innovation

Cloud-based core communications services offer providers the opportunity to link and stack related services that can be positioned with customers to enhance brand and wallet share as revenue from

core services erode. We asked providers how they approached the development of related services, and the responses broadly fell into three buckets:

- **Mobile.** SMBs have taken advantage of telco business mobile convergence offers in both Europe and North America, in which fixed-line numbers are assigned to mobile devices, and the users benefit from “native dialer” functionality to access voice and UC services. Converged fixed and mobile unified communications have not gained as much ground with large enterprises, but Omdia believes this will change as vendor platforms evolve and as more large businesses understand the cost to maintain both fixed and mobile numbers and services. This will take some time, but operators offering services such as cloud numbering on top of vendor mobile-first UC platforms stand to benefit.
- **Industry-specific solutions.** Telcos that have transitioned to vendor-hosted core communications have developed industry-oriented services. These include specialized lines for public safety and critical infrastructure and operations use cases, and enhanced security features for businesses in sensitive industries such as banking and finance. While security is not industry-specific, heightened sensitivity in some industries will make a link between core communications and secure networking more valuable.
- **Service wrap.** Telcos can take the opportunity to maintain and further invest in professional services, and integration and support capabilities around core communications. When engineering teams focus less on core platform development, they can turn their attention to integrations with large enterprise systems, the interplays between network, access and core communications, and site surveys to account for business-specific requirements relating to power, security, and redundancy. Add in service desk and support, and providers can carefully position themselves as “the ones to go to” for business communications and networking requirements.

It is also important to note that service innovation could come in the form of ordering and delivery, in line with the customer promise discussed above – especially in the residential sector. Some operators told Omdia that providing digital voice as a fiber add-on, in which residential customers simply click on a voice feature option for a set amount each month, has proven extremely valuable. A seamless buying experience can be innovative and deliver results.

Go-to-market innovation

Differentiation in the core communications market is no longer about feature sets but about serving customers effectively. Service providers had a mixed track record in the past when simplifying transactions and the delivery of information for customers. Competitors that take a digital-first approach to interactions, making it easy for customers to obtain information and support, will win away business from service providers that fail to modernize and streamline customer interactions.

- **Self-service.** Improvements in automation and AI enable service providers to improve internal systems and processes that, in turn, allow them to improve customer-facing portals and tools. These improved tools help providers offload routine inquiries and direct internal resources to more critical customer needs. Although complex needs may require a phone call, availability of a simple, easy-to-use customer interface that delivers information promptly and accurately leads to improved customer experience and satisfaction, increasing service uptake and strengthening a telco’s brand with customers.

- **Product bundling.** Bundling voice and data under a single price is a long-standing practice to make services “stickier.” Telcos have directed most of their focus in recent years to building out fiber services. As they promote these services to customers, they can market packages that bundle communications services with data. For the residential market, providers can create attractively priced offers for voice and internet access services. For SMBs, providers can promote business communications features such as authentication, speech recognition for transcription, virtual assistants for scheduling and managing meetings, and AI-driven analytics to optimize meeting efficiency. Underpinning these offers must be a simple buying experience that includes chatbots to quickly answer questions, a clear, easy-to-understand service contract, and a simple “buy-with-a-click” purchase process.

Employee transformation

The resulting impact on jobs and employees is a topic that frequently accompanies discussions about technology transformation and improving operational efficiencies. As companies improve automation, there will be less need for people who previously handled manual processes. This change gives providers the opportunity to redirect employees to more strategic service areas but can also result in the elimination of roles and, consequently, job cuts. Several major providers have created upskilling programs to give employees the opportunity to learn new skills that are aligned with their technology roadmaps.

While it is inevitable that some employees may lose their roles as this transformation takes place, smaller providers with roots in local communities may be especially keen to retain and redirect employees to handle more complex customer service cases or to strengthen product development heft in other domains. This can serve to reinforce their brands in local and regional communities.

Risk reduction and containment

When it comes to core communications, service providers must find paths to optimize management to slow margin decline. Voice is a necessary but stagnant service, and unified communications is highly competitive and price-driven. Incorporating automation into processes, streamlining interactions, and delivering an integrated solution allows providers to deliver the services more efficiently. Moving the integrated solution to a single cloud-based platform delivers services across all customer segments, from mass markets to large enterprises, and offers further capital and operational efficiencies to maintain margins. While not often thought of as innovation, adopting new business models will create the foundation of more sustainable and predictable revenue streams, allowing telcos to focus on growing less-established services or investing further in access.

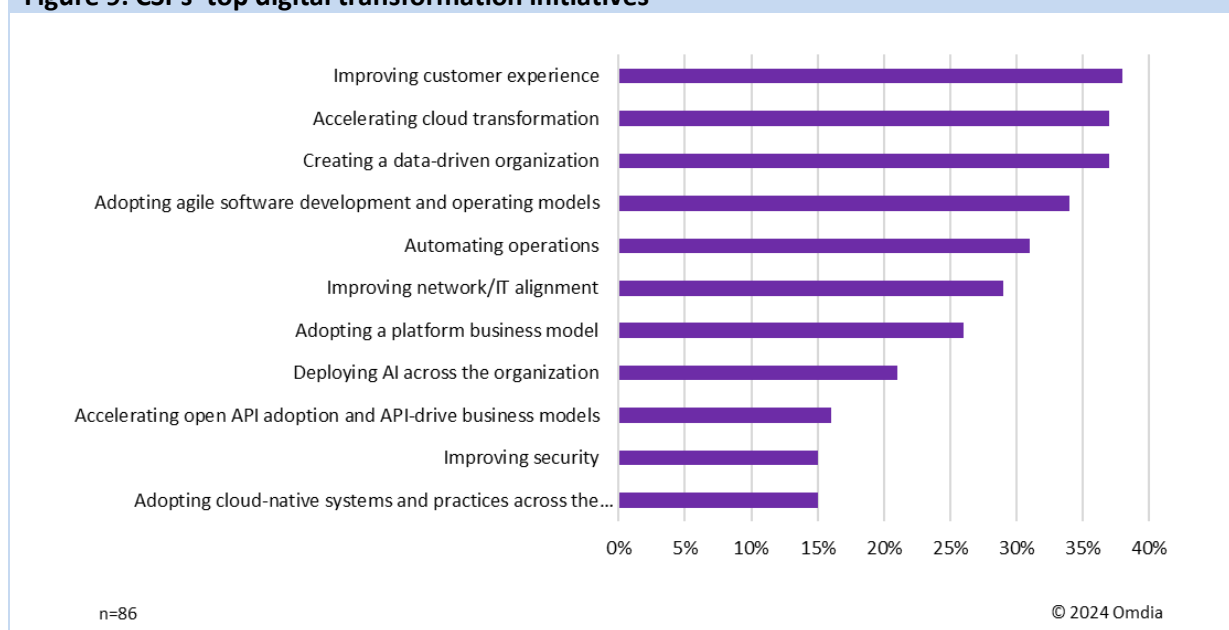
Implementing cloud transformation

A key factor to consider when developing an innovation-led strategy is the infrastructure used to create, manage, and deliver new services. Legacy systems are rarely suitable for next-generation services, so service providers looking to innovate in new ways are also looking at new approaches to infrastructure and operations. This is what drives telcos to the cloud for their network and IT stacks.

Motivations for moving telco IT and OT stacks to the cloud

CSPs have embraced digital transformation to increase business agility and deliver products and services more quickly – all with an eye toward generating new revenue. Omdia’s research into telco digital transformation strategies reveals that in addition to improving customer experience, CSPs’ top digital transformation initiatives include accelerating cloud transformation and adopting agile software development and operating models (see **Figure 9**). Cloud-native principles and methodologies, such as DevOps and continuous integration/continuous delivery (CI/CD), are an important part of transformation as they can help operators more quickly develop and deploy new services. That same research shows most CSPs expect to see adoption of a broad swathe of cloud native tools and practices on a widescale basis over the next two years.

Figure 9: CSPs’ top digital transformation initiatives



Source: Omdia

Telco IT impact: Making the move

CSPs do not need to migrate every aspect of their businesses to the cloud at one time. They can begin their journeys by moving their communications core to the cloud and using APIs to connect to their existing operations/business support systems (OSS/BSS). CSPs can benefit immediately, since communications services will be supported by more modern and capable platforms than legacy systems.

Once that migration has been executed, CSPs can gradually deploy new IT systems as an overlay to their existing estate rather than through a more immediate “rip and replace” effort. The functions of legacy systems can be transferred to the new systems gradually, which allows aging platforms to be retired. Indeed, some CSPs that have undertaken such transformations have reduced OSS/BSS from hundreds to tens.

Although many benefits of moving core communications to the cloud can be realized without wholesale OSS/BSS cloudification, CSPs should still strongly consider moving their OSS/BSS to the

cloud using a SaaS model. This leaves the SaaS vendor to sort out the infrastructure and allows CSPs to focus on application testing. New releases and upgrades come as part of the package, avoiding the cost and pain associated with testing and releasing major upgrades. Finally, a shared multi-tenant environment typically helps reduce ongoing costs due to economies of scale and frees up internal resources otherwise required to run and maintain systems.

Business benefits of cloud transformation

CSPs can expect to achieve numerous benefits after their core communications and OSS/BSS have migrated to the cloud. Legacy systems can be retired or consolidated, simplifying the operational environment. CSPs can integrate cloud-based analytics and AI tools to derive greater insights that help innovate customer engagement and create new revenue streams by identifying previously hidden patterns and behaviors. CSPs can also monetize these insights by giving end customers more valuable information about their communications services.

Regardless of the approach service providers take to network and IT cloudification, the benefits of migrating core communications to the cloud, whether in the straight or integrated sell-through model, can be realized via APIs from the vendor platform to their own systems. Telcos should assure themselves of support for this model as they select core communications vendor partners.

Conclusions and recommendations

Communications services, including voice, are still relevant. Service providers should actively consider how they can innovate, even though the market for core communications is mature.

Core communications: An opportunity to exploit rather than just another mature service to manage

The vendors and service providers interviewed by Omdia about core communications displayed levels of interest and engagement that contradict the assumption that core communications are merely a sleepy corner of the old telecom world. One broad conclusion that Omdia has drawn is that voice and unified communications present clear opportunities for telcos to differentiate and innovate, but maintaining legacy infrastructure is one major factor preventing some from seeing the opportunity and holding back others from realizing it.

Telcos are already moving workloads to the cloud to achieve operational and scalability benefits. Leveraging the cloud for voice and communications infrastructure offers an opportunity to both optimize the management of the services and free up resources to pursue AI-driven and operationally driven innovation.

Market prospects: Headwinds will grow stronger

As maintenance of the status quo becomes more risky and costly, and as consumer voice revenue continues to decline while business UC revenue grows consistently, if modestly, margins will only erode further. In many geographies, the impending sunset of the copper network will further force the hands of reluctant operators. The pool of employees with relevant voice network skill sets will continue to dwindle. Telcos that have invested in fiber and 5G networks will increasingly be judged on how effectively they have been monetized: the prospect is that in five years, many will fail the test when it comes to financial market analysis.

Service providers can find a path to growth

With the telecom market generating the same revenue in 2022 as it did nearly a decade before, service providers clearly have tested their skills at treading water. Those with purely defensive positions in core communications will continue in this tradition.

Some operators will find paths to growing and monetizing their opportunities in core communications. Our research has shown the shape of this potential future, and how to achieve it.

- Leading operators will assess the true costs and risks associated with the status quo. These include associated capex and opex, but also the inherent risks of being highly dependent on vendor support for legacy platforms approaching end of life, and a diminishing pool of employees with relevant maintenance and service skills.
- The shift to vendor-hosted clouds for communications will continue: the logic is inexorable. Many operators will take advantage of the opportunity to jettison the risk and overhead related to legacy voice infrastructure, but some will redirect investment to associated AI-driven operational and customer-focused improvements.
- Voice in general will continue to decline, but we will witness innovation in business communications, with customer sentiment analysis, more business mobile convergence,

and workspace AI (e.g., transcription, note taking, and meeting action automation), all dependent on modern voice platforms.

- Cloud will also enable some telcos to make positive changes to their go-to-market approaches, monetizing fiber and 5G investments with voice as an enhancement to access services, tightly bundled in both the marketing, sales, and customer experience motions.
- Development of ancillary features and services will enable visionary providers to differentiate in the enterprise space. In the SMB segment, these providers will lean into their network capillarity and presence to strengthen their brands, primarily through the integrated sell-through model. A single platform may extend their own-branded service into the large enterprise segment, but even where it adopts the straight sell-through model, differentiation and brand building can be achieved through related professional and secure networking services.

Questions to ask when considering a new strategy

As service providers build their core communications strategies, they should take the following elements into consideration:

- What segments are service providers serving? Needs vary widely between mass markets (residential and SMB), mid-market companies, and large enterprises.
- Where do service providers stand in key vendor relationships? Are they happy with their vendors' product roadmaps? Many service providers have expressed a preference for a single platform across multiple segments. Are service providers culturally ready to make changes in how services are delivered? The market is moving toward new service platforms and approaches to innovation. Is there buy-in internally among the service providers' executives and management teams to make the necessary changes to pursue these new approaches?
- Are service providers prepared to shoulder the risk of "doing nothing?" While the life of existing network equipment may be extended, vendor support is not guaranteed, and related skills are becoming rarer.
- Do service providers see innovation opportunities even in mature services, and are they geared to invest in them to build customer experience, offer additional related products, develop segment-specific services, and digitalize operations related to core communications?

The cloud is not a monolith: Service providers have choices

The two cloud models identified for core communications, straight sell-through and integrated sell-through, have different benefits and drawbacks. Many vendors have their own histories and legacy platform migration paths, and telcos differ in structure, culture, and prioritization of customer segments. Omdia does not believe there is a single best answer when it comes to cloudification of core communications.

However, telcos must take the following factors into account when making their communications investments (see **Table 4**).

Table 4: Making core communications investments – Key factors

Factor	Considerations
Residential needs	A large volume of legacy residential customers may drive telcos to prioritize vendors that can support both residential and small business (mass market) requirements, ideally from the same platform. In this case, service provider brand equity should be maintained, as that is a key advantage for telcos in local markets. Vendors should support telco brands. Selling voice as an add-on to fiber has proved popular and margin-accretive.
Small business requirements	While small businesses may ask for specific vendor solutions, in most cases, they are open to any solution that meets their specific requirements. Often, they are open to mobile-centric unified communications, especially in North America and Europe. Again, service provider brand equity is essential as telcos have an advantage in terms of network capillarity and reputation among small businesses. A single platform across small and large businesses should prove increasingly attractive to telcos – vendor licensing should be flexible enough to support different feature sets by segment across the same platform. Think about the opportunity to offer packaged professional/site services to small businesses that need help transitioning to cloud communications. Consider partners for such services, bundling access and security, and the importance of AI to enable SMBs to access features and insights previously unavailable to them.
Large enterprise focus	In this segment, businesses will have legacy investments, industry-specific requirements, and possibly a strong preference for a specific high-profile vendor solution. Service provider brands are built on overall service stack capability rather than on the specific core communications technology. Be ready to position related professional services and managed digital services with advanced analytics and AI.
Fiber and 5G (fixed-wireless access) incremental monetization	Telcos have been focused on fiber and 5G build-outs but less so on the services that they can offer on top of this new infrastructure. Treating core communications as a feature add-on to advanced access could be attractive, especially in residential and SMB segments. However, this requires telcos to be ready to create tight bundles, automate offers, e-commerce cycles, and provisioning, and prep OSS/BSSs for this digital product approach.
Agility and innovation (digital operations/digital customer experience)	Telcos are under intense pressure to do more with less, yet also innovate and be more agile than ever. While Omdia has advocated for core communications to be a focus for innovation, some telcos may prioritize other domains, or they may lack a culture of innovation. In these cases, Omdia advises telcos to think differently about innovation: in core communications, being more efficient or simply reducing risk is innovation. Cloudification of core voice should not be seen as a chore, but rather as an investment in digital operations and customer experience.

Source: Omdia

Appendix

Methodology

Omdia has well-established tracking and analyses of the consumer and business voice, unified communications, and telecom cloud markets. Omdia's Service Provider Network Evolution research tracks telco group capex and opex annually. These research services regularly publish market updates and forecasts on voice, unified communications, and telco cloud, as well as telco network expenditure and horizontal SoHo/SME-specific segment requirements. Building on that foundation, the team of authors conducted an additional survey of 45 mostly North American operators on the challenges and priorities for their communications services portfolios. We also conducted 10-plus interviews with large telcos, consultants, and vendors to understand their strategies, roadmaps, and current market conditions.

Further reading

The Future of Telcos and the Cloud: New Business Models and Paths to Growth for 2030 (February 2023)

Digital SoHo & SME Insights 2023: Engagement Channels and Investment Plans (July 2023)

Telco Cloud Adoption and Vendor Perception Survey – 2023 (August 2023)

Global Telecoms Opex Tracker – Full Year 2022 (October 2023)

Enterprise Unified Communication and Voice Equipment Market Tracker – 3Q23 Analysis (December 2023)

Telephony-Based UC as a Service (TB-UCaaS) Market Analysis Report – 1H23 Mid-Year Update (October 2023)

Authors

Evan Kirchheimer, Vice President, Service Provider

Cindy Whelan, Practice Leader, Enterprise Networks

Roz Roseboro, Principal Analyst, Telco Operations, IT and AI

askananalyst@omdia.com

Citation Policy

Request external citation and usage of Omdia research and data via citations@omdia.com.

Omdia Consulting

We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Omdia's consulting team may be able to help you. For more information about Omdia's consulting capabilities, please contact us directly at consulting@omdia.com.

Copyright notice and disclaimer

The Omdia research, data and information referenced herein (the “Omdia Materials”) are the copyrighted property of Informa Tech and its subsidiaries or affiliates (together “Informa Tech”) or its third party data providers and represent data, research, opinions, or viewpoints published by Informa Tech, and are not representations of fact.

The Omdia Materials reflect information and opinions from the original publication date and not from the date of this document. The information and opinions expressed in the Omdia Materials are subject to change without notice and Informa Tech does not have any duty or responsibility to update the Omdia Materials or this publication as a result.

Omdia Materials are delivered on an “as-is” and “as-available” basis. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness, or correctness of the information, opinions, and conclusions contained in Omdia Materials.

To the maximum extent permitted by law, Informa Tech and its affiliates, officers, directors, employees, agents, and third party data providers disclaim any liability (including, without limitation, any liability arising from fault or negligence) as to the accuracy or completeness or use of the Omdia Materials. Informa Tech will not, under any circumstance whatsoever, be liable for any trading, investment, commercial, or other decisions based on or made in reliance of Omdia Materials.



CONTACT US

[omdia.com](https://www.omdia.com)

askananalyst@omdia.com